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Quality of Life and Quality of Working Life

Edited by Ana Alice Vilas Boas



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Preface

In modern world, people are always engaged with many different activities that involve a wide range of innovation and technology. In this context, information and communication technologies connect individuals with other professionals, family members, health professionals, leisure workers, and so on. For this reason, people are spending more time with technology and spending less time with family or with themselves. Apart from that, the pattern of work and the food industry is changing people's habits too. All these affect our well-being and quality of life. Our quality of life depends on our lifestyle, and the latter will determine our quality of life. Thus, people need to take into consideration different aspects to feel psychologically, physically, and emotionally well. It involves issues related to personal and professional life.

Human beings depend on their own work to live and to be recognized in the society. However, this work is exploiting people and making them suffer more than enjoying their jobs. For this reason, this book emphasizes different perspectives of well-being and quality of life in order to give the readers some insights on how to improve their patterns of life in the job and out of it. First, the readers may pay attention to the reconceptualization of the human needs as a way of exploring the antecedents of happiness. In the sequence comes the chapter about positive psychology to facilitate personal flourishing and ways of understanding the concept of quality of life within the framework of social service provision. Then, the emphasis goes to the relationship between physical and psychological well-being throughout sports. The fifth and sixth chapters present quality of life indexes for the United States. In the sequence comes the perspective of quality of life and well-being in the context of family policies in European countries. The next chapter of this section deals with cultural well-being and income in Italy using empirical data to correlate these topics. Finalizing this part of the book, we may be ready about the mammoth task of giving effect to the right to life in South Africa. All these nine chapters help readers to make a mental map of some major issues in improving well-being and quality of life according to different points of view.

The second section of this book looks at studies and literature review about well-being and quality of working life (QWL). The term "quality of working life" was first introduced by Louis Davis at an international conference held at Arden House, in 1972. The communications presented in that conference were published by Davis and Chermis, in 1975. That conference literally launched a whole field of research in job design referred to as socio-technical system design (STSD). Two decades later, the concept of quality of working life (QWL) used in most organizational studies focuses on the general state of well-being in the workplace and the relationships that people have with this environment and with other people (Ketchum and Trist, 1992). After that, the studies on QWL turned their focus on biological, psychological, social, and organizational factors to explain quality of life on the job. At

this time, Limongi-França elaborated the BPSO-96 model of quality of working life. In the first decade of this century, other studies kept searching to understand what could improve the quality of life on the job. In 2008, Estelle Morin, in partnership with Francisco Aranha, developed the General Quality of Work Life Model highlighting the importance of meaningfulness of work, meaningfulness at work, individual differences, optimum experiences at work, and defensive strategies at work to better explain the quality of working life. Thus, we may say that quality of working life is now a complex concept, which combines different variables to establish relations between health in terms of psychological, physical, and emotional aspects and work conditions. For that, work conditions are related to the patterns of work organization in terms of technology, environmental structure, and human relations.

The first chapter of this section deals with the well-being and quality of working life of university professors in Brazil because this category of professionals is facing a lot of stress to cope with their daily activities and their workload is also affecting their quality of life, apart from other issues that are addressed in the text. In the sequence, we may read about work-related well-being and its relation with job insecurity. The third chapter focuses on the psychological well-being of employees as a paradigm in the future economy and society. The fourth chapter is about physical and psychical well-being and stress in the perspectives of leaders and employees, showing the relevance of the equilibrium between body and soul to achieve QWL. The following chapter presents an examination about human work from the discomfort perspective. Additionally, the last chapter brings a classic ground theory study about professional pride and dignity in the context of quality of working life.

Giving the above, we consider this book will be of interest for readers with a diverse group of audience in different areas of specialty such as psychology, industrial and social psychology, management, medicine, education, law, and sociology.

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Different Perspectives of Quality of Life

Exploring the Antecedents of Happiness: Reconceptualization of Human Needs with Glasser's Choice Theory

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Additional information is available at the end of the chapter

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Abstract

This chapter aims to present a review about the antecedents of happiness by using human needs perspective. The chapter briefly includes the definition of happiness as a scientific matter, definition of the need theories approach for explaining the antecedents of happiness, definitions and discussions about the major need theories and reconceptualization of human needs with Glasser's Choice Theory, and also empirical studies that investigate the relationship between basic needs satisfaction and happiness. It is also thought that the conclusion obtained from this chapter will encourage researchers to investigate the antecedents of happiness with Glasser's conceptual framework and also invite researchers to study in a new research area with a new conceptual perspective.

Keywords: happiness, subjective well-being, human needs, choice theory, William Glasser

1. Introduction

Happiness refers to positive sensations about quality of life, and it is also perceived as an important life value for attaining a good life in almost all over the world [1–3]. Although various philosophical currents have exhibited several attempts to attain a common conceptualization about happiness, it is still a contradictive matter to define a unique individual perception with a universalist perspective. However, scientific approach suggests determining particular criteria for defining this unique perception in the current positive psychology [4, 5].

Happiness is one of the most investigated concepts in the positive psychology field [5], and it is a holistic and also a subjective perception about the quality of life, that includes ``affective

and cognitive aspects of well-being [6]. Positive psychology conceptualizes happiness in terms of *subjective well-being*, and subjective well-being includes three related components termed as (a) positive affect, (b) negative affect, and (c) life satisfaction [4]. Positive affect includes favorable emotions like feeling interested, excited, strong, proud, etc in life; negative affect includes unfavorable emotions like feeling distressed, upset, guilty, hostile, etc. [7]; and life satisfaction is a cognitive evaluation about the quality of life that includes favorable beliefs about having good living conditions and achieving personal life purposes [4, 6]. In light of this conceptualization, feeling positive emotions more frequently and feeling negative emotions rarely in life, and having positive beliefs about the quality of life refers to a good level of subjective well-being [8].

1.1. Discussions about the antecedents of happiness: what makes humans happy?

After defining happiness as a scientific concept, an important discussion has occurred about what the antecedents of happiness are in life. In other words, what makes humans happy? Wilson, who first investigated subjective well-being as a scientific concept in his doctoral dissertation, concluded that the “happy person emerges as a young, healthy, well-educated, well-paid, extroverted, optimistic, worry-free, religious, married person with high self-esteem, high job morale, modest aspirations, of either sex and of a wide range of intelligence” (p. 294) [9]. Moreover, a series of studies examined the validity of Wilson’s conclusion and investigated the variables such as age, gender, income, education level, job satisfaction, health conditions, marriage, personal characteristics, intelligence, religious belief and life values, which are thought to be in relationship with subjective well-being [4, 10, 11].

The level of income or money is one of the most investigated variables in subjective well-being studies. Researchers investigated the relationship between money and subjective well-being, and the general implication about this relationship shows that low levels of income have a significant relationship with the low levels of happiness and money has a buffering effect for preserving individuals from unhappiness. On the other hand, the good level of money does not guarantee happiness in life [10, 12–16]. Also, age is another variable which was highly investigated in subjective well-being studies, and researchers specifically investigated the role of youthfulness for attaining happiness [9]. However, the results show that there is a U-shaped relationship between age and happiness, rather than a linear relationship [4, 10, 13, 17, 18]. Young people and the elderly are the happiest groups in life, but the middle-aged adults have risk factors for being unhappy because of the stressful life events in these years, such as dealing with behavioral and emotional problems of adolescent children, health problems of the aging parents, and making important decisions about the future like marriage or professional career, etc. [13, 17–19]. Another variable investigated most in subjective well-being studies is gender, and it can be said that although females exhibit more negative affections compared to males, there is not a significant variation in the general level of happiness between men and women [10, 11, 15].

To sum up, the researchers concluded that there is a limited effect of sociodemographic variables for explaining the antecedents of happiness. Thus, the new tendency in research indicates that studying psychological variables would bring more important findings, rather than the sociodemographic [11]. After two decades from Myer and Diener’s this conclusion, the

research findings which were obtained from 100 thousand people in 70 countries are also emphasizing the limited effect of the sociodemographic variables (such as health, education, income, living as married, gender, religiosity, trust, unemployment, age, number of the children, etc.) for explaining the happiness [20]. Hence, it seems like a correct decision to explore the psychological predictors of happiness for attaining a comprehensive understanding about the antecedents of the happiness.

1.2. A prominent approach for attaining happiness: need theories

An important discussion about the psychological antecedents of subjective well-being refers to *need theories* that emphasize the basic needs satisfaction for attaining happiness, and the major assumption of need theories claims that happiness is felt only if human needs can be satisfied sufficiently [4, 9]. Fundamentally, this is an old assumption which was propounded by the antique age philosophers, and also named as hedonism. For example, Aristuppus (400 years before Jesus) described the purpose of life as obtaining high level of pleasure, and Hobbes submitted to following human desires for attaining happiness, and also De Sade described the purpose of life as following exciting feelings and pleasure. On the other hand, Aristotle objected to this hedonist assumption and claimed that following just pleasure in life would bring insatiability for human beings, and he also suggested virtue as a life purpose in his eudaemonist view [4, 5].

Obviously, happiness cannot be the only criterion for a good life, and both of the views named as hedonism and eudemonism have great values for the human life. However, the eudaemonist view refers to psychological functioning or psychological well-being, and the hedonist view refers to happiness or subjective well-being in the field of positive psychology [5, 21–23]. Therefore, the studies investigating the antecedents of happiness account for the fact that psychological needs need to be satisfied in order to attain happiness. Besides, the research results support the assumption that satisfaction of the psychological needs make significant contributions to predicting subjective well-being almost all over the world [12, 15, 16, 24, 25–30].

1.3. What are human needs?

At this stage, another important discussion has occurred about what the human needs are. Additionally, is it possible to conceptualize the human needs with a universal perspective for the whole humanity? Although people speak different languages in the world, Chomsky showed that a universal language development process for all humanity is possible [31]. Also, Ekman showed that people from different cultures share universal emotions, and it is possible to identify the emotional expressions in the human face universally [32]. In light of these instances, it is also possible to conceptualize human needs with a universal perspective. First of all, the all living creatures share a universal biological structure. Within this universal biological structure, our nervous system exists and the basic principles of the nervous system are avoiding suffering and approaching to pleasure [33, 34]. Thus, reducing the tension in our nervous system which appears at the lack of the fulfillment of the basic needs is the fundamental view for attaining happiness in the need theories [4–9].

However, humans are not just simple biological creatures, and it is not so easy to explain the complex pattern of human needs. As a matter of fact, the investigation of the human needs has been the focus point of many researchers for a long time. For instance, Murray defended the validity of tension reduction assumption about the basic needs satisfaction and also classified human needs under twenty headlines such as achievement, affiliation, aggression, autonomy, exhibition, nurturance, play, sexuality, understanding, etc. [35]. Although it can be accepted as the first remarkable attempt about classification of the human needs, this classification refers to a wide range of needs that include both supportive and opposite qualities about the human needs in the same conceptual framework. Besides, not every individual feels the absence of these needs equally, and some of these needs are not perceived as essential for every individual. It can be said that only two needs were investigated prominently among these twenty needs, namely affiliation and achievement. In other words, the affiliation need, which refers to establishing close friendships or looking for presence of other people (especially in stressful situations), and the achievement need, which refers to accomplishing difficult things or overcoming obstacles, are the two prominent human needs in Murray's classification system [36].

Maslow's needs hierarchy can be accepted as one of the most famous attempt about classification of the human needs, and these needs are described as physiological needs, safety needs, belongingness and love needs, esteem needs, and need for self-actualization [37]. Maslow classified the human needs hierarchically and divided these needs as the bottom level needs (including physiological needs, safety needs, belongingness and love needs) and the top level needs (including esteem needs, and need for self-actualization). Maslow also claimed that the individuals must satisfy the most basic needs in order to satisfy the highly developed needs. The bottom level of needs such as food, security, and also belongingness is common needs which can be observed among other living creatures, and a developed need like esteem can be observed among the developed creatures, but the need for self-actualization can be accepted as a human-specific need. So, it can be said that the need for self-actualization is the most prominent need in this hierarchy. However, self-actualization might be accepted as a theoretical concept rather than an empirical concept, and the scientific measurement of this concept might be seen as a controversial matter [38, 39].

Self-determination theory, which aims to explain the importance of internal motivation for attaining psychological growth and health, presents another classification system about the basic psychological human needs [21]. According to self-determination theory, satisfaction of the basic psychological needs is the key point of psychological well-being for all humans, and these basic psychological needs include autonomy, competence, and relatedness. Correspondingly, Ryff classified psychological needs as self-acceptance, positive relations with other people, autonomy, environmental mastery, purpose in life, and personal growth for attaining psychological well-being [40]. However, these theories actually emphasize positive psychological health, personal growth, and full-functioning in life which were conceptualized in the psychological well-being perspective [5]. On the other hand, the fundamental point that is emphasized in the subjective well-being perspective is about reducing tension which appears at the lack of fulfillment of the basic needs, and satisfying the basic needs for attaining happiness as emphasized in the Glasser's Choice Theory [41].

There are also other current need theories that demonstrate a need-based approach to subjective well-being in addition to Glasser's Choice Theory. For instance, Costanza and his colleagues integrated the approaches of Max-Neef's Matrix of Human Needs and Nussbaum and Glover's Basic Human Functional Capabilities, and they defined the human needs for attaining happiness as subsistence, reproduction and care, security, affection, understanding, participation, leisure, spirituality, creativity/emotional expression, identity, and freedom [42–44]. However, it seems difficult to distinguish the operational definitions of these needs from each other. For instance, subsistence need (food, shelter, vital ecological services, healthcare, etc.) and security need (safety from violence at home and in public, care for the sick and elderly, etc.) include similar essentials for maintaining life in safety. Similarly, affection need (attachment, respect, love and care, etc.) and identity need (status, recognition, sense of belonging, etc.) also include similar aspects to belonging need. It is crucial to state that as the comprehensiveness of an eclectic approach increases, the risk for the internal consistency also increases. Consequently, a conceptual framework with high consistency should aim to achieve the comprehensive definition in the shortest possible way.

Similarly, another need-based approach to subjective well-being aims to integrate the prominent human needs which are emphasized in the major need theories [29]. The determination progress of these needs is based on the empirical research in the literature, and the prominent human needs for attaining happiness are named as basic needs for food and shelter, safety and security, social support and love, feeling respected and pride in activities, mastery, and self-direction and autonomy. The research results, which were obtained from 123 countries about the need-based subjective well-being, support the significance of the relationship between need satisfaction and happiness almost universally. However, this attempt seems to investigate the validity of the general assumptions of the need theories in an eclectic way, rather than presenting a new consistent theoretical perspective for attaining happiness. At this juncture, Glasser's Choice Theory might be accepted as a clear and consistent conceptual framework which aims to explain the basic human needs for attaining happiness with a theoretical perspective.

2. Reconceptualization of the human needs with Glasser's Choice Theory: five basic needs

Choice Theory is accepted as the theoretical background of William Glasser's psychotherapy approach which is called Reality Therapy, and it emphasizes that we always make internal decisions whatever the external conditions are, and the aim of our behaviors is to satisfy our basic needs for attaining happiness in life. In choice theory approach, it is mentioned that humans come into the world with five basic needs in the long evolution process, and these needs are named as survival, love and belonging, power, freedom, and fun [45–48]. Moreover, the major assumption of choice theory about the basic needs is that happiness is felt only if the five basic needs can be satisfied sufficiently and a person who is unhappy has not been able to satisfy at least one of these five basic needs [41, 48].

2.1. Survival need

Survival need defines the biological essentials for maintaining our life, and it includes the basic physiological needs such as food, water, shelter, sex, health, and safety [48–50]. First and foremost, all living creatures feel an enormous desire to survive although the living conditions are so compelling, and directing the behavior of the organism to fulfill the basic biological essentials is the primary function of the nervous system. The tension which appears at the lack of the fulfillment of the basic physiological needs is already an important risk factor for unhappiness [33, 34]. Besides, the pleasure of fulfillment of the basic physiological needs can be considered an important source for attaining objective happiness of the organism, and determining the level of this pleasure is also possible with a biological measurement in today's modern world [34–51].

On the other hand, it can be said that having sufficient resources for physiological needs such as high nutritional value foods, potable water, secure sheltering conditions, and general health insurance is considerably associated with the level of income. Thus, research findings indicate that although a good level of income does not guarantee happiness in life, it has a buffering effect for preserving the individuals from unhappiness about the insufficient resources for basic biological essentials [10, 12–16]. As a matter of fact, when the role of income is considered for attaining survival need satisfaction, it would not be a realistic expectation to expect for a balanced distribution of happiness in such a world in which there is an unbalanced distribution of income [52–55]. Unfortunately, unbalanced income distribution is not the only problem in the world for attaining survival need satisfaction. Millions of people around the world are still trying to combat catastrophes such as epidemic diseases or wars and terrorist attacks. Although the research results support the validity of psychological needs satisfaction beyond physiological needs for attaining happiness [29, 56], and also the psychology currents try to describe and understand the human-specific psychological needs, it would be wrong to ignore that we live in such a world where even the basic physiological needs are not fulfilled adequately yet. Thus, although Glasser emphasized the equality of the importance on five basic needs theoretically and also accepted the physiological and psychological needs as the basic needs as a whole, satisfaction of the survival need can be considered as a control variable for investigating the role of psychological needs in prediction of happiness.

2.2. Love and belonging need

Human beings have an innate orientation about establishing emotional attachments with other people, and love and belonging need defines the desire to satisfy emotional relationships in our lives especially with the people important to us like family members, friends or a girlfriend/boyfriend [45–48]. Actually, love and belonging need is also perceived as a basic human need by the other need theorists as well. For instance, Bowlby believed that humans are in search of bonding with other people starting from cradle till grave, and he built the attachment theory solely based on the love and belonging need [57]. Affiliation need which refers to establishing close friendships or seeking presence of other people (especially in stressful situations) is also a prominent need of Murray's need classification [36]. Maslow accepted belongingness and love need as a bottom level need just like physiological needs or

safety need, and attaining the top level needs like esteem need or self-actualization need is only possible by fulfilling belongingness and love need according to this hierarchical classification [37]. Deci and Ryan also defined the relatedness need as one of the major psychological basic needs for attaining psychological well-being in self-determination theory [21]. Similarly, Ryff determined the need for positive relations with other people as one of the major components of the psychological well-being [40].

Also, the research results show that the love and belonging need is a significant predictor of happiness. For instance; the relation of satisfaction with friends and family members exhibits a significant relationship with subjective well-being [12, 15]. Similarly, perceived social support or social connectedness is a significant predictor of subjective well-being [29, 58–60]. Also, the research results indicate a significant relationship between satisfaction of relatedness need and subjective well-being [23, 27, 28, 30, 61]. Moreover, marriage, which can be considered as an important source for the love and belonging need, is a robust predictor of happiness in life. As a matter of fact, married people are happier than the never married, divorced, or widowed people in life, even after the variables such as age or income are controlled [4, 10, 13, 17, 62, 63]. Furthermore, the research results show that the sociocultural sources of the love and belonging need such as social relations, connectedness and common good orientation in a society are also significant predictors of happiness beyond the individual sources [64].

It should also be emphasized that love and belonging need has a unique importance among the other basic needs in the choice theory. Although it would be quite problematic, it might be possible for an individual to try to fulfill his/her satisfaction of survival, power, freedom, and fun needs all alone without the need of any company. However, it is absolutely impossible to try to fulfill satisfaction of love and belonging need on one's own. Moreover, satisfaction of the basic psychological needs such as power, freedom, and fun in a balanced way is only possible by maintaining interpersonal relationships in a balanced context. Actually, most of the problems we experience in fulfilling our psychological needs arise from the problems in the interpersonal relationships in our lives. Thus, love and belonging need can be accepted as the most difficult need to satisfy in the choice theory [48].

2.3. Power need

Power need is defined as having a sense of control over the processes in our living space by activating our personal capabilities, and these capabilities refer to feelings such as being worthy, competitive, successful, principled, and respected. Correspondingly, the achievement need which refers to accomplishing difficult things or overcoming obstacles is one of the most prominent human needs in Murray's classification system [36]. Furthermore, Maslow conceptualized the esteem need as a top level human need in his hierarchical classification [37]. Deci and Ryan accepted the competence need as one of the major psychological basic needs for attaining psychological well-being as well [21]. Additionally, Ryff's classification system also includes similar needs like environmental mastery, personal growth, and purpose in life for attaining psychological well-being [40].

As a matter of fact, humans as social beings are in an effort to gain a respectful position in their social environment. For instance, we hate to be underestimated by other people, and we try

to stay away from social circles that may harm our self-respect. Also, we are quite competitive for attaining prestigious jobs, titles, and positions. Thus, power need defines the desire for personal growth and success identity which aims to improve our competencies to gain a respectful position in life [48]. Nevertheless, it can be regarded as an important indicator of the power need satisfaction to achieve personal goals in educational degrees, career plans or desired economic standards. On the other hand, the behaviors which are used for power need satisfaction can be accepted as a controversial issue in daily life. The improper use of the power may prompt suppressing, downgrading or even restraining people aggressively. However, the conceptualization of the power need in the choice theory opposes to this view, and choice theory defines the power need as a line of personal empowerment and growth which is far from interpersonal conflicts, and also cares about protecting the benefits of others [46–48].

Research in the literature exhibits supportive results for the significance of the relationship between power need satisfaction and happiness. For instance, self-esteem can be accepted as a robust predictor of happiness in almost all over the world [11, 15, 65]. Also, similar results show that the variables such as assertiveness need [25], learned resourcefulness [66], respect need [26, 29], and competence need [23, 27, 28, 30] are significant predictors of happiness. Furthermore, findings show that having a purposeful and meaningful life, or having a successful goal pursuit in life are also significant predictors of happiness [67–70].

2.4. Freedom need

Freedom need is defined as the desire to have a personal space for acting freely in life, to maintain life, stay away from pressures, and to move with free will when making decisions about the course of life. Freedom need is also considered as a protective factor for the self, by opposing to improper use of power by others. Additionally, satisfaction of freedom need is so crucial to realizing the creative potential of the humans in daily life [47, 48].

Additionally, the major need theories emphasize the importance of freedom as a prominent psychological need under the heading of autonomy need in their approaches [5, 35, 40], and there are also many research findings indicating that satisfaction of autonomy need is a significant predictor of happiness [16, 23, 27–30].

Actually, having the sense of freedom can be considered as a prerequisite for attaining happiness in life. The research results which were obtained from 100 thousand people in 55 countries also emphasize the importance of individualism and the value of human rights in a society as a cultural orientation for attaining happiness [1]. As a matter of fact, happiness is regarded as an important life purpose in the individualist cultures which attach importance to sense of freedom as an indispensable life value. On the other hand, the need for freedom and autonomy can be perceived as an undesired condition that negatively affects the social cohesion in collectivist cultures. Thus, happiness exhibits a consistent association with individualism rather than collectivism almost all over the world [1, 15, 71, 72].

2.5. Fun need

Fun need defines the pleasant occasions in life, such as playing games, following a sense of humor, having hobbies concerning art, literature, or sport, and also discovering new experiences

about life. Also, laughing can be accepted as the best descriptor of the fun need satisfaction in daily life. As a matter of fact, Aristotle argued that the ability for laughing with laughter is the most distinctive feature that distinguishes the human beings from other living creatures in the world. Furthermore, the fun need is accepted as an indispensable condition for learning activities according to the choice theory, and human beings draw away from learning activities as the learning environment become less fun [46–48]. At this juncture, it is crucial to state that although some of the theories accept the play need or the leisure need as a psychological need in their conceptual framework, the fun need has never been conceptualized as a specific psychological need for the human beings in any need theory.

Research in the literature exhibits supportive results for the significance of the relationship between fun need satisfaction and happiness. For instance, leisure engagement has a significant relationship with subjective well-being [65, 73,]. Besides, leisure satisfaction exhibits significant predictive roles on subjective well-being after personality traits like extraversion or neuroticism are controlled [74]. Moreover, the results of a meta-analysis provide strong evidences for positive relationship between leisure engagement and subjective well-being, and leisure engagement which includes games, sports, or cultural experiences appears to be at least as strongly related to subjective well-being as much as the variables like occupational status or income [75]. Thus, it can be said that the conceptualization of the fun need as a specific and important human need for attaining happiness can be accepted as a correct assumption of the choice theory [41].

3. Final considerations

We were able to define a unique individual perception like happiness based on scientific criteria all over the world within a universalist perspective. We were also able to define the important sociodemographic variables in order to achieve happiness all over the world. However, we have not yet reached a unanimous acceptance about which psychological sources are needed for humans to achieve happiness. That is precisely the reason why investigating the psychological antecedent of the happiness can be seen as an interesting area for researchers.

An important approach that will lead researchers to discover the psychological antecedents of happiness can be considered as need theories. As a result of the precious efforts exhibited by the major need theorists, today we are clearly aware that satisfaction of the human needs has unique predictive role for happiness universally. However, we have not yet reached a consensus about conceptualizing human needs with a universal perspective. Although Murray describes certain needs about human nature, some of these needs are not perceived as essential for every individual, and Glasser dissociates his views from Murray by attaining a universal need conceptualization for all human-beings. Furthermore, Glasser theoretically dissociates his views from Maslow by objecting to the hierarchical classification of the human needs, and by attributing equal importance to the five basic needs. According to Glasser, some of these five basic needs can be considered more important for attaining happiness with an individualistic consideration. For instance, the satisfaction of power need may be accepted more important than the freedom need for attaining happiness among some individuals. However, theoretically both the power need and the freedom need are essential needs at a basic level for all human-beings universally, and all of the five basic needs have equal importance. Glasser

dissociates his views from Ryan and Deci's self-determination theory and also Ryff's psychological well-being theory by defending the validity of tension reduction assumption about the basic needs satisfaction for attaining happiness. Also, the current need-based approaches about happiness are trying to reveal the unique predictive role of the basic needs satisfaction in an eclectic way, rather than presenting a new consistent theoretical perspective for attaining the happiness [29, 42]. At this juncture, Glasser's Choice Theory might be accepted as a precious conceptual framework which aims to explain the basic human needs for attaining happiness within a universalist perspective.

The major assumption of choice theory about the basic needs is that happiness is felt only if the five basic needs (survival, love and belonging, power, freedom, and fun) can be satisfied sufficiently and a person who is unhappy has not been able to satisfy at least one of these five basic needs [48]. In a study which can be accepted as the first attempt to explore the validity of this major assumption, the researchers investigated the role of basic needs satisfaction in predicting subjective well being in university life context [41]. The findings of the study showed that five basic needs explained the variance in subjective well being in a large effect, with all of five basic needs significantly contributing to the prediction. Moreover, the findings also support the major assumption of choice theory about the role of five basic needs for attaining happiness. Consequently, the researchers concluded that the students who have the ability to make choices and to express themselves freely, who have an attempt to have fun, who feel themselves worthy and successful, who have enough safety and shelter conditions, and who have good relationships with significant people to themselves in their lives, are more close to happiness than others.

However, no other empirical studies have been found in the literature that directly investigated the antecedents of happiness using Glasser's conceptual framework about human needs. Thus, it would be a new research area to investigate the validity of Glasser's reconceptualization of human needs for attaining happiness. At this point, this theoretical review can be considered as an invitation for researchers to investigate the antecedents of the happiness with Glasser's conceptual framework as a new research area.

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Positive Psychology: The Use of the Framework of Achievement Bests to Facilitate Personal Flourishing

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Additional information is available at the end of the chapter

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Abstract

The *Framework of Achievement Bests*, which was recently published in *Educational Psychology Review*, makes a theoretical contribution to the study of positive psychology. The Framework of Achievement Bests provides an explanatory account of a person's optimal best practice from his/her actual best. Another aspect emphasizes on the saliency of the psychological process of *optimization*, which is central to our understanding of person's optimal functioning in a subject matter. Achieving an exceptional level of best practice (e.g. achieving excellent grades in mathematics) does not exist in isolation, but rather depends on the potent impact of optimization. This chapter, theoretical in nature, focuses on an in-depth examination of the expansion of the Framework of Achievement Bests. Our discussion of the Framework of Achievement Bests, reflecting a methodical conceptualization, is benchmarked against another notable theory for understanding, namely: Martin Seligman's *PERMA* theory. For example, for consideration, one aspect that we examine entails the extent to which the Framework of Achievement Bests could explain the optimization of each of the five components of *PERMA* (e.g. how does the Framework of Achievement Bests explain the optimization of engagement?).

Keywords: Framework of Achievement Bests, best practice, personal flourishing, positive psychology, *PERMA*, well-beings, optimization

1. Introduction

The study of *positive psychology* has advanced theoretically and empirically with the work of Seligman (2011a, 2011b). The *PERMA* model [1, 2], for example, has provided grounding into the understanding of the positive psychology paradigm. Positive psychology, as noted, is not

a passing fad, but rather an inquiry that places strong emphasis on the *proactivity of human behaviour*. For example, one important aspect of this entails recognition of the achievement and experience of *optimal functioning*, which reflects maximization of a person's capability. Optimal functioning, in this sense, is concerned with a person's internal state of functioning (i.e. cognitive, motivational, emotional) that is maximized to his/her fullest potential. This theoretical approach of positive psychology differs from the traditional, deficit models of human behaviour that focus on preventive measures and rectification of maladaptive functioning.

Recently, the *Framework of Achievement Bests* [3, 4] was developed to provide further understanding into the positive psychology paradigm. This achievement best framework emphasizes on a person's quest to achieve *an exceptional level of best practice*. More importantly, though, the Framework of Achievement Bests attempts to account and explain how an individual reaches optimal functioning in a subject matter that reflects the maximization of capability. This focus of explanation regarding optimal functioning is achieved has, to date, received moderate theorizations from educators and researchers, alike. On this basis, it is postulated that more emphasis into the operational nature of optimal functioning is needed for clarity and understanding. The current chapter discusses a conceptualization that details the potential contribution of the Framework of Achievement Bests in the study of positive psychology. It is argued that the underlying structure of this framework is positive, in nature, and may complementarily support the PERMA theoretical model [1, 5] in its explanatory account of human optimal functioning. It is conceptualized, for example, that the achievement of exceptional best practice in a subject matter may itself serve to facilitate a person's state of flourishing.

2. The importance of positive psychology: in brief

Positive psychology, as the term connotes, emphasizes on the positivity and appreciative aspects of human behaviour [6, 7]. This 'branch' of psychology, credited to Seligman, Csíkszentmihályi, Diener, Maslow and others, emphasizes the importance of human proactivity, personal fulfilment and the aspiration to lead fruitful and meaningful lives. In this sense, positive psychology is a theoretical approach that focuses on virtues, inner strengths and resilience, and the achievement of optimal functioning. These attributes or characteristics are positive, in nature.

Why focus on the study of positive psychology? Positive psychology is noteworthy for long term research development as it serves as a complementary platform for the study of human weakness, healing and maladaptive functioning. Appreciation and the beauty in life are reflected in the positive psychology paradigm. Aside from accommodating shortcomings and damages with other theoretical orientations, positive psychology is able to bring out the best in people and society [8]. Preventive measures to rectify contextual situations and personal circumstances may, in this sense, benefit from the incorporation of positive psychology as an intervention. This theoretical contention is based on empirical documentations that detail the impact of positive psychology in instilling the following: *positive emotional functioning* (e.g. happiness), *positive learning experiences*, *positive social climates*, and *human strengths and virtues* [9].

The main question then, arising from this introduction, is not whether there is credence to accept the positive psychology paradigm. Rather, it is a methodical issue of how one continues to sustain the potent effects of positive psychology [10, 11], namely (i) providing a strong sense of resilience in order to assist a person to rise to life's challenges, (ii) encourage proactive engagement in social relationships with others, (iii) seeking self-gratification and self-fulfilment of enrichment in creativity and productivity and (iv) encourage a person to move beyond oneself and to assist others in their quests to find satisfaction, wisdom, and lasting meaning to life. Adopting positive psychology, in this sense, would enable individuals and society to approach life with collective conviction, personal resolute and confidence. A secondary school student, for example, may use his/her failures for improvement purposes, and to focus more on positive future outlooks rather than reflecting on past and/or current mediocracy.

With this in mind, it is argued that ongoing consideration and utilization of positive psychology may be facilitated by theoretical contributions, applications of different theoretical models (e.g. PERMA: [1, 5]), and continuing development and conceptualizations of understanding. Both individuals and society may benefit from the use of positive psychology theories in their daily functioning. The potency of positive psychology, in this instance, may be demonstrated by its explanatory and predictive effects. Students at school, for example, may focus on their positive emotions (e.g. happiness) for learning, in general. Rather than delving into anxiety and the negativities of school pressures, students may wish to direct their attention on positive outlooks for accomplishment. In a similar vein, individuals may wish to pursue and enjoy life in a non-materialistic sense, and not concentrate on the pursuit of wealth, and so on.

The Framework of Achievement Bests, published recently [3, 4], focuses on the achievement of optimal best practice. This theoretical tenet is in accordance with the positive psychology paradigm, and places strong emphasis on an internal state of optimal achievement that reflects personal maximization of capability. In this section of the chapter, a conceptualization of this framework and its potential contribution to positive psychology is discussed.

3. Best practice: the Framework of Achievement Bests

The positive psychology paradigm places strong emphasis on proactive human endeavours in different domains of functioning. Proactive human endeavours involve strengths, aspirations, planning and the achievement of best practice. In this sense, achievements of best practice reflect the stamina, tenacity and growth of human endeavours. The notion of best practice, recently discussed [12], focuses on a person's internal state of functioning, academically and non-academically. Contrary to the reference 'best', best practice does not emphasize on exceptional or understanding qualities, nor does it emphasize on the highest standard in a subject matter. In a similar vein, best practice does not indicate automated or repeated actions, nor it is concerned with application of a key concept into practice. Rather, best practice in school contexts is non-unitary, and espouses three major elements:

- i. *Acquired knowledge*, which encompasses three different types, namely, *declarative* (i.e. knowledge about the world or of oneself), *procedural* (i.e. knowledge about application and procedure) and *conditional* (i.e. knowledge about one's own awareness of 'when' and 'why' to apply declarative and procedural knowledge) knowledge.
- ii. *Personal experience* is relatively complex, and encompasses both classroom-based academic (e.g. appreciation for *mastery*) and school-based non-academic (i.e. *emotional well-being*, *feelings for schooling*, a *perceived sense of needs* and *social relationships*) attributes.
- iii. *Personal functioning* emphasizes on the saliency of a person's an internal state of cognition, motivation and behaviour that may result in quality learning in an effective manner.

Best practice differs between individuals. Some individuals may demonstrate outstanding levels of best practice, whereas others may report low-to-average levels. In a society, for example, disparities in best practice may be observed from different levels of economic wealth. Similarly, in academic contexts, some students may show exceptional levels of best practice for different subject disciplines. At the same time, best practice also differs from an individual point of view. A 10th grade student may have exceptional knowledge (i.e. declarative, procedural and conditional) in mathematics, but moderate levels in personal experience or personal functioning. In another subject area, the same student may demonstrate an exceptional level in personal experience and personal functioning, but not in acquired knowledge.

The Framework of Achievement Bests [3, 4] explores best practice by focusing on the following: (i) discern and define different levels of best practice and (ii) an underlying psychological process that attempts to explain the achievement of optimal best practice. This framework is innovative for its explanatory account of how one reaches an exceptional level of best practice. More importantly, however, it is argued that this framework is meaningful in terms of its theoretical contributions and relatedness to the positive psychology paradigm. Specifically, in this argument, it is postulated that the achievement bests framework would assist in the execution of the PERMA model [1, 5]. **Figure 1** shows the potential interrelations between the Framework of Achievement Bests, the PERMA model and positive psychology.

3.1. Levels of best practice

The Framework of Achievement Bests focuses on two major levels of best practice: (i) *realistic achievement best*, which is defined as 'an individual's actual competence at any given time to

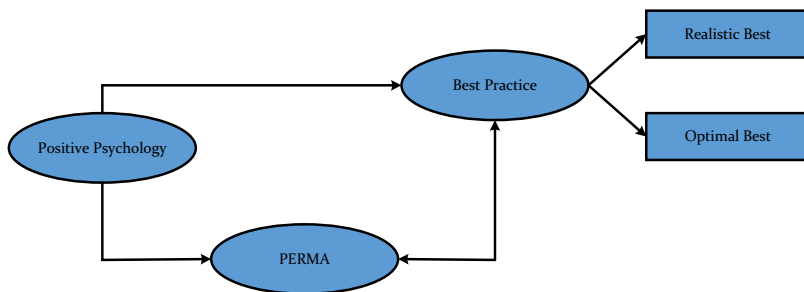


Figure 1. Proposed relations between positive psychology, PERMA and best practice.

learn and/or to solve a problem' [3], and (ii) *optimal achievement best*, which is defined as 'an individual's striving to demonstrate and/or to seek mastery in competence at any given time, reflecting his/her fullest capacity' [3]. Realistic achievement, in this sense, reflects a person's actual level of best practice (e.g. I am capable of writing a 2000-word essay about World War II). Optimal achievement, in contrast, emphasizes a person's aspired positioning to achieve an exceptional level of best practice (e.g. I can do much better and be able to write a 20,000-word thesis on the history of World War II), using his/her historical and realistic achievements as a source of information.

The Framework of Achievement Bests differs from previous theorizations of cognition and motivation, such as the *expectancy-value theory* [13–15] and/or the *zone of proximal development* [16]. For example, the expectancy-value theory emphasizes on a person's perception of his/her current competence, as well as his/her belief about upcoming tasks, either in the immediate or longer term future. What is problematic, however, is that the notion of calibration may arise [17], resulting in inaccuracy and erroneous outcomes. Realistic and optimal achievement bests, in contrast, are not concerned with *belief* about current ability (e.g. I believe that I can.....), and/or *expectancy* about the future (e.g. I expect to do well ...). Rather, these two levels of best practice emphasize on the saliency of a person's recognition of his/her current, actual best practice (i.e. what a person can do), and his/her indication of capability that reflects exceptionality (i.e. what a person is capable of in terms of maximization). In this sense, levels of best practice are indicative of precision and a person's state of quality, competence and enriched experiences.

Different levels of best practice form part of a person's repertoire of knowledge, competence and functioning. At any moment in time, a person may report on his/her levels of best practice. **Figure 2** shows the different levels of best practice that are in accordance with proximal timeframes. For example, at the present time, a student may indicate his/her realistic and optimal achievement bests. Achievement of optimal best, in this case, stipulates a contextual timeframe for accomplishment, based on the level of complexity (e.g. $x^2 + 10 = 26$ vs. $x^2 + y^2 = 25$). An exceptional level of best practice, for instance, may take a period of 1 week to undertake and accomplish (e.g. say, $x^2 + 10 = 26$). If this is the case, then by next week, as shown, a person's optimal best stated today would be considered as being realistic best. Likewise, a person's indication of his/her realistic best today would be considered as historical by next week. This theorized sequencing contends that over the course of time, a person evolves in his/her development of best practice.

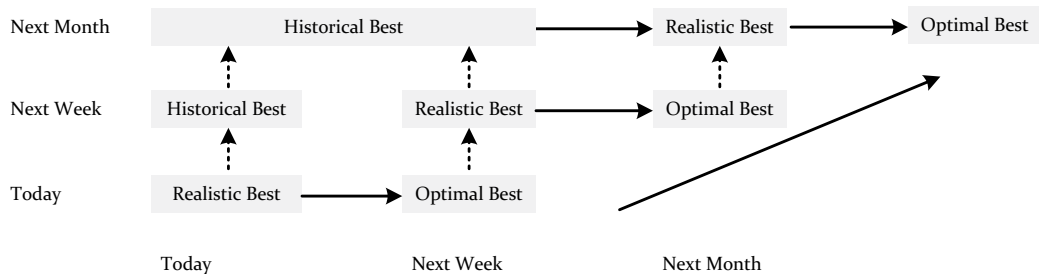


Figure 2. The Framework of Achievement Bests.

3.2. The psychological process of optimization

Realistic and optimal achievement bests differ in that the former is actual best practice, whereas the latter is non-actual, emphasizing instead on a positioning to demonstrate an exceptional level of best practice that reflects maximization in potential. In this analysis, as shown in **Figure 3**, the *zone of optimization* illustrates the striving of one level of best practice to that of another level (i.e. realistic best → optimal best). This achievement of optimal best (e.g. solving $4 + 5^2 = ? \rightarrow 4(x + y)^2 = 3x - 2y$) is explained by *the psychological process of optimization*, which visually is in the shape of a ‘funnel’. As illustrated, the funnel that enables matters (e.g. water) to pass through has a small mouth on the left-hand side, and a wide mouth on the right-hand side. A narrow funnel, in this instance, may deter matters from passing through the funnel quickly. Having said this, however, power-generated mechanisms that are located internally (e.g. a battery-operated pump) may facilitate the movements of matters across a funnel. This example is a mental representation of the underlying operation of optimization, which emphasizes on two important tenets: (i) matters as being a person's best practice and (ii) an internal battery-operated pump as an underlying mechanism that optimizes or energizes the movement of matters (i.e. a person's best practice).

This theorization reflects the totality of optimization, which emphasizes on the *energization in movement of matters across space*. The energization in movement of matters across a funnel (i.e. water flowing through a funnel) is facilitated by the *intensity* of the power-operated mechanism (e.g. an internal battery-operated pump), and the *volume* of the funnel (i.e. the size of the funnel). Intensity, from our conceptualization, is defined as the power of the internal mechanism that operates to facilitate the movement of matters across space (e.g. water). Some power-generated mechanisms (e.g. an internal water pump) are relatively weak in terms of

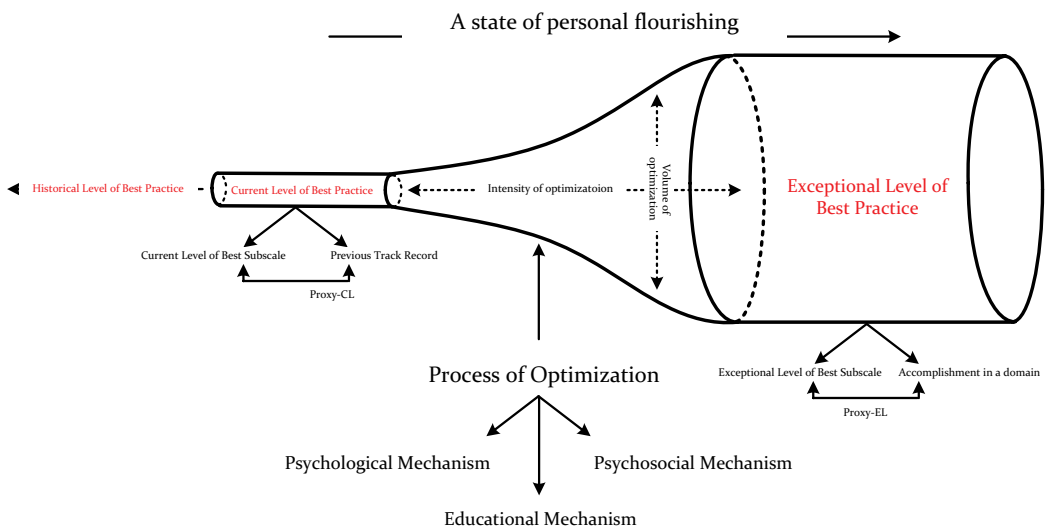


Figure 3. The Framework of Achievement Bests. Source: Adapted from Ref. [1].

power, whereas others are quite powerful given their sizes. Volume, in contrast, emphasizes on the shape and dimensions of a funnel. An elongated funnel that has as small base is likely to deter matters from passing through quickly. This observation also holds true, especially if the internal mechanism is weak in terms of generated power. A funnel that is less elongated and has a large base, in contrast, is more likely to facilitate the movement of matters more quickly. A more powerful internal mechanism, likewise, would assist in the rapid movement of matters across the funnel.

In the context of the present discussion, the example above illustrates the underlying mechanism of the psychological process of optimization. Optimization, based on our discussion of matters moving through a funnel, is an internal process that is intricate, and involves the importance of intensity and scope. The intensity of optimization, specifically, emphasizes on the *extent and amount of resources* needed to optimize a person's state of functioning. The scope (or volume) of optimization, in contrast, focuses on the *amount of effort and time* needed to optimize a person's state of functioning. In essence, drawing from this theorization, the psychological process of optimization encompasses the utilization of resources, and the expenditure of time and effort. There are three types of resources, which we coined as 'mechanisms' [4], that operate to optimize a person's state of functioning. The sequencing of this psychological process is as follows:

- i. The initiation and execution of *optimizing agents* (i.e. *psychological mechanisms, educational practices* and/or *psychosocial mechanisms*) that operate to influence the internal personal processes for learning and performance. There are three types of optimizing agents, namely (i) *psychological mechanisms*, such as a person's self-efficacy beliefs for learning [18, 19], hope [20, 21] and motivation, in general [22], (ii) *educational practices*, such as instructional efficiency and appropriate pedagogical approach that enable better comprehension and understanding of the unit materials [4, 23] and (iii) *psychosocial factors*, such as the impact of the home social environment that may shape a student's state of functioning [e.g. 24].
- ii. Upon the positive influences of optimizing agents, internal personal processes of *persistence* [25–27], *effort expenditure* [25, 28, 29] and *effective functioning* [30–32] are activated. This activation, in turn, plays a central role in motivating an organism to reach optimal functioning.

In academic settings, for example, the process of optimization may facilitate the achievement of exceptional best practice. This contention [4] expands on previous theoretical orientations (e.g. cognitive flow [33]) by providing an explanatory account of how an individual achieves an exceptional level of best practice. For example, in the context of mathematics learning, say, an appropriate instructional design (i.e. educational practice) that takes into account the negative impact of cognitive load imposition [23, 34] may enlighten comprehension and understanding of the unit material. This effective pedagogical approach, in turn, may initiate and sustain a heightened state of persistence, which then motivates a student to expend more effort in his/her mathematics study.

Non-academically, likewise, the process of optimization may operate to explain and facilitate in the achievement of optimal best. For example, consider the case of economic and social mobility, and a person's determination to do well, finally. Any person's ambition, in this case, may entail having a good paying job, residing in an affluent area and fulfilling personal and

materialistic needs. Realistic best practice, in this case, may reflect say, the following: (i) a person having an average job that is not well rewarding, financially, (ii) the person resides in area that is considered as being working class and (iii) the person has desires and aspirations to have other materialistic needs. Benchmarking against this realistic best practice level, the person is able to achieve an exceptional level of best practice in terms of his/her job (i.e. to get a better paying job, consequently as a result of his/her academic qualifications), residential area (i.e. moving to a better location) and the fulfilment of materialistic needs (i.e. improve in the quality of materialistic needs). This achievement, of course, may depend on the impact of psychosocial factors, such as the social environment. Opportunities introduced and provided by the community, in this instance, may assist the person to capitalize on his/her talent, qualifications, and so on, to achieve non-academic optimal functioning.

4. Positive psychology and best practice

An important question, which forms the basis of this chapter, is how the Framework of Achievement Bests relates to the positive psychology paradigm? That is, in other words, how does the achievement bests framework explain some of the attributes, characteristics and outcomes of positive psychology? Addressing these questions requires an in-depth analysis of the main tenets of both theoretical orientations. **Figure 1** presents a conceptualization by which best practice makes a direct contribution to the positive psychology paradigm, and a direct contribution to the PERMA theoretical model. Understanding of this conceptualization is facilitated by the identification of convergence and commonalities between best practice and positive psychology. From what has been discussed so far, it is noted that both theoretical orientations focus on the following: (i) enrichment of a positive state of cognitive and emotional functioning, (ii) intense concentration on the striving of personal endeavour (e.g. acquired knowledge), (iii) expenditure of strength, which reflects the maximization of capability, (iv) contemplation of success, rather than delving into the negativities of life and/or one's failures and (v) purposive attention towards positive outlooks regarding life, in general.

Best practice then, based on the assessment made, is indicative of the positive psychology paradigm. In this sense, understanding the overall arching focus of positive psychology may arise from the study of best practice, involving both realistic and optimal achievement bests. Striving to optimal best practice, in itself, reflects a positive psychological dimension of human agency. Indeed, the Framework of Achievement Bests is not negative and does not emphasize on personal failures, pessimism, and so on. Optimal best practice, regardless of its level, is positive and indicates personal resolute, a state of resilience and the maximization of one's full potential. For example, a child's indication of optimal best practice in creativity may explain his inner strength, resolute, and inspiration to strive and achieve exceptionality in this area of inquiry.

4.1. PERMA and best practice

One important line of inquiry in positive psychology involves the development of the PERMA theoretical model [2, 5]. The PERMA theoretical model attempts to understand a person's

state of happiness. Central to this idea is the fact the notion of *flourishing* consists of five core elements, namely:

- i. Feel joyful and to feel positive (**P**). This element of positive emotions emphasizes on the importance of *optimism*, whereby individuals view the past, present and future in an enlightened perspective. Be optimistic and be hopeful. At the same time, this element distinguishes between two *pleasure* and *enjoyment*. Pleasure is related to one's satisfaction to achieve physiological needs for survival (e.g. thirst, hunger). Enjoyment, in contrast, derives from intellectual curiosity, stimulation and creativity.
- ii. To be absorbed and excited in things we do (**E**). *Engaging* in different academic and non-academic activities, in this case, may facilitate and nurture our sense of happiness. Children at school, for example, may engage in a variety of activities, such as putting together jigsaw puzzles, drawing and colouring, playing computer games, and/or practicing ballet or a music instrument. Such engagement, according to Seligman (2011), is intellectually stimulating, and may stretch the child's emotional limits and endurance.
- iii. To feel being loved and be satisfied with personal relationships (**R**). This element suggests that a person's happiness and psychological health are inextricably linked to his/her *close, meaningful and intimate relationships with others*. As human beings, we often thrive for connection, love, intimacy and emotional and physical interactions with others. Social relationships with peers, friends, siblings, parents and extended family, either short-term or long-term, are sources of positive emotions. Social networks (e.g. Facebook), in this instance, have been noted to facilitate and spread happiness and other positive emotions.
- iv. To lead a purposeful and meaningful life (**M**). True happiness, according to Rollo May, an existential psychologist (Source: https://en.wikipedia.org/wiki/Rollo_May), comes from our understanding of having a *meaningful life*, rather than from the pursuit of pleasure and material wealth. Loving someone and helping others, in this sense, reflect meaningful purposes in life. Such engagement may involve, for example, preaching religious faith, doing community work, engaging in a political cause for the good of the people, and taking part in a charity (e.g. distributing food parcels at a local shelter). This dedication reflects the true meaning of life that is greater than oneself.
- v. To achieve important goals and handle responsibilities (**A**). It is important for us to have *aspirations and goals for accomplishment*. Effort expenditure and the accomplishment of realistic goals, in this sense, give us a sense of pride, satisfaction and self-fulfilment. Personal accomplishment (e.g. 'I did it, and I did it well') is a source of enriched well-being, happiness and motivation for us to thrive and to flourish further. At the same time, personal accomplishment, whether small or large, serves to heighten a person's sense of self-belief (e.g. self-esteem).

The PERMA theoretical model is positive, consisting of attributes and characteristics that are proactive, motivational and engaging. As a point of summary, the PERMA model recognizes the importance of optimistic thinking, active engagement, a perceived sense of meaningful and intimate relationships with others, understanding the meaning of living a fruitful, purposive life and a need to have aspirations and goals for accomplishment. This emphasis indicates that

achievements of such endeavours reflect a non-deficit, dynamic approach to human behaviour. It is important to note, however, that each mentioned attributes and characteristics vary in levels of intensity or achievement. For example, in daily settings, a person may vary in his/her optimistic thinking level. Likewise, in a classroom learning situation, a student may differ from his/her peers in relation to active engagement. On this basis, the Framework of Achievement Bests may offer a platform that could provide more information and explanation regarding the PERMA theoretical model.

Best practice, as explained by the Framework of Achievement Bests, entails different levels of achievement. More importantly, however, the achievement bests framework emphasizes the importance of personal striving to reach optimal best. Optimal best practice, reflecting an exceptional level of achievement, may situate and involve the combination of contexts and domains of functioning. Consider, in this case, the five elements of the PERMA theoretical model (i.e. domain of functioning) that are situated within secondary school mathematics learning (i.e. context). It is plausible, in this analysis, to consider different levels of best practice for each of the five core elements. This theorization postulates that each element (e.g. positive emotions) may vary in levels of complexity and development of best practice. The Framework of Achievement Bests, in this sense, provides more clarity into the differential levels of best practice (e.g. personal experience) for the PERMA model, in totality. **Table 1** presents a detailed example of how levels of best practice (i.e. realistic vs. optimal) explain the complexity of each of the five core elements.

Elements	Realistic best practice	Optimal best practice
1. Positive emotions	Relatively optimistic in terms of achieving understanding of the topical theme of 'factorization' in Algebra.	Extremely optimistic in terms of achieving success in other activities in Algebra. Also understand the difference in engagement for the purpose of pleasure vs. enjoyment.
2. Engagement	Moderate engagement in learning different activities (e.g. engaging in in-class work exercises) for the topical theme of 'factorization' in Algebra.	Show extreme engagement, reflecting personal interest, perceived value and intense flow for the learning of Algebra.
3. Relationships	Working interactively with other peers in class, where appropriate, to understand the topical theme of 'factorization'.	Working interactively with peers, teachers and capable others to learn and understand different topical themes for a variety of subject disciplines, where possible.
4. Meaning	Learning for the purpose of seeking knowledge and understanding of a topical theme, in this case, the importance of 'factorization'.	Appreciating successes, but also recognizing that failures are part of life. Perceive and view failures as sources for improvement.
5. Accomplishment	Seeking to fulfil and achieve the goal of mastering this understanding of 'factorization'.	Seeking to fulfil and achieve the goal of helping others to understand the importance of 'factorization'. Helping less capable peers, in this sense, reflects a sense of accomplishment.

Table 1. Best practice and PERMA.

As shown in **Table 1**, each element of the PERMA theoretical model may reflect different levels of best practice. A realistic level of best practice, for example, shows mediocrity in terms of experience of positive emotions, engagement, relationships, meaning and accomplishment. A student who experiences a moderate level of realistic best for emotional functioning may, in this instance, have an aspired positioning to achieve an optimal level of best practice (e.g. an extreme state of optimism, especially in terms of seeking learning for enjoyment purposes). Likewise, another student may experience a low level of realistic best in terms of engagement—his/her optimal level of best practice may reflect proactivity and intense concentration and cognitive flow. An important issue here, in this analysis, is to consider strategies and programs that may facilitate optimal functioning in the PERMA theoretical model.

5. Caveats and recommendations

One main inquiry of positive psychology that has gained traction in recent years is the undertaking of rigorous scientific studies to validate its theoretical tenets. The PERMA theoretical model [1, 5] has, to date, received moderate research attention from educators and scholars, alike [35, 36]. This limited focus has been noted, and questions have been raised regarding the relevance, appropriateness and validity of the PERMA theoretical model. In social sciences, acceptance of a particular theory or theoretical variable requires rigorous scientific testing, and empirical validation. This scientific inquiry may be in the forms of experimental interventions and/or implementation of a program to validate the effectiveness and predictive effects of the theory [37].

The development of an articulation that amalgamates positive psychology, best practice and the PERMA theoretical model has also resulted in the identification of caveats for research development. Firstly, expanding on the work of Seligman and colleagues [5, 38, 39], it is important for researchers to focus on different methodological approaches to validate the PERMA theoretical model. As previously discussed, the PERMA model is perceived as being questionable by some researchers, especially in terms of its ability to remain steadfast under scientific scrutiny. Considering the importance of structural validity of the PERMA model is one important line of inquiry. One possibility, for example, may involve the cross-validation (e.g. the use of confirmatory factor analysis [40]) of different positive psychology and mindfulness. **Figure 4** presents a conceptualization that depicts the cross-cultural validation between positive psychology, best practice and the PERMA model. Based on *structural equation modelling* (SEM) procedures [40, 41], each of the three theoretical orientations is treated as a latent variable (e.g. 'Positive Psychology'), which is then represented by a number of measured indicators. In this example, it is conceptualized that: (i) the latent variable titled 'Positive Psychology' is represented by three measured indicators, namely: 'happiness', 'optimal functioning' and 'flourishing', (ii) the latent variable titled 'PERMA' is represented by five measured indicators, namely: 'positive emotions', 'engagement', 'relationship', 'meaning' and 'accomplishment' and (iii) the latent variable titled 'Best Practice' is represented by three measured indicators, namely: 'acquired knowledge', 'personal experience' and 'personal functioning'.

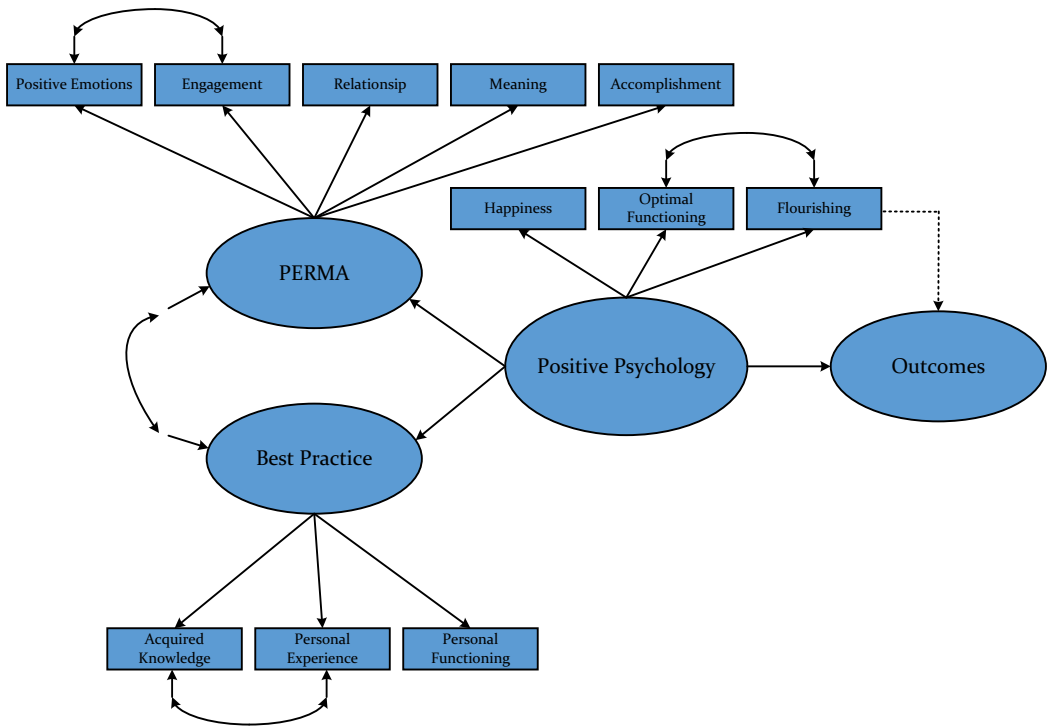


Figure 4. A conceptualization of cross-validation. Note: Due to the complexity of the a priori model, not all paths (i.e. correlated variances between measured indicators and direct structural paths from measured indicators to latent factors) have been included.

The conceptualization detailed in **Figure 4** is a second-order factor representation—that is, the latent factor of ‘Positive Psychology’ is hypothesized as second-order, and is defined by two first-order latent factors: ‘PERMA’ and ‘Best Practice’. For research investigation, it is plausible to consider validating both the structural and measurement models of the proposed conceptualization. The measurement model involves examination of the factorial loadings between the latent factor and its corresponding measured indicators. Strong factor loadings (e.g. $\alpha > 0.70$) and the overall fit of the a priori model may indicate sound psychometric properties, and support the conceptualized theorization. In line with this, statistical assessment is the possible correlated variances that could exist between measured indicators of the different latent factors (e.g. ‘positive emotions’ ↔ ‘happiness’).

One important line of inquiry, as shown, entails the structural predictive influence of the latent factor of ‘Positive Psychology’ on different types of latent outcomes. This examination (e.g. ‘Positive Psychology’ latent factor → academic performance) may add credence to the validity of the positive psychology paradigm. The complexity of SEM procedures also enables statistical testing of the direct structural paths from the measured indicators of the ‘PERMA’, ‘Best Practice’ and ‘Positive Psychology’ latent factors to that of educational outcomes (e.g. ‘flourishing’ → outcomes). This inquiry, likewise, is significant for its emphasis on the structural validation of conceptualized theoretical tenets (e.g. positive emotions from the PERMA

theoretical model, acquired knowledge from the best practice theoretical model, happiness from the positive psychology paradigm, etc.).

Secondly, it is a similar line of inquiry for the theory of best practice. One important focus that has, to date, received some empirical evidence concerns the psychological process of optimization. Optimization, involving the activated relationships between optimizing agents (e.g. psychological mechanisms) and internal personal processes (e.g. persistence) is relatively complex and requires further research development. Aside from what has been established [3, 4], to date, very little is known about the initiation, sustainability and activation of the overall process of optimization. For example, the initiation of a particular psychological mechanism (e.g. a sense of hope [42, 43]) and its subsequent activation on an internal personal process (e.g. persistence [25, 26]) have been inferred from individual strands of research.

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Understanding the Concept of Life Quality within the Framework of Social Service Provision: Theoretical Analysis and a Case Study

Zuzana Palovičová

Additional information is available at the end of the chapter

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Abstract

The study discusses the quality of life concept and its relation to the right to lead an independent life as a social service recipient. The combination of these concepts can be found in various strategic documents at the national and international level. The study articulates the thesis that the concept of capabilities is the basic concept for both the definition of quality of life and the definition of the right to independent living, as the level of freedom and capability (capabilities) provides information on real opportunities and possibilities of individuals to make free decisions as well as allows to identify disparities caused by the social structure that disadvantages, marginalises or discriminates certain groups. The aims of the study are to provide a clear definition of the right to lead an independent life and to explicate the link between the concepts of quality of life, self-determination, autonomy, competence in the context of the rights of disabled people to the integration and social inclusion. Reflecting on the experience from the Slovak Republic, the study suggests that the social service transformation process does not always imply an improvement in the life quality of the disabled. Instead, an ill-prepared deinstitutionalisation of the social services might dissolve the available system without providing an adequate replacement.

Keywords: quality of life, capabilities, social functioning, human rights, social services

1. Introduction

The level of human welfare and well-being is considered an important indicator of social inequality and social justice. In classical economics, the welfare is usually interpreted to mean welfare benefits, which are normally one-dimensionally measured by indicators such as

income, expenses, gross domestic product, investment, etc. Recently, however, other criteria than purely monetary are beginning to be taken into account in economics. This stream was initiated by A. Sen, who proposed to focus on issues of human welfare and quality of life through the freedom of choices that an individual has. His idea accurately conceptualises in the concept of capability and social functioning that serve as indicators of the human welfare. From this perspective, the lack of basic capabilities can be interpreted as a lack of freedom, which implies that it becomes a human rights consideration.

The study deals with the clarification of the quality of life with regard to the right to live independently in the context of social services. It defends the thesis that the concept of capabilities is the basic concept for both the definition of quality of life and the definition of the right to independent living, as the level of freedom and capability provides information on real opportunities and choices of individuals to make free decisions and allows one to identify inequalities caused by social structure that disadvantages, marginalises or discriminates against certain groups. The study is divided into four parts. The first one focuses on Sen's analysis of the mutual relationship of the terms benefit, material resources, capability, freedom and social functioning, because through these terms, the human well-being and welfare are usually explained. We are observing, whether these indicators, which are of concern for human welfare and well-being, are equal or there is a reason to prioritise some of them. Having regard to the theoretical relevance of Sen's interpretation of human welfare in the next part of the study, we look at the possibilities for the practical implementation of this approach. We will show that the practical application of this methodology provides additional information to conventional methods based on revenues or gross domestic product. Another section is devoted to the analysis of the right to live independently with regard to the right of persons with disabilities to integration and social inclusion. Based on the conceptualisation of the right to independent living, we will attempt to articulate arguments and reasons against the segregation of people with disabilities and to identify the specific elements that are essential for the transformation of the social care system. In the fourth part, we will demonstrate the main arguments from part one to part three and exemplify them on the example of the Slovak Republic.

2. Sen's interpretation of the human well-being

The basic starting point of Sen's approach is the quality of human life in its plural forms. He conceptualises the human welfare through the terms *social functioning* and *capabilities*. Social functioning is defined as a condition that one has reached (e.g. they are educated) or an activity that one is able to do (e.g. travel) [1]. Functioning reflects different aspects of satisfaction of human needs, desires and preferences and concerns various dimensions of human welfare from survival to self-expression in art and culture. According to Sen, social functioning is subject to the available material resources and their characteristics and depends on so-called conversion factors that may be personal (age, gender, disability, etc.), social (legislation, population density, crime, etc.) and environmental (climate, environment, infrastructure). These factors, along with varying resources and their characteristics, determine the level of

functioning, which one is able to achieve, and thus their capabilities. The concept of *capabilities* then represents various combinations of functioning that a person has the potential to achieve. It defines them as 'a person's ability to do valuable acts or reach valuable state of being. The capabilities represent alternative combinations of things that a person can do or be' [2]. In fact they reflect the 'freedom to choose lives for which they have a reason to value' [3].

Sen questions the assumption that the individual's well-being is dependent only on the resources, whether in terms of revenue, gross domestic product, etc. It shows that one can, from the same resources, achieve various ways of functioning just because of the conversion factors that determine to what extent they are able to turn available resources to the real level of social functioning. He exemplifies the correlative relationship between the material resources, functioning, capabilities and benefit on the example of a bicycle. Bicycle is a product whose essential characteristic is transportation, so that it enables mobility. Whether these factors are converted into the capability to move, such conversion factors as optimal health and condition of the roads decide on these. For example, a bicycle for a person without disabilities can have mobility characteristics, while a one for a man in a wheelchair has at most characteristic of a decorative object. If we consider mobility as an important part of the human well-being, an individual without a disability can fulfil this function by buying relatively inexpensive bicycle, while a disabled person has to buy a considerably more expensive, specially adapted car to fulfil his need of own mobility. Owing a bicycle thus contributes to the greater benefit of the individual. However, this benefit may be distorted by several factors that have a direct impact on the capabilities. This implies that higher income does not necessarily mean better functioning. Even at the same income level, social functioning of individuals can vary greatly. Furthermore, A. Sen does not consider the measured level of social functioning to represent a sufficient indicator of the actual human well-being. One of the problems is the erroneous interpretation of the reasons and motives that determine the extent, in which an individual achieves the actual level of functioning. For instance, fasting is not only hunger, but it can be a form of ritual, protest and so on. It is a voluntary starvation, when a person does have a choice not to starve. It is this possibility of choice, which is implied in the description of the functioning, which allows fasting to be evaluated differently from other forms of starvation [4].

Sen's approach equally problematises the interpretations that reduce the human welfare on a subjective feeling of satisfying the needs or preferences of the individual. In this context, it highlights the problem of personalised preferences when a man customises to their possibilities, even if it not always in their best interests, and usually they are not even aware of it. For example, to a poor man, even a little financial boost adds to a greater degree of satisfaction than to the rich one. Moreover, one can achieve functionality in restrictions on freedom, too. An example can be publicised attempts of homeless in the freezing cold to get into the prison because they will be warm and have access to food. Consequently, material resources, functioning, capabilities, benefits and freedom are closely linked and cannot be separated. Measuring the human well-being only through means does not take into account other aspects that people can appreciate and which they consider to be part of the good life. A person can follow things that are unrelated or at least not only to their own interests and those they consider as valuable as own happiness, material welfare and so on. It is the capabilities that reflect the real opportunities available to humans in a given situation and at a

specific time. In other words, they represent the potential to choose and achieve various ways of functioning, which a man appreciates. Utilitarian understanding of welfare affects politics and economics, however, disregards the choice in its measurements.

Sen's way of thinking implies that freedom is a primary goal and the main mean for human development. In contrast to approaches where the main indicator of the development is GDP growth, income growth, industrialisation, technological progress and modernisation, Sen defends the idea that 'the development of society should be understood... in the first place as a real freedom (substantive freedom) that the members of society have achieved' [1]. The income is within the purview of Sen's thinking only instrumental freedom, not real (substantive freedom). From this perspective, poverty is not only low income, but it is mainly deprivation and the lack of basic capabilities [1]. The emphasis on capabilities enables Sen to interpret poverty as a lack of freedom to avoid deprivations and therefore on the level of human rights. Sen identifies five types of instrumental freedom, which he considers crucial for the achievement of individual freedom of action—political freedom, economic resources, social opportunities, transparency guarantees and protection of safety [1]. Sen's concept of capability does not refer only to the procedural aspect of freedom in terms of the range of things that one can do without somebody limiting or punishing them, but to the positive liberty within the meaning of freedom as an opportunity, which it is determined by personal and social circumstances. Stated differently, the relationship between freedom as an opportunity and procedural freedom can be interpreted as the relationship of certain possibilities and guarantees, where the possibilities withdraw from the potential of individuals to achieve certain goals (e.g. their individual abilities, material conditions, etc.) and guarantees rather from the quality of the overall environment (and legal guarantees). Freedom as opportunities and procedural aspect of freedom are, in a sense, the two sides of the same coin. Freedom rests on the right. The rights form the first and fundamental condition of liberty. But people need more than just law to freedom. They need not only the right of their choice but also the possibility of its application. The power to vote is based on the resources and options within the offer. A person who has the rights, resources for its implementation and their social environment offers them the appropriate choice and has the real power to make free elections. Procedural freedom along with freedom as an opportunity forms a 'real freedom', which is the basis of the human development. In other words, human development is a multidimensional process that involves changes both at the individual level and at the level of economic, social, political and institutional mechanisms. It cannot therefore be reduced to just economic development. The welfare is from this perspective a heterogeneous multidimensional, dynamic and socially conditioned fact that is to a substantial extent dependent on the amount of random circumstances both personal and social [1]. In this respect, the measurement of well-being must be done at different levels.

Given that the social and economic environment affects the scope of competences of individuals, which capabilities are attributed with a value, and given the highest priority by the people, which ones are relevant to the policies and institutions? The authors advocating the approach to capability offer different methodologies so as to arrive to the relevant list. Sen intentionally does not specify a list of core competencies, because he believes that each social group should be able to decide through social dialogue and participatory democracy, what exactly

is a social minimum that this particular group values. He does not describe certain factors that indicate quality of life even as these capabilities are combined in the overall indicator of well-being or the quality of life [1]. An example of this approach is the Human Development Index developed by the United Nations. Its authors set a very approximate index that exceeds the purely monetary definition of development. It is based on the data that can be obtained in most countries. They relate to poverty, literacy, education, life expectancy and other factors that provide a better indicator of welfare than income itself. The first Human Development Report from 1990 states that the human development is a process of the enlargement of human freedom and the most crucial indicators are a long and healthy life, the opportunity to get education and a decent standard of functioning. Other choices include political freedom, guaranteed human rights and self-respect [5]. In other words, the human development has two sides: the first side relates to human capabilities such as health, skills and abilities, and the second one relates to the freedom of leisure activities and opportunities to be active in cultural, social and political issues. In contrast, an American philosopher M. Nussbaum, who recently significantly developed Sen's approach further, found the basis for identifying the core capabilities in Aristotelian concept of the life flourishing, which is based 'on the list of the basic human entitlements that create the conditions for different ways of life; the claims contained in the idea of human dignity' [6]. The author suggests ten key human capabilities, which in her view provide the basis for 'the constitutional principles that should be respected and implemented by all governments of the world' [7]. Perhaps, the most famous list of ten of these capabilities is the Universal Declaration of Human Rights, which provides the legal framework for the indicators of well-being that people value.

3. The measurement of the welfare

While Sen's approach is relevant in the theory, the problem is how to implement it in practice and to measure the human well-being through capabilities. Again, the classical economists considered income a useful indicator of welfare because it allows individuals to compare themselves with one another. Sen questions the assumption that individuals differ only by income and identifies three basic problems measured by income: Firstly, measuring the income disregards the production in the home (e.g. you cook and clean up on your own), non-market products and services (e.g. help of the family when you are sick, someone will look after you) and payments and transfers within the family, family or friendly relations (i.e. in-kind transfers such as pocket money, paid lunch) that enhances individual well-being. Secondly, the classical economics ignores individual differences between people such as age, sex or disability that may affect the conversion of income on well-being and thanks to which people manage the same resources to achieve different types of operations. Thirdly, the measurement of well-being through income does not reflect the intrinsic value of choice, and choice increases the benefit of individuals [2]. The fact that the income or gross domestic product does not include these factors makes the comparisons of well-being among the individuals problematic. Measurement using living, which is based on the achieved results, takes into account the presence of non-market products.

The severity of variable factors in the conversion of resources to the real quality of life demonstrates pioneering work of a German economist W. Kuklys: Amartya Sen's capability approach. Theoretical insights and empirical applications (2005). The author identifies two problems of implementation of Sen's approach into practice. Firstly, the methods of measurement of capabilities are not developed to be comparable to conventional econometric techniques. Measurement of capability and of functioning is relatively new, so it is still a matter of debate, to actually implement Sen's approach. Secondly, there are only very few attempts to measure Sen's concept of capabilities. The measurement of well-being is focused mainly on the level of performance which, while taking into account the above criticism (distribution of the family, non-market products, etc.), does not solve the problem of capability. In other words, two people who observed to exhibit identical social functioning may actually realise different levels of functioning if they have different capabilities. When measuring the social functioning, a variety of problems occur. With respect to the welfare measurement, what defines the standard of functioning, what methodology and indicators should be utilised to measure it? Approaches aiming to measure the functioning initiated by Sen then usually use one of the following methodologies: Human Development Index, fuzzy set theory, principal component/factor analysis and time-series clustering theory. Associating a specific numeric value with a particular functioning and hence with the overall well-being of the individual also represents a difficulty. Yet another problem emerges, when one wants to compare the measurements of the social functioning with the classical welfare measurements (consider, e.g. how does the Human Development Index relate to the conventional one-dimensional factors such as income or gross domestic product). Furthermore, operationalisation of the capability concept and thus determining the level of capabilities based on the measurement of the functioning are also not straightforward [8].

W. Kuklys focused only on two indicators in her measurements of social functioning. These are good accommodation and health. She lists two reasons for this focus. First, it allows her to concentrate on the methodological issues associated with measurement of functioning. These indicators also represented the two key issues in the UK, where her approach was applied. W. Kuklys analyses statistical data from the UK from r. 1991–2000. Social functioning is interpreted as a latent factor which is a factor that cannot be measured directly, but which can be measured using other observable factors. She focuses on the relationship between the functioning, resources available to the individuals and their conversion factors such as gender and age. She tries to estimate numerical values for the functioning and uses them in the analysis of poverty to illustrate the differences in prosperity when measured by the social functioning and income. According to W. Kuklys, it is more difficult to measure capabilities than the functioning, where the capabilities then better reflect the actual well-being of the individuals. This is illustrated by the results of the poverty measurements among the people with disabilities. These people are disadvantaged in two ways compared to the healthy population. Firstly, they have less income because they have less chances of employment and work in professions with lower income, for example, sheltered workshops. Secondly, because of their special need, they have a higher cost of living. Standard monetary methods of welfare reflect only the first disadvantage (lower income) but disregarded the other type of disadvantages (higher cost of living). In the analysis of inequality, this neglect may lead to a seemingly better social

situation of disabled people than they actually have. Poverty indexes based on standard indicator underestimate the actual poverty among the disabled persons as these do not take into account these additional costs. Kuklys actually introduces a general methodology that takes into account the differences in the needs of individuals. Persons with disabilities are used in her work only as an example.

Kuklys presents a methodology based on Sen's approach, which allows adjusting the income of households with special needs. Herewith, the welfare implied by income becomes comparable to the well-being of households without specific needs. Kuklys presents several conditions, which need to be fulfilled when measuring the capabilities by income. First, variable factors are nonmonetary limits for decision-making. This means that a person with disabilities is not only limited by income but also by such variable factors such as health, wheelchair accessibility environment, current legislation and so on. In other words, variable factors have a direct impact on the set of capabilities of an individual. Second, the same source has the same characteristic for each individual (e.g. bike allows mobility). Third, all products are market based in their nature, and therefore there are no non-market products and services. In other words, it is assumed that the care and support from the family are the same regardless of whether it is a person with a disability or a healthy person. Fourth, a higher income leads to a greater scope of eligibility. In essence, this is a basic assumption of classical welfare economics. In a market economy with many consumers, all consumers face the same product prices, and there is a perfect information (i.e. people know the price and quality of all products, rate of return for the investments is known *ex ante*, etc.). Within this system, people are assumed to be identical, to maximise their benefits, i.e. to choose the products that are on the market. Their choices are limited only by their income [8].

Based on these assumptions, W. Kuklys can simplify Sen's theoretical model so that the capabilities of an individual are determined by their income and the variable factors. In practice, she operationalises it in such a way that, she examines the differences in the needs of households and compares the needs of households with a disabled member with the needs of households without such a member. According to Kuklys, the needs of the family cannot be measured directly, only through such indicators such as the number of adults, the number of children, age groups of children, the number of disabled members, etc. She points out, however, that in literature it is not yet fully established which indicators affect the family's needs. Comparing the needs of households with a disabled member with the household with healthy members, she gains a rate (coefficient), which she then uses to calculate the adjusted household income. In this way, she expresses the difference in the welfare of the households surveyed. She found that the scope of capabilities of a disabled person in the UK is reduced by approximately 40% compared to a non-disabled person [8].

***It should be noted that this 40% reduction appears independent of Kuklys already taking into account the compensatory allowances for people with disabilities in social policy, which should help them to cope with the increased cost of living. The poverty rate in households with disabled members has doubled when taking into account disability as a conversion factor compared to the measurement using the methodology of income. In this case, about half of the families with a disabled member lived below the poverty line. Kuklys shows that these

findings suggest two conclusions for social policy. First, the level of support for people with disabilities should be reconsidered, given that their level does not seem to be high enough to compensate for the additional costs incurred by the disabled people. Second, in addition to traditional methodologies for measuring poverty and the distribution of welfare, it would be desirable to present the indicators adapted to disability, to obtain a more credible picture of a social well-being [8].

To sum up, W. Kuklys found that the measurements by the means of social functioning differ significantly from the results measured by income or expenditure. Not all who are income-poor are also poor with regard to social functioning, which can have important implications for policies aimed at poverty reduction. She was trying to develop a methodology that takes into account the variable factors affecting the well-being of the individual and at the same time establishes conditions under which Sen's capabilities can be measured. The measurement focused at capabilities is significantly different from the traditional measurement by income; also, it differs from the subjective feeling of well-being. However, it still measures the well-being of the affected individuals using income. Kuklys considers her research to be a first step in the measurement of capabilities of the persons with disabilities. For further analysis, she recommends more accurate indicator of disability. While her data surveyed only the number of disabled members of the household, the author also recommends considering the extent, respectively, the degree of disability. Combined with regularly recurring long-term measurements, it is expected that this method should lead to precise results with regard to the rate of poverty among this group of people with special needs.

Considering the level of poverty, which W. Kuklys found among people with disabilities, one should note that the author proposes certain assumptions without which it would not be possible to express capabilities by income. These should be taken into account when interpreting the results. For example, the second assumption states that the same product has the same characteristics for all individuals, which can overestimate the welfare of the disabled people and hence underestimate the rate of poverty among the affected population. As mentioned above, a healthy person obtains the function of mobility by buying a bicycle or by the use of public transport. The disabled person is often dependent on the individual transport by a car. Hence, when replicating this study in Slovak conditions as a basis of the social policy, it is necessary to collect a new data set. We see two reasons for this: First, research must work with the up-to-date data in order to consider the latest political developments. Otherwise, the measured well-being might not show the real standard of living in Slovakia, the influenced of the current legislation, etc. Second, a new data set would also allow one to include a wider range of living standard indicators that would capture the quality of life in Slovakia in a greater detail.

4. The right of all persons with disability to lead an independent life and their right to be included in the community

The Europe 2020 strategy, introduced in the year 2010, commits the European Union and its member states to make the best use of public funds to promote the social inclusion of

the most vulnerable groups in terms of poverty reduction, expansion of employment opportunities, promoting lifelong learning and decent housing for all and to overcome all forms of discrimination [9]. These objectives cannot be achieved without addressing the situation of more than 1.2 million Europeans who spend their lives in institutions, excluded from society. The tendencies to strengthen the protection of human rights of the EU citizens are already reflected in the formulation of a specific catalogue of human rights in the Charter of Fundamental Rights of the European Union, which combines a system of civil, social, economic and political rights. Respect for fundamental rights such as respect for human dignity, the right not to be subjected to inhuman or degrading treatment, the right to liberty and security, the right to respect for private and family life, the right to education, the right to work, the right to health, the right to equality and the right not to be discriminated are integral parts of the general principles of law. The Charter of Fundamental Rights of the European Union, moreover, explicitly recognises the rights of those who are usually placed to institutional care: the right of children to protection and care in their best interests (Article 24), the right of older people to live a dignified and independent life (Article 25) and the right of persons with disabilities to participate in social life of the community (Article 26) [10]. A fundamental document governing the right to independent living and the right to live in the community comes from the UN Convention on the Rights of Persons with Disabilities (2006) (the Convention) [11]. By ratification of the Convention, the EU in 2009 committed to ensure that all relevant legislation, programmes and funding will respect and promote the equal opportunities for people with disabilities and the right to independent living and inclusion in the society. The whole Convention is based on the principle of independence, which is the basic building block for all rights of people with disabilities. Independence is presented as the first general principle of the Convention. Likewise, the preamble recognises the importance of individual autonomy and independence, including the freedom of choice for persons with disabilities. The right to independent living and inclusion in society is explicitly guaranteed under Article 19 of the Convention. However, Article 19 does not define the right to independent living. This article defines only the right to live in the community: 'The parties recognise the equal right of all persons with disabilities to live in the community...', while the aspect of choice is emphasised [11]. Persons with disabilities must be able to 'choose their place of residence and where and with whom they live on an equal basis with others and are not obliged to live in a particular environment' [11]. The Convention explicitly emphasises that people with disabilities have the right to choose from a wide range of support services, whether domestic or residential, and other community support services, including personal assistance necessary for independent living in the community and integration into it and prevent their isolation and segregation. This right includes the right to access and benefit from health and social services, which should enable people to become independent and socially integrated. Herewith, an independent way of life and freedom of choice should be ensured to the recipients of these services (the Convention). However, the right to independent living is broader than the right to life in the community. As we had shown above, independent living, the combination of factors of the environment, human, relationships, etc., leads to the fact that a person has control over his/her own life. The realisation of the right to independent living and inclusion in the community requires adequate social services, which must follow a number of other operating services (employment services, medical care, housing, legal protection, etc.).

Independent living for people with disabilities also requires architectural accessibility of buildings, environment, accessible transportation, availability of the compensation funds and access to personal assistance to all those in need. The condition of independent living is a certain standard of living. This brings us to the issue of social security for people with disabilities (the amount of pension contributions for care) as well as the right to work, which is important not only in terms of financial independence but also because of the meaning of life. It is similar with the right to education, which is associated with the right to work, because education determines your career prospects. The right to live independently includes in itself a number of sub-rights, including the right to life in the community.

5. Deinstitutionalisation of the social services in Slovakia: the lack of discussion

The Convention clearly prohibits forced institutionalisation of people with disabilities, regardless of the extent of disability. Deinstitutionalisation of social services is defined in the Convention as a key legal right of the recipients of social services to the highest attainable standard of physical and mental health [11]. The process of deinstitutionalisation is going on in the EU countries since the 1970s. In the Slovak Republic, as in other post-communist countries, the issue of dealing with the human rights of persons with disabilities and the transformation of social services was addressed with a delay of several decades when compared to other countries of the European Union. In 2011, the government adopted a strategy of deinstitutionalisation of social services in order to foster the social care in the Slovak Republic (strategy for deinstitutionalisation of the social service system and alternative child care in Slovakia) [12]. Actually, it is a political statement which emphasises the essentiality of the deinstitutionalisation, summarises the recent developments in the European Union's strategy and commitments of Slovakia as well as describes the current state of the social services and child care. The strategy was further developed into the National Action Plan, where this National Action Plan foresees the transition from the institutional to community-based social care between the years 2012 and 2015 (the National Action Plan for the transition from institutional to community-based care in the social services system (2012–2015) [13]. There have been several social service centres selected by the government offices for a pilot project of deinstitutionalisation. These centres are supposed to go through the transformation process without prior considerations about the impact of this process on the social service recipients, on their families or on the staff employed by these centres. The term deinstitutionalisation is often simplistically understood as the closure of large residential social service facilities (health and social centre) and their transformation into an institution with a maximum capacity of 40 people.

The process of transformation of institutional care in Slovakia brings with it a number of serious problems. It is a long and complex process in which there is no general and clear instruction on how to transform institutional care to community. Each country must find its own variant of community care and develop a strategy for the transformation of institutional care with careful consideration of all the risks associated with this process taking into account the specificities of various groups of citizens with disabilities. To prepare the reform

of long-term care is important to clarify the basic concepts and identify the nature and essence of the process, its positives, problems and risks. While at the European level, there is a lot of debate about what a transformation of social services must be, in the Slovak context is a totally unexplored area with major consequences for the existence and life of persons who are reliant on care. The literature lacks elaboration on the issues, conceptual analysis and comparative and empirical research. One of the key problems of the transformation of the institutional care process is that there is no clearly defined concept of an institution. In theory, institutions are analysed in terms of their historical development, in terms of structure and character as well as in terms of their social function. One of the most quoted meanings was formulated by D. North in the year 1991. The term institution refers to the established standard procedures to organise political, economic and social interaction. They consist of informal rules (customs, traditions and codes of conduct) as well as of formal rules (e.g. laws) [14]. For example, economic institutions determine how the material resources are distributed and produced in the culture to ensure a certain level of prosperity. Political institutions regulate the public life. In the conditions of a modern society, there is a special type of institutions that for a longer or shorter period of life affect specifically defined groups of citizens. Such institutions include prisons or social service for people with disabilities. These institutions are by their nature different from the ordinary life in the community. A common feature of these institutions is bringing together under one roof of activities such as housing, work and leisure activities, which are usually in modern societies done separately and in different places. Not only are all of these activities performed in one area, but in addition they are carried out according to a well-defined and strictly adherent plan for all.

An American sociologist E. Goffman shifted the problems of this type to sociological and philosophical level. He characterises these institutions as total institutions. This term refers to those institutions that for their members make up an environment that is fundamentally different from the life of the world in which ordinary people live. Goffman totally defines the institution as a place that serves as a residence and workplace, in which a greater number of similarly situated individuals are for a long time (some lifetime) cut-off from the outside community and collectively leads externally closed and formally administered life. Among total institutions, he places such institutions that are established for the purpose of providing care to those who have a problem to take care of themselves due to age or severe disability. Furthermore, he places there such institutions designed to re-educate people threatening others (e.g. prison facility for minors), for risk groups (e.g. detention centres), equipment related to the functioning of society (e.g. military barracks) and, finally, centres creating special environment (e.g. monasteries) [15]. Similarly, a Czech sociologist Keller characterises institutions for people with disabilities, who points out that this type of institutions requires special attention because the latent tendency of all bureaucracies is realised that there is an attempt to look at the clients as not fully equal and inscrutable, as the objects require a certain distance [16]. Further analysis of the institutions established for the provision of care focused on the institutional culture of these institutions. British researchers J. Tizard, R. D. King and N. V. Ravnes, who focused on the interactions between staff and children in various types of social care facilities, report that institutional care is characterised by depersonalisation (removal of signs and symbols of our individuality), the rigid routine (fixed given time of getting up,

meals and activities not respecting personal preferences or needs) and overall collective treatment (people were treated in groups, with no respect for individuality and privacy) and social workers keeping distance from the recipients [17]. Adapting to such routines and a lack of meaningful activities lead clients to passive or institutional behaviour. This is a phenomenon in which a person will behave in a manner which they are attributed by others. Unless prejudices are prevalent among employees about the inability of clients, respectively, that they pose a threat to their families and the wider community in the institution, this creates an atmosphere that basically leads them to such behaviour. For example, by J. Huber and S. Hollins, who observed the lives of 20 men living in closed long-stay institutions, concluded that over the years, the social invisibility of these men contributed not only to their de-socialisation but also to a degree of dehumanisation [18].

It follows that the concept of a total institution refers to some institutional culture and deinstitutionalisation of social services is not just a question of restrictions on investments in existing large residential institutions. Closing of institutions and developing community-based services are aspects of this process. The part of this process is to change the paradigm of care: the transition from the medical model to the social, from patient to citizen and from the care facility to the right holder. There is often a view that the above-described problems can be solved by improving the material conditions [13]. As we showed above, the problematic characteristics of institutional care are not exclusively linked to poor material conditions. Favourable staffing and clients as well as the emphasis on meaningful activities could of course improve the quality of care. However, the problems associated with depersonalisation, overall procedures, rigid routines and social distance keeping persist in establishments where the overall material conditions are good. To overcome institutionalisation is not enough to reduce the number of beneficiaries of social services, increase the number of employees and geographically place the institution to some community or its modification into an ordinary house that does not look from the outside as an institution. Even the smallest residential services can reproduce the institutional culture. There is a whole range of other factors such as choice, which recipients of services have the level and quality of support, involvement in the community and various forms of pressure on recipients to undergo drug treatment, psychiatric evaluation and therapy, etc., which show that in small institutions there can be a significant institutional character of care. As long as characteristics typical of total institutions predominate, there is a group of second-class citizens without a right to independent living as this group of persons is subject to the system, which modifies most or all of their life.

Total institutions derive their strength and longevity not only from their compactness and closeness before the community but also from other pitfalls of deinstitutionalisation. Following on human rights documents, the term institutionalisation refers to a process which transforms the institution both in terms of formalised structure of rules and philosophy of social services as well as produces a wide range of services in the community, including the prevention of institutionalisation, through obviating the need for an institutional care [19]. From this perspective, the process of deinstitutionalisation requires to adopt measures to ensure that the public services, such as social and health care, education, housing, transport and culture, are accessible to all, regardless of age or disability. The process of deinstitutionalisation, however, has been criticised for underappreciation and underestimating the risks that it entails. While this

process should bring improved quality of life to clients of these institutions, the experience of other countries in recent decades has shown that it was accompanied by insufficient development of alternative care, which meant that beneficiaries were left without access to social services. These ambiguous deinstitutionalisation processes have been reported in the UK, in the US and also in Italy [20]. Unrealistic expectations and deadlines, as well as the lack of financial resources, prevented this process from being transformed in a manner that each recipient has ensured access to appropriate services. Deinstitutionalisation is often interpreted as a threat to the social state, in the sense that the main purpose of this process is to reduce public spending on social welfare [21]. The analyses of public spending on community-based care showed that for most beneficiaries, this form is less expensive than care in residential facilities (if one disregards the cost of inputs), but for certain categories of beneficiaries who require a 24-hour assistance to community care, it is more expensive [22]. Recent economic developments mentioned dilemma between costs and results in a new perspective. The economic crisis is associated with the risk that the government and the municipalities want to keep the budget balanced by reducing expenditure on public services, of which the largest part is the cost of staff salaries. Therefore, there is the risk of cutting the number of employees to the number of recipients of services and redundancies of employees in both residential and community services.

An important subject to the process of deinstitutionalisation is that it can affect the development of new forms of exclusion, including poverty. Independent living for people with disabilities depends on their economic status in society. Persons with disabilities constitute a significant proportion of people at risk of poverty, and the need for income is higher for them than it is with the non-disabled, precisely because of the necessary support, which enables them to lead a normal life [23]. Many cannot afford to leave the institute because their incomes are insufficient to cover the necessary costs of living in a normal environment. This situation is in our view reinforced by the current interpretation of the Slovak law on the social security, which promotes the dependency on charity. An example for this may be the effort of the Ministry of Health of the Slovak Republic to reduce the costs within the so-called consolidation of the public finances by avoiding reimbursement of an electric or mechanical wheelchair from public health insurance (through health insurance companies). For people with severe physical disabilities, this means a serious interference with their independence and autonomy. Similarly, the requirement towards the recipient to financially contribute towards the cost of the mobility aids implies the dependence of these recipients on the charity, as the pension of these recipients is often insufficiently high for this. Another example of an attempt to redirect the social service provision towards the charity was the draft amendment to Act No. 580/2004 body of law, on health provisions, which requires the recipients to contribute towards the cost of the personal assistance, which was currently set at 1.39% of the subsistence minimum, i.e. 2.76 € per hour plus the tax payments. This meant destruction of personal assistance as a kind of social service. It should be mentioned that the vague definition of the right to social services determines the direction of the transformation of social services. The tension between private and public sector opens up a space for discourse on the nature of the social policy of the government and state functions.

Another serious problem is related to the question of deinstitutionalisation of social services—the problem of strengthening the competencies of persons dependent on the assistance of

another person, so that each individual can choose for himself the most effective and most appropriate way to ensure needs. Several surveys in Slovakia [24] have been confirming for the long time the poor even critical income situation and financial security of the elderly and persons with disabilities; thus, for a significant part of this population, social services become unavailable. The financial inaccessibility of the social services and their insufficient capacity are explicitly mentioned as one of the biggest challenges by a tenth of the elderly [24]. At the same time, social services are defined as services of general interest. This implies a policy orientation, which goes beyond the interests of one group. In other words, it contributes to social equality improvement and to reduction of social exclusion and isolation. This task is to be fulfilled by four requirements: universal access, affordability, justice and quality of social services [25]. General availability is obliged to offer defined services according to specified conditions, including complete territorial coverage and affordable prices for all persons. Affordability of services of general interest is defined by reference to the income structure, the cost of living, the structure of the consumer basket and other criteria in a particular state. Based on the understanding of the social services as services of general interest, it is the responsibility of the state power how to fulfil these requirements. The state may impose a variety of ways to ensure the obligation to affordable services for the low-income groups—through price controls, providing the address contribution for care and the like. The principle of affordability may in some cases mean that for everyone, or for specific vulnerable group, the service is free and the state pays a loss to the provider.

Social inclusion of people with disabilities also prevents negative attitudes and prejudices of the majority of the society towards them, as well as against older people. In addition, the form of societal disinterest in these socially excluded, unacceptable nodding to uselessness of a large group of people who have become a social burden can be observed. The denial of their human uniqueness and peculiarity strengthens the enforcement of uniformed institutional care with formal pseudo-individualisation. Deinstitutionalisation is usually also considered to be too utopian social project or a wishful thinking, especially for people with a broader range of disabilities. Transformation projects are generally focused only on people with mild or moderate form of disability [13]. People with severe disabilities or with more complex needs are excluded from this process. An idea that this group of people needs continuous care in institutional facilities prevails. The result is that in such institutions small staff with a large number of severely disabled people remains. The assumption that institutional care is a safer option for those people was questioned by numerous reports and publicised cases which justify the frequent cases of ill-treatment of beneficiaries and the poor quality of care in these facilities (see, e.g. Refs. [26, 27]). This situation can be attributed to a lack of protective mechanisms that would prevent the criminal acting, and the fact that people with severe disabilities are not able themselves to obtain help and support. The needs of recipients must also be taken into account, and an operational support system for these people should be established.

6. Conclusion

The study was devoted to clarifying the concept of quality of life in the context of social services. Using the concepts from the social and political philosophy, we have demonstrated that the

issue of quality of life is an organic part of respect, implementation and enforcement of human rights with an emphasis on the social rights, especially the right to live independently. In the study, we analysed Sen's interpretation of welfare that focuses not only on the achieved results such as income level and material resources but also on the freedom to deal with things in life that one realistically values. We see two benefits of this approach. One of the benefits is that it allows one to focus the attention to the reasons that caused the loss of freedom and, respectively, the capability deficit and thus to help determining the degree of responsibility, which plays a key role in issues of entitlement to compensation from the society. The degree of freedom or the capability provides more information about existing opportunities and possibilities of the individual to make free decisions and allows identifying inequalities caused by the social structure that disadvantages, marginalises or discriminates against certain groups. The second benefit of the approach focused on the capability is that it can reflect the pluralism of human lives. It not only reduces the human achievement to the chosen means (as income) but also takes into account other aspects that make life meaningful and that people consider an achieved success.

In practical terms, the methodology for measuring well-being through the social functioning is used to measure the standard of living and social prosperity of individual countries. These analyses of poverty and inequality are still not included in the evaluation of these components. The practical application of this methodology provides additional information to conventional methods based on the revenues or the gross domestic product. Based on the conceptualisation of the term right to independent living, we tried to identify the specific elements that are essential for the transformation of social care in the Slovak Republic. We have shown that independent living, the combination of factors of the environment and humans, leads to the fact that a person has control over their own lives. In the last part, we analysed the basic problems of transformation of social care from the institutional forms to the community form in Slovakia. This process was evaluated in terms of its impact on the social functioning and capabilities of people with disabilities. We have identified that, in some cases, a lack of capability is due to low economic output and, in others, it may be a weak social security, sometimes social structure or institution or social norms, traditions and customs. We have shown that improving the quality of life of people with disabilities is not only a question of closing institutions. This process includes a change of the paradigm of care and takes measures to ensure that public services such as social and health care, education, housing, transport and culture are accessible to all, regardless of age or disability. It should also be accompanied by measures aimed at fighting poverty, which may be one of the main reasons for the institutionalisation of people with disabilities. Unpreparedness of deinstitutionalisation (material, organisational, legislative, institutional, personal) and the lack of discussion in Slovakia on the new forms of social care keep destroying the current system (even if non-compliant) without adequate substitution.

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Quality of Life and Physical Activity: Their Relationship with Physical and Psychological Well-Being

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Additional information is available at the end of the chapter

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Abstract

Many studies have been focused on the analysis of different factors that relate to the *quality of life*. And those studies have found a clear relationship between the quality of life, psychological well-being, and health. It is important to know those relationships and to know factors that can improve these three aspects simultaneously. And one of the most important factors is the realization of physical activity on a regular basis. This study analyzes the effect of physical activity on improving the quality of life (physical health and well-being) and its relationship with psychological well-being through two studies. One was a randomized clinical trial involving 98 low-risk incident cases of acute coronary syndrome, who were randomly assigned to an unsupervised walking program or a cycle ergometer exercise program. The other study is an ex-post-facto investigation with a total of 841 healthy subjects. We apply them questionnaires to measure subjective well-being, satisfaction with life, positive and negative affect, Short Form-36 Health Survey (SF-36), and the specific Velasco-del Barrio questionnaire for post-myocardial infarction. This study concludes physical activity and exercise are key factors in an individual's perception for their quality of life, both in the area of physical and psychological health.

Keywords: psychological well-being, quality of life, health-related quality of life, physical activity, psychological health

1. Introduction

The conceptual definition of well-being, both in terms of general well-being and quality of life, is a question about which there is no widespread consensus. There are a number of reasons

for this, including the complexity of the concept itself, the fact that it changes and varies over time, the multiple variables involved in its origin and its subjective nature, among others [1].

In the early 1940s, the World Health Organization [2] noted generically that “quality of life is associated with the subjective perception that the individual has about a complete state of physical, psychological and social well-being, and not merely the absence of disease, shaping it as a multidimensional concept.” As a result of this definition, the key dimensions in any assessment of quality of life have since contemplated three main aspects: (a) the physical dimension, understood as one’s perception of one’s own health and physical status (which in turn is often understood as the absence of disease or the symptoms derived from disease); the idea is that physical well-being is improved through the use of one’s physical capabilities; (b) psychological well-being, which could be described as an individual’s state of cognitive (satisfaction with life) and affective (a high level of positive affect and low level of negative affect) well-being; this encompasses a wide range of ever-changing daily experiences, such as intellectual changes, the meaning of life, personal and spiritual beliefs and emotional ups and downs; and (c) social well-being, which is achieved when a person’s roles in life enable them to maintain and develop or satisfy personal relationships; this dimension could therefore be understood as an individual’s behavior in the field of relations with others, the roles they play in their life, their perception of having an adequate support network (made up of family members and friends), and even their professional undertakings [3, 4].

Quality of life has been approached from two different models [1]. First, there is the physical or medical approach, in which quality of life is considered synonymous with good health. The term health-related quality of life (HRQL) is often used in this context. The other approach is the psychological model, in which quality of life is understood as being synonymous with psychological well-being and is determined by an individual’s assessment of their own life and the quantity and quality of their emotions (positive and negative affect). When quality of life is understood as psychological well-being, a person with a high level of psychological well-being is one who has a high level of satisfaction with his/her own life while experiencing a high number of positive and few negative emotions [5–7], regardless of their age [8].

The aim of this chapter is to analyze quality of life from the perspective of both models (the medical or physical one and the psychological one), as well as from a combination of the two, focusing on the importance of physical activity. Section 2 therefore provides a brief review of the theoretical framework.

2. Theoretical framework

Many studies have focused on analyzing the two models (physical and psychological) of quality of life [4, 9–11]. It has been found, for example, that both subjective well-being and satisfaction with life correlate positively with physical well-being (health) [11–14,] as well as with behaviors aimed at improving health or physical well-being, such as physical-sporting activity [8].

A review of the scientific literature focusing on well-being reveals the many types of different variables that are associated with this concept: age, sex, income level, family, culture, personality traits, work, etc. [10, 15–19]. However, studies on the possible connections, which may exist between physical exercise and psychological well-being are lacking. Considerable effort has been made over recent years to fill this empirical gap, due to the importance attached to physical-sporting activity as a means of preventing various negative emotions and physical diseases.

Although sports science and physical activity studies insist that physical exercise results in higher levels of well-being [20, 21], the vast majority of studies have overlooked the importance of fostering quality of life understood as psychological well-being, focusing instead on exploring its links with anxiety, depression, and diverse psychopathologies [20, 21].

The few studies that have focused on analyzing the relationship between physical activity and the different components of psychological well-being have found that those who engage in physical activity score higher for both well-being in general and its three dimensions: satisfaction with life, positive affect and negative affect [8, 13, 22]. However, when frequency of physical activity is taken into account, the differences observed in negative affect disappear and the same also occurs sometimes with satisfaction with life [22]. In other words, in measures of global well-being and positive affect, the results differ in accordance with the frequency of the physical activity engaged in, with more frequent exercise resulting in higher scores than more sporadic activity. However, this is not true for measures of satisfaction with life or the degree of negative affect experienced, for which the most important thing seems to be the act of engaging in physical activity itself, regardless of the frequency of practice.

Certain characteristics of this physical activity have also been analyzed, specifically the intensity and type of organization [23]. In regard to intensity, it has been found that psychological well-being is higher among those who engage in physical activity with a medium level of intensity. On the other hand, results reveal that the type of organization within which the physical activity is carried out (extracurricular club, federation, unmonitored or monitored) has no impact on psychological well-being; what is really important here is the fact of engaging in some kind of physical activity, no matter its format.

In the field of quality of life understood as physical health, research focuses on the analysis of health-related quality of life (HRQL) and is based on the subjective assessment of the impact of disease and treatment on the domains of functioning and physical well-being. These studies have found that quality of life is a predictive variable of the course of several diseases, regardless of other prognostic factors, suggesting that a poorer quality of life could in itself aggravate the disease [24]. According to Soto et al. [25], the most important dimensions of HRQL are social, physical and cognitive functioning, mobility and personal care, and emotional well-being, although it should not be forgotten that HRQL is also impacted by certain economic, social and cultural factors.

To date, reviews quantifying the results of exercise interventions indicate that relatively few studies report any quality of life data, and in most clinical trials the quality of life is evaluated

as a secondary variable [26]. It has, however, been recommended that HRQL should play an important role as a main outcome variable [27], and of course, this variable should always be assessed and defined by the individual patient, the focus being on the person rather than on the disease, placing importance on how the patient feels, regardless of clinical results.

Coronary heart disease is one of the most widespread health problems, and is among those which could benefit most from physical activity in relation to HRQL. In this sense, regular physical exercise has been shown to be inversely associated with the risk of coronary heart disease, cardiac events and death [28]. Moreover, functional capacity may also be inversely related to all-cause and cardiovascular morbidity and mortality in coronary heart disease patients. Moreover, according to some studies, physical exercise also has a positive impact on the HRQL of these patients, although the effect of size is generally small [29].

The combination of the magnitude of the problem of coronary heart disease, the impact that it has on the social, family and working lives of those who suffer from it, and the psychiatric factors associated with its evolution makes HRQL a key aspect to bear in mind.

Other studies have tried to clarify the relationship between subjective well-being and health-related quality of life. A covariation of both was found with those with high rates of psychological well-being reporting better health-related quality of life compared to those who reported a moderate sense of psychological well-being [30]. It has been recently found that a person's subjective perception of their own well-being greatly influences HRQL, suggesting that by increasing people's perceptions we can help them attain higher levels of health-related quality of life [31], as well as better quality of life during childhood and adolescence [32].

Finally, some studies have analyzed this relationship from a multidimensional perspective of quality of life, finding that subjective well-being correlates closely with mental health and, to a lesser extent, with one's perception of one's own physical condition [33–36]. Other studies have found empirical evidence regarding the negative effect of chronic or long-term health problems on subjective well-being [37], suggesting that the experience of being ill alters the relationship between quality of life and subjective well-being.

However, while it is important to understand the relationship between quality of life, psychological well-being and physical health, it is even more important to understand what factor or factors can improve these three aspects simultaneously. And it seems that the answer may well be physical activity, since, as shown above, it has been found that engaging in physical activity on a regular basis may be one of the most important factors for improving quality of life, both in the case of psychological well-being and in relation to health-related well-being. Nevertheless, further studies are required to test this relationship and to verify that physical activity can indeed be considered a means of improving health-related quality of life.

Finally, this chapter presents two different studies carried out in accordance with the two approaches to quality of life (psychological and physical). The first study was conducted with the aim of analyzing the possible relationship between physical exercise and the three components of psychological well-being, whereas the second study focused on comparing two types of exercise and their effect on health-related quality of life.

3. Methodology

3.1. Participants

3.1.1. Study on physical activity and psychological well-being

A total of 1178 randomly selected students aged between 12 and 23 participated in the study. The questionnaires were administered in public and semi-private schools, high schools and universities with a medium sociocultural level in the north of Spain (specifically in the Autonomous Regions of the Basque County, La Rioja and Burgos). Among the total sample, 398 (33.79%) were male and 780 (66.21%) were female. With regard to physical activity, 211 participants claimed they never to do any exercise, whereas the remaining 967 said they did (325 claimed to do so regularly, 344 said they exercised between one and three times a week and 298 claimed to engage in physical activity more than three times a week).

3.1.2. Study on physical activity and health-related quality of life

The sample was drawn from among the patient population of eight Spanish hospitals. All patients under the age of 80 were eligible for the study, providing they had suffered an acute ischemic cardiopathy within the last 3 months (not including the last 15 days), had been classified as having a low-risk prognosis and presented none of the exclusion criteria. The following criteria were used to classify patients as having a low-risk prognosis: hospital stay with no complications, current absence of myocardial ischemia symptoms, functional capacity ≥ 7 Metabolic Equivalent of Task, ejection fraction $>50\%$ and absence of severe ventricular arrhythmia.

The final sample group comprised 98 ischemic cardiopathy patients with a low-risk prognosis, of which 84.7% were men and 15.3% women, with a mean age of 56. The body mass index (BMI) data indicated that around 81% of patients had a higher-than-normal body mass, although the mean level among the sample groups was beneath the limits established for both arterial hypertension and hypercholesterolemia. All these data were important when determining patients' eligibility and their participation in exercise and physical activity programs.

3.2. Variables and measurement instruments

Satisfaction with life was measured using the Spanish version of the *Satisfaction with Life Scale* (SWLS) [38] translated by the original authors themselves. The SWLS comprises five items presented in the form of statements about the subject's global cognitive judgments of satisfaction with their life, which are rated on a 7-point Likert-type scale (1 = *strongly disagree*, 7 = *strongly agree*). The Spanish language version of the scale was validated in a study with students aged between 11 and 15 from the Autonomous Region of Valencia [39], with the authors finding an acceptable percentage of the total variance explained (53.7%) and a Cronbach's alpha reliability index for internal consistency of .84.

Positive and negative affect was assessed using the *Positive and Negative Affect (PNA) scale* [40], revised by Warr et al. [41]. The scale comprises 18 items (9 to assess positive affect and 9 to assess negative affect) to which responses are given on a 4-point Likert-type scale (1 = *never*, 4 = *all the time*). The Cronbach's alpha reliability coefficients were .66 and .64 for positive and negative affect, respectively, with correlations between the two of between $r = -.01$ and $-.07$. A slightly higher reliability coefficient was found with a sample of 104 Spanish participants [42]: alpha = .71 for negative affect and alpha = .76 for positive affect.

To measure physical-sporting activity, participants were asked how often they engaged in exercise and how many hours a week they spent on this pursuit. Four possible responses were provided in relation to frequency: (a) never, (b) every now and then, (c) one to three times a week and (d) more than three times a week.

HRQL was assessed using the Spanish version [43] of the generic Short Form-36 Health Survey (SF-36) [44] and the specific Velasco-del Barrio questionnaire for post-myocardial infarction at baseline and 7 months follow-up [45]. The Short Form-36 Health Survey is a general health questionnaire that represents the eight most important components of health (*physical functioning, physical role, bodily pain, general health, vitality, social functioning, emotional role and mental health*). The dimensions of the SF-36 questionnaire are scored using the Likert method of summative scores. The instrument has been shown to have good internal consistency and a high test-retest reliability coefficient [46].

The specific Velasco-Del Barrio questionnaire is a specific test for post-infarction patients. It was validated in Spanish on the basis of Oldridge's Quality of Life Questionnaire for Myocardial Infarction (QLMI-Q) [47], in a sample of 190 myocardial infarction patients. A high correlation between both instruments was found ($r = .81$), along with a test-retest reproducibility index of .75 [45]. The Velasco-Del Barrio questionnaire comprises 44 items, with each item being rated on a 5-point Likert-type scale. The 44 items of the questionnaire are grouped into 9 dimensions (health, sleep and rest, emotional behavior, future projects, mobility, social relations, alert behavior, communication and leisure time and work).

3.3. Design and procedure

3.3.1. Study on physical activity and psychological well-being

The analysis of the relationship between physical-sporting activity and psychological well-being was designed as an *ex post-fact* quantitative-correlational study, which was carried out from 2008 to 2010. After contacting diverse schools, high schools and universities, permission was requested from both principals and (in the case of minors) parents. In order to control different factors, which might have skewed the results, students were assured of the anonymous and voluntary nature of their participation in the tests. The questionnaires were completed in a session lasting no longer than 20 min, and were administered in accordance with the single blind method.

3.3.2. Study on physical activity and health-related quality of life

The study was a randomized clinical trial carried out at the Primary Care Research Unit in Bizkaia, as part of a study on *Supervised Exercise for Coronary Heart Disease Patients in Primary*

Care Centers, funded by the Basque Government Health Department. The study was carried out in Spain from February 2005 to June 2010, at eight primary care centers.

All patients with an eligible CI underwent a stress test in the cardiology unit, and subsequently, after their risk had been individually assessed by a cardiologist, they were contacted in order to set up a meeting with the health center's head research physician, who informed them of the study and requested their informed consent. Once they had been included in the study, nursing staff carried out the initial measures (blood tests, electrocardiogram (ECG), and quality of life and risk of coronary event questionnaires). Patients were then assigned randomly to one of two study groups: an unsupervised walking program (UW group) or a cycle ergometer exercise program supervised by primary care nurses (SE group). The unsupervised walking group was provided with written guidelines on a walking program, while the supervised program consisted of 96 sessions of 38 min spent pedaling on a cycle ergometer while wearing a heart rate (HR) monitor. The schedule followed ranged from three sessions a week to five sessions a week, and each session was divided into three phases: warm-up phase, conditioning phase and cool-down phase. The two groups received the same components of secondary prevention care.

In the treatment phase, each group followed a different exercise regime lasting 6 months, during which time patients were called for five follow-up appointments with their GP. Subsequently, a final stress test was conducted with all participants in the cardiology unit and nursing staff carried out the final measures and administered the final questionnaires.

4. Results

4.1. Study on physical activity and psychological well-being

To determine whether psychological well-being is higher among those who engage in physical-sporting activity than among those who do not, participants in the first study were classified into two groups in accordance with their level of physical activity: those who never engaged in any physical or sporting activity and those who did, even if only sporadically (see **Table 1**).

The data obtained indicate that those who engage in physical-sporting activity always have higher psychological well-being levels ($t_{(1176)} = 7.83, p < .001$), experience more positive emotions ($t_{(1176)} = -5.438, p < .001$) and fewer negative ones ($t_{(1176)} = 2.84, p < .01$), and feel more satisfied with their lives ($t_{(1176)} = -4.373, p < .001$) than those who do not.

Another question the study aimed to answer was whether frequency matters or, alternatively, if just the mere fact of engaging in physical-sporting activity, albeit sporadically, is enough to improve well-being. To answer this question, those participants who claimed to engage in physical-sporting activity were subdivided into three different groups in accordance with frequency of practice (sporadic, one to three times a week and more than three times a week) (see **Table 2**).

The results revealed differences in subjective psychological well-being ($F_{(2, 964)} = 16.15, p < .001$), positive affect ($F_{(2, 964)} = 12.01, p < .001$) and satisfaction with life ($F_{(2, 964)} = 4.53, p < .001$), with

	Physical activity	<i>n</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>p</i>
PWB	No	211	102.99	18.41	7.83	.000***
	Yes	967	112.53	18.26		
PA	No	211	24.27	4.39	-5.43	.000***
	Yes	967	26.12	4.48		
NA	No	211	18.04	4.41	2.84	.004**
	Yes	967	17.05	4.58		
SL	No	211	23.33	5.87	-4.37	.000***
	Yes	967	25.92	5.59		

Note: PWB, psychological well-being; PA, positive affect; NA, negative affect; SL, satisfaction with life.

** $p < .01$.

*** $p < .001$.

Table 1. Psychological well-being as a function of physical activity.

	Frequency of physical activity	<i>n</i>	<i>M</i>	<i>SD</i>	<i>F</i>	<i>p</i>	Post-hoc
PWS	Occasionally (1)	325	109.29	18.37	16.15	.000***	(3)-(2) (3)-(1)
	1-3 times/week (2)	344	112.07	18.52			
	More than 3 times/week (3)	298	116.5	17.12			
PA	Occasionally (1)	325	25.32	4.36	12.01	.000***	(3)-(2) (3)-(1)
	1-3 times/week (2)	344	26.07	4.45			
	More than three times/week (3)	298	27.06	4.49			
NA	Occasionally (1)	325	17.28	4.27	0.64	0.523	-
	1-3 times/week (2)	344	16.97	4.8			
	More than 3 times/week (3)	298	16.89	4.67			
SL	Occasionally (1)	325	25.14	5.66	3.26	.039**	(3)-(1)
	1-3 times/week (2)	344	26.1	5.47			
	More than 3 times/week (3)	298	26.54	5.57			

Note: PWB = psychological well-being; PA = positive affect; NA = negative affect; SL = satisfaction with life.

** $p < .01$.

*** $p < .001$.

Table 2. Psychological well-being as a function of the frequency of physical activity.

negative affect being the only area in which no such differences were observed ($F_{(2, 964)} = 0.64$, $p > .05$). The multiple post-hoc comparisons confirmed that frequency of physical activity was indeed relevant to psychological well-being levels, as well as to the dimensions positive affect and satisfaction with life, providing such activity is engaged in more than three times a week. We can therefore conclude that physical activity is associated with higher levels of psychological well-being, especially when it is engaged in on a daily basis, or at least four times a week.

4.2. Study on physical activity and health-related quality of life

All participants included in the study were analyzed with baseline observations carried forward for those who failed to attend the follow-up appointments. Changes in HRQL were analyzed, adjusting for the initial values, and the two study groups were compared. To this end, the effect attributable to the intervention was estimated by analyzing the difference in the change experienced between the two groups. Confidence intervals (CIs) were calculated at 95% and the comparisons were adjusted in accordance with baseline level, using covariance analysis models. Furthermore, and bearing in mind the different variables analyzed and the multi-center structure of the study, a multivariate adjustment was carried out of the change experienced in HRQL, and the two groups were compared. In addition to being adjusted for baseline quality of life levels, the models were also adjusted for confounding or modifying covariables. These models were tested to see whether risk factors and comorbidities modified the effect of the intervention. All the analyses were performed using the SASTM statistical software package (version 9.2).

Overall, 76.5% of participants completed the study, 44 and 31 in the SE and UW groups, respectively. **Figures 1** and **2** show the effect attributable to the supervised intervention obtained from the mixed multivariate models which took into account the multi-center structure of the data and were adjusted for baseline HRQL levels and confounding variables, such as age, sex, risk factors and comorbidities.

Figure 1 shows the effect attributable to the supervised intervention (cycle ergometer) in each of the dimensions of the SF-36 questionnaire analyzed. Values above 0 indicate evidence in favor of the effectiveness of the supervised exercise intervention. The improvement observed in the supervised exercise group was no greater in any of the dimensions than the improvement observed in the unsupervised walking program. In all dimensions, the 95% confidence interval of the effect attributable to the supervised exercise intervention was 0, a finding which fails to provide evidence rejecting the hypothesis that there are no differences between the two groups.

The adjustment of the multivariate models revealed that baseline HRQL levels were associated with changes in the final measurement in each dimension of the SF-36 questionnaire. Participants who began the intervention with a poorer quality of life were the ones who improved most. Only the variable *sex* was associated with changes in the physical functioning dimension of HRQL, with men improving more than women. None of the other variables were associated with changes in HRQL nor were any changes observed for any of them in relation to the effect of the intervention.

Figure 2 shows the effect attributable to the supervised intervention in each of the dimensions of the Velasco-Del Barrio questionnaire analyzed. In this case, since we are dealing with dimensions in which any improvement is expressed through negative values, values lower than 0 indicate evidence in favor of the effectiveness of the supervised intervention. The improvement observed in the supervised exercise group was no greater in any of the dimensions than the improvement observed in the unsupervised walking program. Moreover, in the communication dimension, the unsupervised walking program group improved significantly more than the supervised cycle ergometer exercise group. In all other dimensions, the

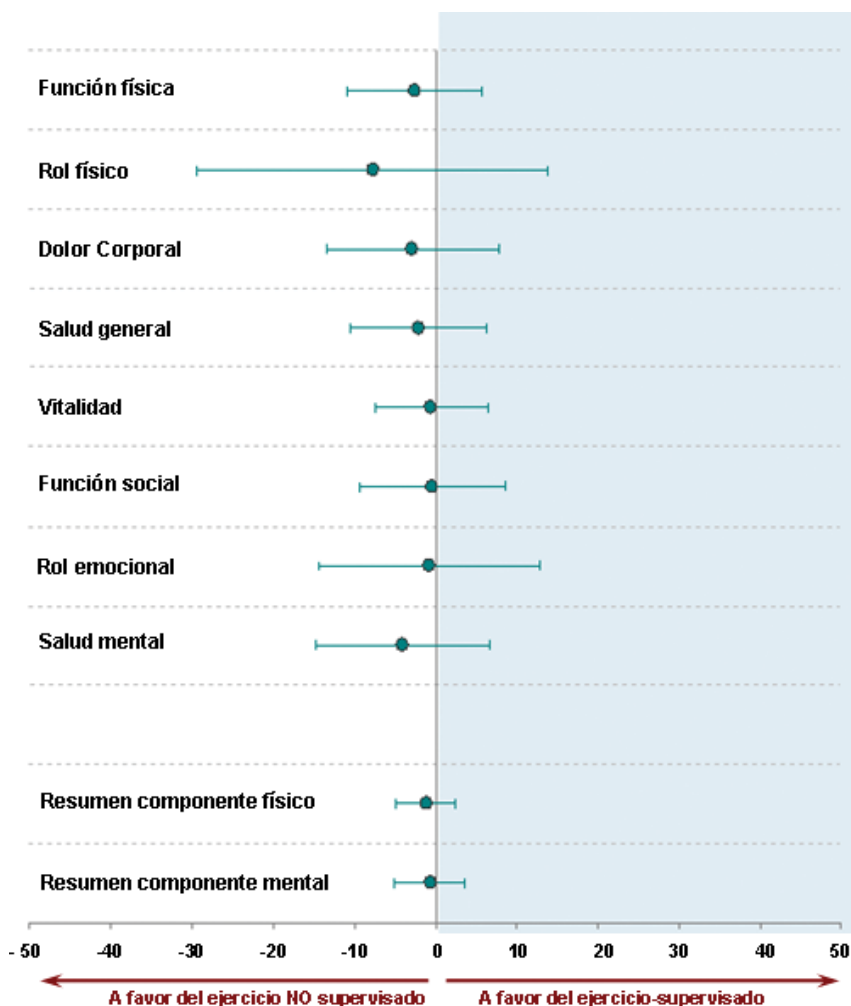


Figure 1. Effect of physical exercise on health-related quality of life (SF-36). Note: On the left effect attributed to supervised exercise (cycle ergometer) and to the right to unsupervised walking activity.

95% confidence interval of the effect attributable to the supervised exercise intervention was cut-off at 0, thus failing to provide evidence for rejecting the hypothesis that there are no differences between the two groups.

The adjustment of the multivariate models revealed that baseline HRQL levels were associated with changes in the final measurement in each dimension of the Velasco-Del Barrio questionnaire. Participants who began the intervention with a poorer HRQL were the ones who improved most. Diabetes, low-density lipoproteins (LDL) cholesterol, age, BMI and employment situation were found to be predictor factors of changes in HRQL. Finally, no changes were observed for any of these variables in relation to the effect of the intervention.

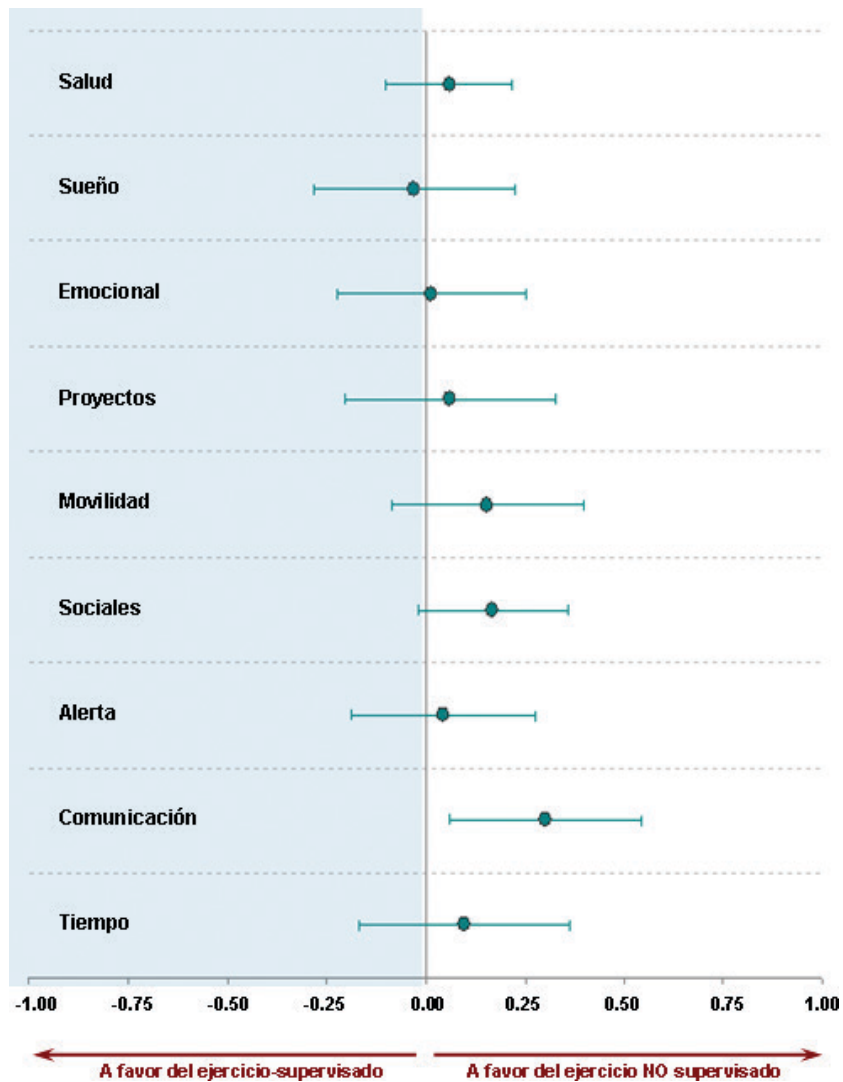


Figure 2. Effect of supervised and unsupervised exercise on the quality of life (Velasco del Barrio questionnaire). Note: On the left effect attributed to supervised exercise (cycle ergometer) and to the right effect of unsupervised walking activity.

Additional analyses assessed changes in HRQL in both groups and compared those values. On the SF-36, patients in both groups showed considerable improvements in the *physical role* dimension. Additionally, scores of the UW group improved significantly in the *bodily pain* and *mental health* dimensions. There were not, however, any significant differences in the improvement shown by each group in any of the dimensions or components ($p > .05$). As for the Velasco-del Barrio questionnaire, all patients' scores improved notably in the *health dimension*. Furthermore, scores of the UW group significantly improved in *social relationships*

and *mobility dimensions*. Again, however, there were no significant differences between the changes in the groups in any of the dimensions ($p > 05$).

5. Discussion of the results

Right from the earliest studies on well-being and quality of life, numerous authors have tried to determine which factors facilitate or foster higher indexes for both its psychological component (psychological well-being) and its physical one (health-related quality of life). Some of the most widely studied factors include (within the psychological model): age, sex, income level and social support in one's environment, culture, personality traits and work [10, 15–19]. Within the physical health models, these include economic, social and cultural factors [25].

Over recent years, probably as the result of an increase in diseases caused by a sedentary lifestyle, as well as a rise in negative sentiments (anxiety, depression, etc.) linked to greater stress levels in our society, the focus of attention has shifted to physical exercise as a means of improving quality of life [24].

During 1919s, several reviews were conducted on the effects of physical exercise on depressive disorders, with the authors finding that those suffering from these disorders spend less time engaged in physical activity than the normal population, due to a major reduction in their physical capacity. It was also found that when trying to reduce the symptoms of these disorders through sport in any type of population, what was most important was to adopt physical activity as a habit of daily living [21, 48]. Much the same is true of anxiety: many studies have confirmed the benefits of any type of physical exercise or sport for reducing this negative emotion [49–51].

Nevertheless, these studies cannot be considered empirical antecedents of the study presented here, since they understand well-being as the absence of psychological disorders, rather than in a more precise sense of the term. Consequently, it was important to verify whether physical-sporting activity may be a viable means of increasing psychological well-being, understood as a three-dimensional construct (satisfaction with life and positive and negative affect). The results presented here indicate that psychological well-being is indeed associated with physical-sporting activity, since those people who perceive themselves as having a more positive degree of psychological well-being are also the ones who claim to engage in physical exercise, even if it is only sporadically. Moreover, this greater psychological well-being was found to be higher the more regular the physical-sporting activity engaged in, with the exception of negative affect, which was found to remain stable regardless of the assiduousness with which the individual in question engaged in physical exercise.

In short, the data presented here identify physical activity as a variable associated with higher well-being scores, although this association was not found in the case of negative affect when frequency of the physical activity engaged in was taken into account. The results indicate that in order to achieve high levels of psychological well-being, individuals should engage in physical activity on a regular basis, at least four times a week. These findings are consistent with those reported in the field of sports science, which affirm that physical exercise results in greater well-being [52–54].

The question we must ask ourselves now is whether this improvement in psychological well-being occurs as the direct result of physical exercise, or whether it is mediated by another variable (in other words, whether exercise in fact improves the levels of a mediating variable, which in turn increases well-being). A previous study suggests that this may in fact be true, identifying physical self-concept as the variable which may mediate the relationship between physical exercise and well-being [8]. The linear relationship between physical activity and well-being is altered when physical self-concept is considered as a mediating variable, which leads us to conclude that a greater degree of physical activity results in a better general physical self-concept, which in turn is directly associated with higher levels of well-being. Hence, we can conclude that physical-sporting activity generates a better physical self-concept, which in turn is directly associated with well-being, as postulated by Thørgersen-Ntoumani et al. [55].

In regard to the study of the effects of different types of physical activity on health-related quality of life, the results describe the impact of a program of supervised exercise on health-related quality of life among a group of participants receiving conventional medical treatment for ischemic cardiopathy, in comparison with the impact of an unsupervised walking program. No significant differences were observed between the supervised and unsupervised groups in relation to the improvements attained. The only significant improvements found between baseline and final values were observed in the unsupervised exercise group in the dimensions bodily pain, mental health, physical component, mobility and social relations.

6. Conclusions

It is important to highlight the fact that the scientific evidence obtained to date has been limited. This is due to a number of reasons. Firstly, because of the high degree of variability in the dose (intensity and duration) and type (aerobic, muscular endurance, unsupervised walking, etc.) of exercise studied. Secondly, because comparison groups are not always the same across all studies (control group, intervention group, etc.). And thirdly, because the instruments used to measure HRQL vary from one study to another (generic and specific questionnaires), making it difficult to compare the different health dimensions.

Existing literature shows that standard generic health measures have their limitations, since many people with serious functioning or health problems do not necessarily have quality of life scores that are proportional to their poor state of health [56]. It is possible that the generic variables included in the SF-36 questionnaire may be irrelevant for describing the health status of some of the participants in this study.

In this same line, the first study has some limitations. The first one is due to the fact that only the frequency of physical activity has been evaluated. But the level of intensity should also have been evaluated to verify if the low, medium or high intensity physical activity affects the level of psychological well-being. The second limitation is that the study was carried out on people between 12 and 23 years old; therefore, the sample should also be extended to adult population. The third and final limitation is the correlational research design; if we really

want to check the effect of physical exercise on psychological well-being, we need to develop an experimental study with a control group and an experimental group that confirms the results found with correlational methods.

In any case, it is clear that for both physically healthy people and people with some type of ischemic cardiopathy engaging in some kind of physical exercise frequently on a regular basis helps to improve the three components of psychological well-being (satisfaction with life, positive affect and negative affect) and health-related quality of life, respectively. It is equally true that certain important questions have yet to be answered regarding this relationship, including the possible differential effect of intensity and duration, or even the type of exercise engaged in. Future research should try to clarify these issues and should strive to determine the specific direction of the effects identified: does physical exercise improve health, which consequently improves physical self-perceptions that, in turn, give rise to higher levels of psychological well-being?

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Building a Quality of Life Index

Ryan M. Yonk, Josh T. Smith and Arthur R. Wardle

Additional information is available at the end of the chapter

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Abstract

This chapter outlines how an index measuring quality of life should be developed and then applies that work at the county level in the United States. The index we create is a unique and data-driven approach to calculating quality of life. In the chapter, we explain the process that leads us to selecting our five indicators: public safety, health, economic development, infrastructure, and education. Each indicator breaks apart into subindicators. This chapter theoretically and statistically verifies our chosen indicators. First, we develop theoretical arguments explaining the connections between quality of life and our indicators. Then, we perform confirmatory factor analyses on our index to empirically verify our theoretical arguments for why each component should be included in the index. Further, we finally verify our theory and index using survey results. We use only publicly available data to facilitate replication by others. The results of our confirmatory factor analysis provide statistical evidence for our choice of indicators in measuring quality of life. Our findings indicate that those measuring quality of life must account for the roles of: public safety, health, economic development, infrastructure, and education. Most importantly, our results indicate that our index is a valid measure of quality of life.

Keywords: quality of life, index, institutions, government, public policy, political behavior, well-being, happiness

1. Introduction

One of the central debates in the quality of life literature revolves around whether the indicators used to measure quality of life are “subjective” or “objective” in nature. Understanding

the division among the literature is a useful starting point for any attempt to create a quality of life measure, particularly one designed to be used as a metric of success.

If the goal is to measure reflections of individual preferences and aggregate those reflected preferences then measures of satisfaction, happiness, or other individually subjective psychological phenomenon are the appropriate choice. The problems with this approach are substantial particularly if the end goal is a connection between particular policy choices and societal (state, nation, or any relatively large group) level well-being. Chief among these problems are the transitory nature of life quality evaluations which are closely tied to individual time sensitive circumstances and can be influenced by cultural differences, the survey itself, or the simple vagaries of human emotions [1].

In short, the debate surrounding the objective and subjective issue focuses on differences in what is actually being measured. The objective measures represent environmental indicators that most people see as necessary conditions for a high quality of life, but they in themselves are not sufficient. On the other hand, subjective, micro measures only measure a person's psychological perception of satisfaction and life quality, which may be independent of environmental conditions. If the overall goal is to create a common metric of what a high quality of life community and society is then the starting point by necessity must be identifying circumstances under which individuals thrive and whether common circumstances, outcomes, and approaches can be identified that are common across individual transient preferences. Using "objective" measures allows us to build metrics that are strongly rooted in theory and then test those propositions against subjective measures as a validation tool.

2. Quality of life in the scholarly literature

In the literature, objective measures are defined as being based on aggregate population data and have been advocated by such measures as the UNDP [2] in their Human Development Index and the World Bank [3] in their World Development Indicators. Measures such as life expectancy, adult literacy rates, student enrollment ratios, and gross domestic product per capita are used to create the Human Development Index. The reasoning behind using these measures is that the use of quantifiable aggregate measures of economic, social, health or other indicators is sufficient to gauge the quality of life for a given population. Their usage and efficacy also rest on the assumption that the indicators that are being measured are objective in the sense that they are universally seen as desirable attributes.

On the other hand, subjective measures, such as those advocated by Brooks [4] and Gill [5], place the measurement of quality of life in the psychological realm of satisfaction and overall happiness, which is only definable by the individual and thus can only be measured by the use of surveys to individuals. Instead of measuring what they believe to be the most important

indicators of quality of life like the UNDP and World Bank do, Gill, for example, proposes using surveys that ask the respondent to mark their level of overall quality of life on a scale of 0–100 [5]. This allows for the respondents to create their own value weightings for all the inputs into their lives. These results may be statistically combined to draw conclusions about the aggregate population.

The literature however suggests the division might be less clearly delineated than a first blush might suggest. Costanza et al. assert that so-called objective measures (of quality of life) are actually proxies for experience identified through “subjective” associations of decision makers”; and thus “the distinction between objective and subjective indicators is somewhat illusory” [6]. Indeed, a recent review of common characteristics among countries with high subjective well-being measures looks strikingly similar to the list of indicators used to build most objective measures [7].

The purpose in building a quality of life index should be to explore the substantive effects of quality of life. This reality suggests the necessity of including only those indicators with a theoretic basis for affecting individual citizens’ life quality. In what follows we review the relevant literature for each of the subindicators, and explore how variation in those indicators should affect life quality.

2.1. What is quality of life?

Scholars throughout the social sciences have attempted to define and quantify their definitions of quality of life in order to make meaningful observations of society and to formulate policy prescriptions. The literature on quality of life touches many areas of interest; unfortunately, most of it has failed to connect the overlapping indicators and methods from the various fields with each other to achieve a consensus on a definition of quality of life and how to measure it. We have examined many of the past indexes that had been created by other researchers. Each researcher found distinct aspects to include in the index, often based on what the research was intended to study. Lambiri et al., compiled most of the significant studies, analyzed their similarities, and grouped them into six different classifications:

natural environment (climate, state of natural environment, etc.), built environment (type and state of building, etc.), socio-political environment (community life, political participation, etc.), local economic environment (local income, unemployment, etc.), cultural and leisure environment (museums, restaurants, etc.), public policy environment (safety, health care, education provision, etc.) [8].

We find these distinctions useful in examining what the different studies used to measure the quality of life. Using this classification system as a model, we examined other indexes and found five specific classifications and a sixth category of other: public safety, health, infrastructure, education, economic environment, and other (anything included in the index that did not fit within the other four categories).

3. Constructing a quality of life index

We believe that indexes should enable comparability and so should be designed to maximize variation and comparisons between observations as well as individual observations across time. We suggest a three-step procedure to scale data into this index; for each variable we converted the actual value to a scale from 0 to 1. To accomplish this scaling, we used the well-tested and verified metric of the United Nations Human Development Index. The basic formula is

$$\frac{\text{Observed Value} - \text{Minimum Value}}{\text{Maximum Value} - \text{Minimum Value}}$$

Using this scaled value allows for direct comparability within the data set without any further calculations. Because we convert each variable to this scale, we are no longer measuring the actual results of a particular variable but rather the counties score in relation the maximum and minimum observed for that value. This becomes important to the next step, where we aggregate the data into subindicators.

Because the scaled variables now represent a ranking they can be aggregated using simple averages and for each subindicator aggregate those values by taking an average of the county's score on each of the variables included. The formula we suggest employ uses S as the scaled value of the individual variable, and X as the total number of variables included in the subindicator. After taking the average the data is scaled using the above formula to obtain the value of the subindicator.

Using the value of the subindicators, the value of the overall indicator and quality of life score can be calculated using the same mechanism.

3.1. Validating the index

The goal of creating a quality of life index (or really any index) must be validity. A critical intersection for any index's validity is the data collected. Data must be theoretically relevant to the indicators and uniformly available. Once the data are collected, a valid index must be able to analyze that data and draw conclusions from it. The data found in quality of life study indices can be used for a wide variety of purposes. Politicians can use them make better public policy choices, businesses can use them for marketing purposes, and academics can use them for research. If the data does not explain anything, it is of little use. Thus, the data must be presented in a way that it is informative. The methods used to construct the quality of life index must also be easy to understand and replicate.

Any index, including our own, must be viewed skeptically. At the heart of the scientific method and index building is the need for validation. Indexes can be plagued with measurement problems that center on whether they are actually measuring what they purport to be measuring. The prelude to testing whether an index is measuring what it claims to measure is to validate its methodologies.

This methodology for calculating quality of life scores yields a reliable and repeatable index. This index can be calculated using commonly available data, where all parts of the index are

separable. As discussed above, meeting these requirements is of paramount importance if the data is to be used to explain phenomenon in the real world.

While methodological rigor is important, even the most rigorously constructed index can fail if it does not measure what it purports to. We suggest a three-prong approach to validating an index. First, any index that claims to measure a social phenomenon must begin with a strong theoretical explanation to back up why the data included in the index is in fact a component of or a proxy for what is being measured. Second, the data included in the index should scale together using some commonly accepted approach to analysis. Finally, independent tests of the theoretical links such as secondary data analysis or experimental tests should validate the construction of the index.

4. Where the rubber meets the road: deciding what to include

Despite the relative consistency, which emerged from the meta-analysis conducted by Lambiri and from our own review of the mechanics of the various quality of life indexes, deciding what to actually include is substantially more complex. The categories which emerged from the literature are Education, Health, Public Safety, Infrastructure, and Economic Development. In each case, we suggest a two-fold approach to measuring life quality that focuses on service availability (potential in the private and/or public market) and outcome measures.

4.1. Public safety

Community-wide safety and peace are important parts of the quality of life for residents. Crime, lack of fire protection, and deficiencies in other services designed to protect security, well-being, and property impact citizens negatively. Public safety involves the prevention of and protection from potential occurrences that could jeopardize the well-being or security of the general public.

The majority of quality of life indices we examined included public safety measures and most public safety measures included some element regarding crime. Most found some way of representing the amount of violent crime in the area: Graves used the number of violent crimes per 100,000 [9]; Rosen simply uses the total crime rate [10]; Blomquist et al., Ceshire and Hay, Stover and Leven, Ready, Burger, and Blomquist, Nzaku and Bukenya (even though they place this measure in an “amenities” category), and Shapiro all use a measure of violent crime in the area to measure public safety [11–16]. The Economist uses a measure of political stability and security to measure the public safety between countries in their index [17]. Most indexes simply include some measure of the frequency of crime, generally specified to be violent crime, as the standard of measurement for public safety of an area.

To understand public safety, it is important to know the benefits of public safety service availability. We focus on two subindicators: the availability of police and fire protection in each area. The available data, dichotomous availability, had no explanatory power when compiling the index. Thus, we still believe the availability of these resources important but will only include the funding effort data, which captures availability, in the final data analysis.

Fire services throughout the country are significant in identifying, developing, and promoting ways and means of protecting life and property from fire-related perils, such as house, school, car, and job-related fires, etc. In 2015, 3280 Americans died in 1.35 million fires [18]. Shoup and Madema in their book *Public Finance* discuss the necessity of fire service availability for protection to life and property. The authors also specify fire service's positive role in contributing to economic development: "Risk, in the sense of relative dispersion of possible outcomes of a venture, is reduced for almost any venture by an increment to fire protection service. All in all, fire protection is clearly one of the most important stimuli to economic growth" [19]. Clearly, the availability of local fire services in each county is necessary in maintaining higher public safety, greater economic growth, and better quality of life for county residents.

The availability of police services in rural counties is an important contributor to the prevention of various types of property and violent crimes toward its residents. Police persons are in charge of maintaining order, enforcing the law, and preventing and detecting crime for the well-being and safety of the citizens in their area. Mladenka and Hill discuss the importance of distributing police services evenly among states in order to maintain public safety [20]. In Gyimah's analysis of police production, he uses the crime rate to measure community safety. Although somewhat obvious, his reasoning and empirical data simply show that when "the crime rate is lower in community A than it is in community B, then it is reasonable to postulate that community A is safer than community B" [21]. We can therefore determine that people will have a higher quality of life with a greater amount of police service protection. The use of this crime data in the analysis is necessary to arrive at a more accurate measure of quality of life. It is obvious that the less frequent violent crimes occur in each county, the greater the public safety will be. Cebula and Vedder did a quality of life study on how crime affects peoples' decisions when migrating to new areas. They state that "Higher crime rates should lower net benefits obtainable from migration in a number of ways: loss through theft of property, higher insurance rates, an increase in fear and tension, etc." [22]. Thus one can determine that quality of life is usually lower in counties with higher crime rates.

While it is clear that the presence or absence of police and fire protection is important to public safety in a particular area, it tells only part of the story. The whole story can be understood only by examining the availability of funds to provide those services. We consider the availability of funds for these services by using a measurement of per-capita expenditures for fire and police services. We use this measure for two reasons. First, while spending of this sort may be subject to the law of diminishing returns, we believe that as more is spent per person on fire and police services, the higher public safety will likely be. Second, it is clear that even in areas with higher crime rates, residents perceive additional police spending as contributing positively to public safety. According to Charney, "public [safety] expenditures reflect both the quality and cost of providing public services," even if "public [safety] expenditures are not a perfect measure of the quality of public services." For example, a county with high public safety expenditures could signify an area that demands more safety spending, "rather than measuring a high feeling of safety" [23]. Even though this is a difficult measure of public safety quality, county residents will still have a greater amount of fire and police protection if more money is spent per capita for these public services.

The amount of countywide per-capita expenditures on fire and police services can act as proxies for other county spending on public safety, such as ambulance services and correctional facilities. If the data shows that a county puts a high priority on public safety by spending more per capita on fire and police services than average, it is presumably true that the county will also spend more per capita on these other public safety services. For example, spending on ambulance services in rural counties is important for the health and life expectancy of its residents. The service's role is to help maintain the life of the injured/dying until transported to the nearest hospital for emergency care. According to Stults et al., communities served by a basic ambulance service, as opposed to conventional advanced ambulance care, have a lower survival rate [24]. From this, one can also verify that counties' public safety will be much lower if access to ambulance services is scarce.

Public safety is a crucial indicator in determining quality of life. Public safety, as defined earlier, involves the prevention of and protection from potential occurrences that could jeopardize the well-being or security of the general public. We believe that the measurement of these types of services designed to protect the security, well-being, and property of county residents is necessary in order to have a valuable quality of life index. We conclude that county residents with greater public safety will also have a greater quality of life.

4.2. Health

It is difficult, or untenable at best, for someone to have a good quality of life if they are living in unhealthy conditions or do not have access to quality health care. Maslow underscored the significance of good health when he placed physiological needs at the base of his hierarchy of needs in his explanation of human motivation [25].

The measures of health in quality of life indexes were less uniform than the public safety measurement. Although a common theme was to use mortality rates or life expectancy, this is certainly not the only way that researchers chose to examine this element of quality of life. Calvert and Henderson chose to use a composite that includes the infant mortality rate, the life expectancy rate, and self-reported health [26]. The Economist uses the life expectancy at birth in years for the health indicator [17]. Sufian simply uses the infant mortality rate [27]. Agostini and Richardson combine infant mortality, child mortality, and maternal mortality to measure public health [28]. The majority of the quality of life literature that was reviewed for this study includes a measure of health as an indicator, and inclusion in our own index was important.

Review in the health measurement literature uncovered some interesting intellectual debates surrounding the demand for health care. Newhouse and Hitiris and Posnett make the assertion that since per-capita health expenditures follow GDP fairly closely, health expenditure consumption is elastic, indeed elastic enough that it is a luxury good since its income elasticity of demand coefficient is greater than 1.0 [29, 30]. This implies there is a lot of spending in health care that only marginally improves quality of life and an increase in funding will not necessarily result in an increase in care. The counter to this claim is that since health care represents a basic human need it must be a necessity and an inelastic good. Parkin asserts that the claim of its being a luxury good can only be measured as a luxury by

incorrectly applying microeconomic data to a macroeconomic problem [31]. We agree with portions of both arguments and eventually came to the same conclusion as Getzen who views health care expenditures as both a necessity and a luxury which can vary with the level of analysis [32]. On the micro level, health care is a necessity at first because a certain level of care is essential, and thus inelastic. However, due to diminishing marginal returns there is a point reached where health expenditures become a luxury, even on the micro level. While we are not sure where this point of diminishing returns is, there is some level of health expenditure that is a necessity that must be funded in order to have a good quality of life. The indicators are designed to capture the aggregate health care system to determine if it affords individuals at least the necessary level of care needed, if not also desired luxury health goods.

To capture an aggregate measure of the health system in the test counties, we first use a measure of the availability of professional health workers. Our measure includes physicians per 1000 and health care workers per 1000 to assess this availability. Originally, we had hoped to use measures of hospitals per 1000 and hospital beds per 1000 in addition to the number of professionals, but that data was not available at the county level. However, since health care requires very specific and well-practiced skills, we assume that the more of these health care workers there are in a population, the more likely it is that they will have facilities to work in. This measure is sufficient to furnish a snapshot of the availability of health care facilities that we believe to be most vital to a good quality of life.

We do, however, acknowledge that there may be other factors that may also be indicators of the health of a population other than physical facility access. Socioeconomic status, educational attainment, and cultural factors have all been shown in some cases to be the single greatest determinant of health status [33–35]. The most important of these factors are covered elsewhere in our index and should therefore not confound final results.

While having health facilities readily available is important, the existence of the facilities is of marginal value if people do not have the resources, primarily health insurance, required to be treated in the facilities. We use a measure of health insurance enrollment to help determine accessibility. The number of people with health insurance in a community reflects a measure of access to care and is valuable to the study. The measure that we use to show the insurance rate is taken from the U.S. Census data and includes all forms of insurance including government programs such as Medicaid and Medicare. While it may be true that there are flaws associated with the insurance system in the country, such as overconsumption as outlined by Feldstein [36], the level of insurance in a county helps us to determine what portion of the population is at least having their basic health needs met.

After considering access to health care through availability and insurance, we examine what health-related outcomes are being produced from access to that care. There is a debate in the literature concerning what the most telling measure of health should consist of. Some scholars argue that today's unique circumstances warrant breaking with traditional measures of health that have mainly dealt with morbidity and mortality and also take into account "diseases of civilization" like obesity and depression that have recently appeared as society has become more developed [37]. It is their belief that even though there might be longer life spans and

less infant deaths in developed societies, that does not mean that the health of the people is any better off since they see these new diseases as a drain on quality of life.

However, it is our view that while these may be real threats to the well-being of individuals, their inclusion in this measure would be very difficult to achieve since that data is not consistently available and they affect individual populations differentially. While our measure may not capture a complete picture overall health in a specific area, it does capture a sufficient portion of the whole system as infant mortality is a particularly telling indicator of care. It is also easily accessible for every area we looked at and universal in its application, whereas the inclusion of other subjective indicators would have to be more area specific.

We decided to use a measure of health outcomes that was the most objective possible. Nearly every study we looked at used infant mortality measures in one form or another, including the UNDP's Human Development report [2]. Consequentially, we also decided to use infant mortality as the basis of our health outcomes measures. This indicator is also one of the most obvious and observable results of a good, accessible health care infrastructure that was measured earlier. Our initial measurements of the availability of physicians and hospital beds are directly connected to infant mortality and with life expectancy that we measured in this area. Hospitals and their services are vital to helping mothers give birth to children and combating chronic sickness that often appear in the later years of life. While some scholars would argue that a better measure of health outcomes would be broader than ours, very few would argue that infant mortality is not one of the most telling individual indicators of health. This measure captures the availability of nonluxury health care.

Health services that are readily available could still be inadequate to properly serve the needs of the patients. Health services need adequate funding to be able to function well. We measure the health services funding effort in order to determine if the services are being adequately funded and given every chance to succeed. This measure includes the overall per-capita health expenditures by government agencies and the total amount spent on payroll in health care professions. Funding for health related services is not cheap. Some estimates place the total yearly spending in the U.S. around \$3 trillion or nearly 20% of GDP. By capturing this funding information we were able to get a better understanding of the health services in the targeted areas. This then allows basic health care, which would impact the health outcome indicators of life expectancy and infant mortality, to be measured. Basic health care is defined in various ways, but for simplicity purposes we define it as access to the services and procedures that sustain life and impact of the health outcome indicators. If a person has access to basic health care, we assume they would have a greater probability of surviving birth and living to an older age. As summarized earlier, we realize that the amount of funding does not guarantee quality since there is a real potential to waste the funds after they reach the point of diminishing returns. By our reasoning, a higher level of funding indicates a higher likelihood that those basic needs will be filled even if there is waste happening elsewhere. There is good literature that indicates that higher expenditures on health care are linked to better health results [38]. Poland et al. also seems to agree that higher expenditures should produce better health outcomes [39]. We feel that the measurement of the funding

effort for health services provides the reader with an overview of the system without making normative judgments.

In sum, we chose to use the measures we did because they are the best way for us to capture the availability of and access to health services in a given area. It encompasses the causes as well as the consequences of a good health system and allows us to see its impact on the overall quality of life in a defined area.

4.3. Infrastructure

Infrastructure that functions efficiently and effectively is another positive component to quality of life. Infrastructure is the physical and organizational structures needed for operation of a societal structure or the services and facilities necessary for an economy to function. Basic infrastructure facilitates economic transactions, allows access to services such as health and education, and provides individuals with the ability to realize their preferences for goods and services across time and space.

There was not a large consensus regarding what data best represent infrastructure. In general, the indexes attempt to quantify this by examining three things: population characteristics, available utilities, and housing characteristics. Both Rosen and Roback examine the population size, and the population density, but uniquely include central city population and population growth rate, respectively [10, 40]. Nzaku and Bukenya use a composite that includes population density with age of the population, nonwhite population, owner-occupied housing, per-capita tax rate, distance to metro area, and road density [15]. Still other indexes include a measure of the available facilities for the treatment of water, sewage, or landfills [11, 13, 14, 26].

Our metric captures the various types of infrastructures that are necessary for individuals to maximize the other indicators of the index and their quality of life. To measure infrastructure, we use both service availability and funding effort that is the existence of the infrastructure and the resources devoted to its expansion, maintenance, and replacement. Measured infrastructure could include a wide variety of public services. We have chosen to use three indicators that we believe capture what is essential to improving quality of life. Our metric represents an expansion of earlier work that has primarily focused on the provision of public or quasi-public goods such as highways as infrastructure. We assert that a more expansive definition of infrastructure is necessary. Our metric both recognizes the importance of the public or quasi-public goods to infrastructure and adds private or toll goods to the measure of infrastructure. These indicators—culinary water, grid fuel, and telephone—are measured as the percentage of households with these services directly available in their homes. This penetration metric, which uses end consumer access as a proxy for general service availability, provides a clear picture of the development of infrastructure and allows for differentiation between areas where most residents have access and other areas where most do not.

The systemic availability of culinary water—also known as domestic water, drinking water, or potable water—is a large contributor to the well-being of those with the service. Culinary water is the water suitable for human consumption or use in the preparation of food. The

study measures the percentage of households per county with culinary water access directly in their homes from a communal source. We conclude that households with culinary water communally available will have a higher quality of life and that counties with higher percentages of culinary water penetration will attract more residents and more development. Howard and Bartram support this assertion, and they indicate that significant benefits are available as culinary water services are more accessible, namely advances in greater public health and sanitation [41]. The percentage of grid culinary water availability per county is also a proxy for government involvement and spending in that specific county. Because grid culinary water is primarily a government service, we assert that a greater percentage availability of grid culinary water in a particular county also translates to a greater amount of other government provided infrastructure in that county. For example, municipal solid waste (MSW) services and sewer services are not recorded in the data but are highly correlated with grid culinary water provision, and because culinary water is highly correlated to the provision of MSW and sewer services, counties with grid culinary water are also likely to provide MSW and sewer services as well. Sewer systems collect sewage waste from local buildings and are later used to either dispose of or treat the sewage for sanitary purposes. Having available sewer systems and MSW services provides greater sanitation and health to the community. Furthermore, a major source of water used to create culinary water is ground water, and according to Miranda et al., MSW services are important in reducing groundwater contamination as well as reducing other solid and hazardous waste material [42].

The second measure of infrastructure availability is access to grid fuel. Having access to grid fuel is a significant measure of a county's development, and unlike the earlier measure of grid water is likely to be provided by private sources over public ones. Grid fuel is primarily natural gas, although there are other types of grid fuel used less commonly. Having household access to these fuels is a positive measure of residents' quality of life. The benefits of household access include the direct influx of fuel for heating or cooking without having to actively seek the fuel; all the residents must do is pay a monthly bill. Rothfarb et al. argue for the importance of a well-organized system in providing natural gas to US households and business, due to their great "depend[ence] on gas for heating and other essential services." The authors discuss the greater availability and reduced cost benefits consumers receive with better developed and systematized grid fuel systems [43].

Our final measure of infrastructure service availability is the household penetration of telecommunication. Although this is not as strong of an indicator as the other two used, we believe it to be a useful measurement nonetheless. Hudson explains very well the quality of life advantages of telecommunication availability:

Telecommunications is a tool for the conveyance of information, and thus can be critical to the development process. By providing information links between urban and rural areas and among rural residents, telecommunications can overcome distance barriers, which hamper rural development. Access to information is key to many development activities, including agriculture, industry, shipping, education, health and social services [44].

Without telecommunications access, it is more difficult for residents to receive and convey necessary information for their day-to-day transactions. In addition, household

telecommunications availability also presents access to minimum low-speed internet. Having at least dial-up internet available in the home can provide important communication and information access. Strover states the significance of “adequate connections to advances telecommunications infrastructure and services [for] rural communities...to be able to fully participate in the emerging information economy” [45].

While it is clear that the presence or absence of our selected proxies and their penetration rates provides an important picture of the level of development of infrastructure in a particular county, it tells only part of the story. The rest of the story can be understood only by examining the availability of funds to provide infrastructure. While our first set of measures speaks to the level of development of a county's infrastructure, our second set of measures speaks to the financial resources available for infrastructure and how those resources are being used. To capture both the presence and absence of infrastructure, we also analyzed the funding that is available to each county that could be used to develop infrastructure, measured both as a function of the total land area in a county and as a per-capita measure. This distinction is important as both differences in size and population create differing infrastructure needs. We use utility bonding numbers and transportation expenditures as proxies for the larger suite of infrastructure goods. Using these proxies allows for both a measurement of spending on immediate needs—transportation—and longer-term needs—utility bonding. This combination provides evidence for the level of investment in infrastructure. Both measures are population controlled to ensure the opportunity of intercounty comparisons.

We measure the public transportation spending per capita for all US counties. Public transportation can include subways, buses, streetcars, light-rail transit, or the most common form of highway funding. Higher spending on all types of public transportation provides a higher quality of life to its residents than do counties with lower per-capita spending on transportation. Transportation spending has a myriad of benefits in facilitating business, recreation, social and family, emergency health, and education travel, etc. A key element of transportation infrastructure spending in dealing with economic development is the amount of highway spending allocated by each county. In an economic growth study by Dye, he states that “highway spending emerges as the strongest correlate of economic growth” because of its ability to facilitate commerce and transportation [46]. A few of the major benefits of having a well-developed highway system include the “expansion of existing business, attraction of new business, and tourism growth, [...] increasing business productivity over time associated with reducing shipping costs,” and reduced travel times [47]. Residents' opportunity for greater productivity and a higher quality of life are significantly increased by counties that spend more on highways.

Not measured in the data, yet highly correlated with transportation spending, is the availability of transit and airport services. If more funding is allocated for transportation by a county, it is very likely that transit services will be offered as well. The availability of local public transit services is a positive contributor to quality of life. For various reasons, numerous county residents might not have access to private transportation or the ability to travel on their own. Public transportation, whether by bus or rail, is significant to their well-being when traveling to and from home to work, to shop, or to study, etc. Baum-Snow et al. explain a number of benefits to having public transit accessible in their 2000 article: “...better transit

may disproportionately improve the quality of life and the quality of job opportunities.... Public transit potentially increases the access of the poor to better labor market opportunities. This comes in addition to reduce commuting times for people served by better transit." They also add public transit's contribution to reducing air pollution [48].

The benefits of airport services are associated with transportation spending in that counties with transportation spending as a priority will likely have similar reasoning to provide airport services as well. Counties with airport availability provide advantages to the quality of life of its residents more than those counties who do not offer the service. The benefits of having a local airport, mentioned by Newkirk and Casavant, "include economic development, health care and emergency medical services, support of business and commerce, recreation, community activities, enriched community life.... [These] themes support the strong conclusion that rural airports clearly improve the quality of life in rural communities" [49].

The more developed infrastructure accessible to county residents, the more it can achieve the desired economic development that brings the greatest opportunity to the people within the county. These advantages include greater access to transportation, communication, household energy, water, activities, etc. A well-constructed index that purports to measure quality of life must include a coherent measure of the infrastructure.

4.4. Education

The quality of an education system in a county is a telling indicator of the quality of life in that area. And since quality of life is connected to education, its quality is an indicator of what the future will hold for an area. Areas with better education systems have been shown to have higher levels of educational attainment, and as a consequence, higher income [50].

Roughly half of the indexes that we examined included some measure of educational quality. The most common way to represent this was including a measure of the ratio of students to teachers [11, 13, 14, 51]. Other studies include input-based measurements like cost-adjusted per pupil, and library circulation in number of books [52]. Others look at outputs of education: percent of children in secondary school [27], or mean year of schooling, number of 16 year olds enrolled in school, and college and postcollege graduates [28]. Calvert and Henderson created a composite variable made of educational attainment levels, educational expenditures, literacy rates, access to education, distribution, segregation, discrimination, lifelong learning, and alternative education [26].

In our measure of education as an indicator of overall quality of life, we capture a measure of the availability of educational services. We look at the services that are offered in public schools in order to determine if the schools are fulfilling the educational needs of the largest number of students possible. One of the programs that we measure is the availability of college preparation courses like Advanced Placement, International Baccalaureate, or concurrent enrollment for college credit while still in high school. This allows us to capture a measure of the needs fulfillment for advanced students that could be held back from reaching their potential if these courses are not offered and they are kept with the bulk of the students in classes that don't challenge them. We also capture a measure of the needs fulfillment of

the students in a school system that may need extra assistance to succeed. The availability of a Limited English Proficient (LEP) program is measured to account for the ever-growing number of students who need extra help with English due to the diversity of home-spoken languages. In addition, we measure the availability of special education services to help those students with special needs.

Also in our measure of service availability for education, we measure the access that people in a particular county have to higher education. There is a myriad of literature on the benefits of higher education to individuals and society [50] and the citation here of the full literature would be superfluous. We assume and the literature concurs that the proximity and availability of higher education make taking advantage of its benefits easier for the local population and it is a positive attribute to have access to higher education. As education system becomes increasingly competitive in attempts to capture previously untapped markets, new technologies and efforts are being made to make higher education available to increasingly isolated places [53]. We expect to see access to higher education to continue to expand to the benefit of the local citizens in most counties.

The final measures of availability that we used are of the presence of charter schools in a county, as well as other education services offered such as private schools. The presence of charter schools is measured by the annual survey done by the National Center for Education Statistics and the measure of other education services is obtained from the U.S. Census data. The presence of either or both of these indicators represents efforts by the local government and population to offer services that can be invaluable to those that take advantage of them. While charter and private schools are not designed to be to the benefit of everyone, those who wish to take advantage of their service often feel it is very important and can strongly influence their academic performance. It is also claimed by some that the presence of choices within the education system is healthy as it usually fosters competition [54] and increased efficiency with funding [55].

If an area has a good education system, many studies assert they should have positive outcomes from that system to show for it [50]. In the attempt to determine if an area has these positive outcomes, we use a number of different indicators to measure the education system's impact. We first looked at the dropout rate in the local secondary schools. A student is defined as a dropout if he or she is between the ages of 16 and 19, has not graduated from high school, and is not enrolled. Those who fit this category have either failed the system or been failed by the system, neither of which tells of a promising quality of life in an area. We expect to see a lower dropout rate in areas with better education systems. Another outcome of a good education system is the number of persons enrolled in higher education. We use U.S. Census data to get this indicator that measures all the previous year's high school seniors who are enrolled in higher education and also the number of any others who are enrolled in higher education in the county. This allows us to see both the level of high schools students going on to attend college and also the total number of people enrolled in higher education in a given area.

The final outcome that we captured by this method is the education level of the population in the given county. Using U.S. Census data, we are able to capture the percent of the population that has graduated from high school, the percent that has graduated college, and the percent

that has obtained an advanced degree. This allows us to determine the level of education of the whole community, which is important to understand how much an area values education and its impacts. We suspect that a higher level of education in the community at large will correlate with the other indicators of quality of life.

Our measure of educational availability, funding, and outcomes gives an effective and significant measure of the education system. This measure allows us to adequately account for the education system of an area since, as Lyson notes, education “serves as an important marker of social and economic viability and vitality” [56].

4.5. Economic environment

Economic development is a necessary indicator when determining quality of life. Economic development can be defined as efforts that seek to improve the economic well-being and quality of life for a community by creating and/or retaining jobs and increasing incomes. It is the institutional changes made to promote economic betterment and the social organizational changes made to promote growth in an economy.

Every index we reviewed included some measure of economic conditions but different indexes use different indicators to capture this information. The Economist [17] used GDP per person and percent unemployment; Roback uses the unemployment rate, as does Rosen although Rosen includes population growth as part of the index [10, 40]. In contrast, Agostini and Richardson capture the economic environment using the real per-capita income [28].

We have chosen to use and gather data for three categories that we believe to best determine the county residents’ quality of life level, namely the availability of services, economic outcomes—such as per-capita income and the unemployment rate—and availability of private capital for the rural counties. The following paragraphs will support our argument that the more economically developed a county is, the higher quality of life its residents have.

How accessible services are in each county affects the quality of life of its residents. To measure service availability, we focus on the total number of employers and the number of new businesses per year in each county.

Employment is one of the most fundamental measurements of economic development. When unemployment is high, it creates a downward spiral in a community’s economy: the unemployed residents cannot receive an income, which reduces consumer spending, which in turn reduces industry earnings, creating fewer jobs, and so on. Thus, a healthy economy arrives close to full employment, generating more consumer spending and industry growth in the community. We chose to measure the total number of employers in each county as an economic quality of life indicator because when more opportunities are available for resident employment, residents have the ability to receive their desired income with greater facility. Hence, they will be able to better satisfy their needs and wants.

By measuring the total number of employers, the number of individual businesses within the community can be determined. Wennekers and Thurik assert that the positive economic effects from the number of small firms within a community include: “routes of innovation,

industry dynamics and job generation” as well as “a lower propensity to export employment, a qualitative change in the demand for capital, and more variety in the supply of products and services” [57].

The greater number of new businesses established each year is also linked to a higher quality of life for residents in the counties we researched. Buchanan and Ellis list entrepreneurship, the creation and development of new businesses, as one of the basic factors that pushes economic development [58]. When more businesses are created, more opportunity for employment is available for the residents. Business expansion can also be evidence of more capital availability and greater response to higher consumer demand. We measured and recorded data on how many new establishments were created in each county per year to capture the entrepreneurship that is occurring in each of the counties. To calculate this activity, we take the number of businesses that existed the previous year and subtract the current year's business count.

Reduced employment opportunities, due to poor business creation and diversification within a county, create the necessity to travel for employment. We measured data on the number of county residents who travel for employment by determining the commute time and destination. These measures indicate the investment of time people are making for desired employment. To measure destination, we measured the percent of residents employed outside of a county. From this measurement, we can conclude that a greater percentile of residents employed outside the county of residence is indicative of a lower level of economic development in that county. Khan et al. explain the effects of commuting on individual economic growth: “if economic growth elsewhere raises an individual's earning prospects, the individual will move, but if the individual can exploit economic growth elsewhere by commuting, he will not need to move to gain from the expansion” [59]. In other literature, Shields and Swenson conducted research on 65 Pennsylvania counties to determine how commuters balance employment and wage opportunities with relation to housing prices and travel costs. The results suggest that the “proportion of jobs filled by in-commuters varies by industry” [60]. This is an important factor because it illustrates why counties should focus on industry diversity when attracting businesses in order to best capture all types of employment.

In determining the level of economic development of counties, we have chosen three indicators: economic diversity, per-capita income, and unemployment rate. Quantifying these variables will help us better measure resident standard of living as well as economic growth by county.

The more diversified business in a county, the higher the opportunity for the residents to have a higher quality of life. For example, consider a county with mining as its sole industry. If resources were exhausted or a natural accident occurred that made it impossible to mine, the county and its residents' quality of life would decrease substantially. A book by Phillips supports this example in stating that economic diversity is vital to sustaining development in rural areas because of the negative effects of the boom and bust cycles [61]. In this data, we used Hachman's method to determine the economic diversity score. We therefore conclude that a county that has employment and business across diverse industries is more economically developed and can provide a higher quality of life for its residents [62].

Per-capita income is one of the most obvious and routinely used indicators of quality of life. Those who have a higher per-capita income have more funds to purchase the necessities as well as more disposable income to purchase luxuries. Lucas, in his study "On the Mechanics of Economic Development," argues that per-capita income is the best indicator of economic development [63]. However, Alpert reminds us that that per-capita income is not an all-encompassing indicator when determining the degree of economic development [64]. We agree, and our index reflects that conclusion, per-capita income is important, but not sufficient in determining economic quality of life.

The unemployment rate is another indicator of how economically developed a county is. This measurement has been used in many quality of life studies: a lower unemployment rate provides more opportunities for residents to find jobs, which leads to higher quality of life. Phillips argues the unemployment rate is an important indicator in determining economic development. He states both the need for both "basic and nonbasic employment: basic jobs are those that bring new money into the economy" whereas "nonbasic jobs are those that recycle money through the local economy" [61].

The final indicator seeks to measure the availability of capital in counties. Capital availability is a vital part of any county's economic development as it represents the potential funds that can be used to hire workers, develop infrastructure, and power the engine of economic growth. We used total deposits in commercial banks, manufacturing capital expenditures, and total annual payroll of all industries as the indicators.

The greater the total deposits in local commercial banks, the greater the funds readily available for use in entrepreneurial activities, for larger scale business investment, and for private investment on homes/home improvement and automobiles, and so on. Low et al. explain the positive correlation between bank deposits and entrepreneurial growth, emphasizing the effects of bank deposits on "creat[ing] loanable funds that could help regional entrepreneurs invest and grow further" [65].

Although funding availability through deposits in commercial banks is useful in community economic development, simple capital availability does not necessarily indicate productive potential use of the capital. Capital has a multiplicative effect when it is invested and put to use that cannot occur when it is simply held in reserve. The measurement of manufacturing capital expenditures is a valuable measurement of capital use and availability in economic development because it illustrates how businesses apply their capital. Measuring manufacturing capital expenditures is valuable in providing evidence of business growth and productivity within distinct communities due to local capital investment.

Our final subindicator measures the total annual payroll of all industries for each county. This measure, which indicates the amount of money businesses allocate to paying employees each year, is evidence of industry growth or decline. Greater payroll indicates an expansion in the local community because industries have additional funds to pay employees after covering their costs and other financial obligations. Payroll can also indicate the quality of human capital available in the county: employees with higher degrees and work experience receive higher wages. With greater payroll provided to employees, greater opportunity for private

capital investment is available as well. The reverse is also true, as noted by Eberts and Fogarty: “as private investment increases, demand for labor and thus payrolls also increase, expanding the income of the local economy” [66]. Thus, with more private capital availability, opportunity for growth and development increases, creating a greater quality of life for residents.

As described above, economic development can be defined as efforts that seek to improve the economic well-being and quality of life for a community by creating and/or retaining jobs and increasing incomes. From the three areas discussed above—service availability, economic outcomes, and private capital availability—I was able to establish the advantages to having an economically developed county. We can therefore see that residents living in a county with a more advanced level of economic development will have a better quality of life than of those whose county is less economically developed.

4.6. Other indicators

Although many of the indexes examined had variables that fit well within these categories, there were usually a few that did not. Some used a variety of different indicators, but there were a few similar indicators that repeatedly showed throughout the literature. One of the most prevalent indicators was weather and environment in general. Many indexes examined the amount of pollution, the type of weather, the location, or other positive aspects of the natural environment. Many tried to capture a social environment, like Shapiro who measured the number of restaurants in an area [16]. Florida attempts to measure the many unconventional aspects of an area, including the homosexual population, the number of bars and nightclubs, the amount nonprofit art museums and galleries, the number public golf courses among a host of other factors [67].

The factors that seek to extend the explanation of quality of life beyond our five included indexes and the natural environment are not particularly useful and in our opinion should not be included in quality of life metric as they are not consistently included across studies of quality of life, and represent idiosyncratic conceptions of what life quality is.

5. Empirical validation

Properly constructing an index requires a bit of a balancing act. While the index must include enough variables to capture a reasonably complete picture of what is purportedly being measured, adding unnecessary variables introduces noise to the index and dilutes the explanatory value of other variables. To achieve that balance, strong theoretical justifications must exist for the inclusion of each variable. This was done in the previous section. After constructing a theoretical basis and collecting data, the resulting index can be statistically and empirically vetted to further establish its validity. First, the collected data should behave as the theory predicts. Second, the index should mirror how individuals actually comprehend their own life quality.

To confirm that our index behaves as expected, we performed both a confirmatory factor analysis. To verify that the index reflects real people's life quality, we used a survey.

5.1. Confirmatory factor analysis

In building the index, we have attempted to compile a set of indicators that all contribute to quality of life in predictable directions. Confirmatory factor analysis is a statistical tool used to ascertain whether a set of observed variables (the indicators, in our case) are commonly correlated with another unobserved factor (quality of life). To confirm that this index is indeed measuring quality of life, each of the indicators should return a positive value and, because we elected not to weight any of the indicators, each should return a similar value. **Table 1** reports the results of our confirmatory factor analysis.

In our factor analysis, two factors are retained, factor one offering evidence in support of our hypothesis. Positive numbers ranging from .42 to .62 suggest that the indicators truly are related to some common underlying trend, while the high uniqueness values indicate that each provides unique information about that trend, rather than merely reiterating information already captured by another variable.

5.2. Survey

To offer empirical evidence that the construction of the index is appropriate, we conducted a survey of undergraduate students in five classes, most of which were general credit classes and all of which covered social science topics. The students in these classes included all student years (freshman-senior) and all sorts of majors.

The survey collected demographic, university, and political information about each participant, asked to rank their own situation along each of the index's indicators, and finally to scale their own quality of life. The middle of the survey also included a distraction, which asked students about their knowledge of the school, its governance, and whether they would support a fee proposal. For the index to be valid, the ratings offered by survey participants for the indicators ought to align with the overall quality of life score. After collecting data from the surveys, we conducted two OLogit regressions, one with the indicator and the other without it. The results of these regressions are included in **Table 2**.

The coefficients displayed in **Table 2** demonstrate that the indicators are indeed associated with a significant improvement in quality of life. The Psuedo R Square for the model including the indicators, as reported above, is .2254, compared to only .0440 in the controls-only

Variable	Factor 1	Factor 2	Uniqueness
Education	.5122	-.1826	.7043
Public safety	.5326	-.0702	.7114
Infrastructure	.6135	.0588	.6202
Health	.4294	.2141	.7697
Economic development	.6094	.0047	.6286

Table 1. Confirmatory factor analysis.

3	Coef	Standard error	P score
Personal safety	.3429	.1785	.05*
Infrastructure	.2753	.1080	.01**
Economic	.1503	.0739	.04*
Health	.3505	.1208	.00**
Education	.7941	.1246	.00**

N = 258 Pseudo R Square: .2254.
 *.10, **.05
 Control variables excluded from the table.

Table 2. Survey results-ordered logit.

model. We conclude that the indicators lend significant explanatory power to the model, and that the index therefore captures with ample veracity what it claims to capture.

Using both the confirmatory factor analysis and the ordered logit regressions to back up the theoretical relationships discussed earlier, we have demonstrated that the index is a reliable and meaningful measure of the quality of life.

6. Conclusion

The initial impetus behind this project was a desire to better understand the relationship between public policy outcome and the life quality of individual citizens. Claims about the impact particular policy decisions have on livability, well-being, and quality of life are commonly invoked by policy maker and politicians as justifications for particular policy choices. There has however been little substantive quantitative work on measuring these somewhat amorphous concepts.

Our interest in these questions grew in large part from claims about the impact of publically owned lands on the quality of life of residents who live and work among them. Numerous claims that public lands positively impacted the well-being of citizens both economically and in nonquantifiable ways are replete in these policy discussions. We found these claims intriguing and warranting a more in-depth examination.

This exploration led us to the central research question of this chapter, how do you measure life quality? We found that the concept of life quality and its measurement has been discussed and debated among scholars of various fields for many years, and, while there are a variety of positions advocated by various disciplines, there appears to be an emerging consensus regarding its importance, but not its measurement. While the limits of quantitative measurement of life quality are clear, namely that they are by their very nature an abstraction, they provide a metric where by claims of policy makers and politicians that particular policy approaches are better for life quality can be evaluated. Our approach provides one such tool for policy evaluation.

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The Development of a Human Well-Being Index for the United States

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Abstract

The US Environmental Protection Agency (EPA) has developed a human well-being index (HWBI) that assesses the over-all well-being of its population at the county level. The HWBI contains eight domains representing social, economic and environmental well-being. These domains include 25 indicators comprised of 80 metrics and 22 social, economic and environmental services. The application of the HWBI has been made for the nation as a whole at the county level and two alternative applications have been made to represent key populations within the overall US population—Native Americans and children. A number of advances have been made to estimate the values of metrics for counties where no data is available and one such estimator—MERLIN—is discussed. Finally, efforts to make the index into an interactive web site are described.

Keywords: index, well-being, indicators, Merlin

1. Introduction

An integrated approach for characterizing human well-being has been developed by the U.S. Environmental Protection Agency (USEPA). This approach has been developed at multiple scales and is called A Human Well-being Index (HWBI). The HWBI uses a suite of measures to examine the influence of social, economic and environmental service flows on the eight domains of human well-being in a holistic fashion (**Figure 1**). The index is applicable to communities of all scales whether national, regional or local. **Figure 1** represents the index conceptualization mode of the HWBI. The conceptualization depicts the relationships among natural and built capital, goods and services, the domains of well-being and their sub-elements, and the value system of the entity being examined (*i.e.*, relative importance values associated with specific communities).

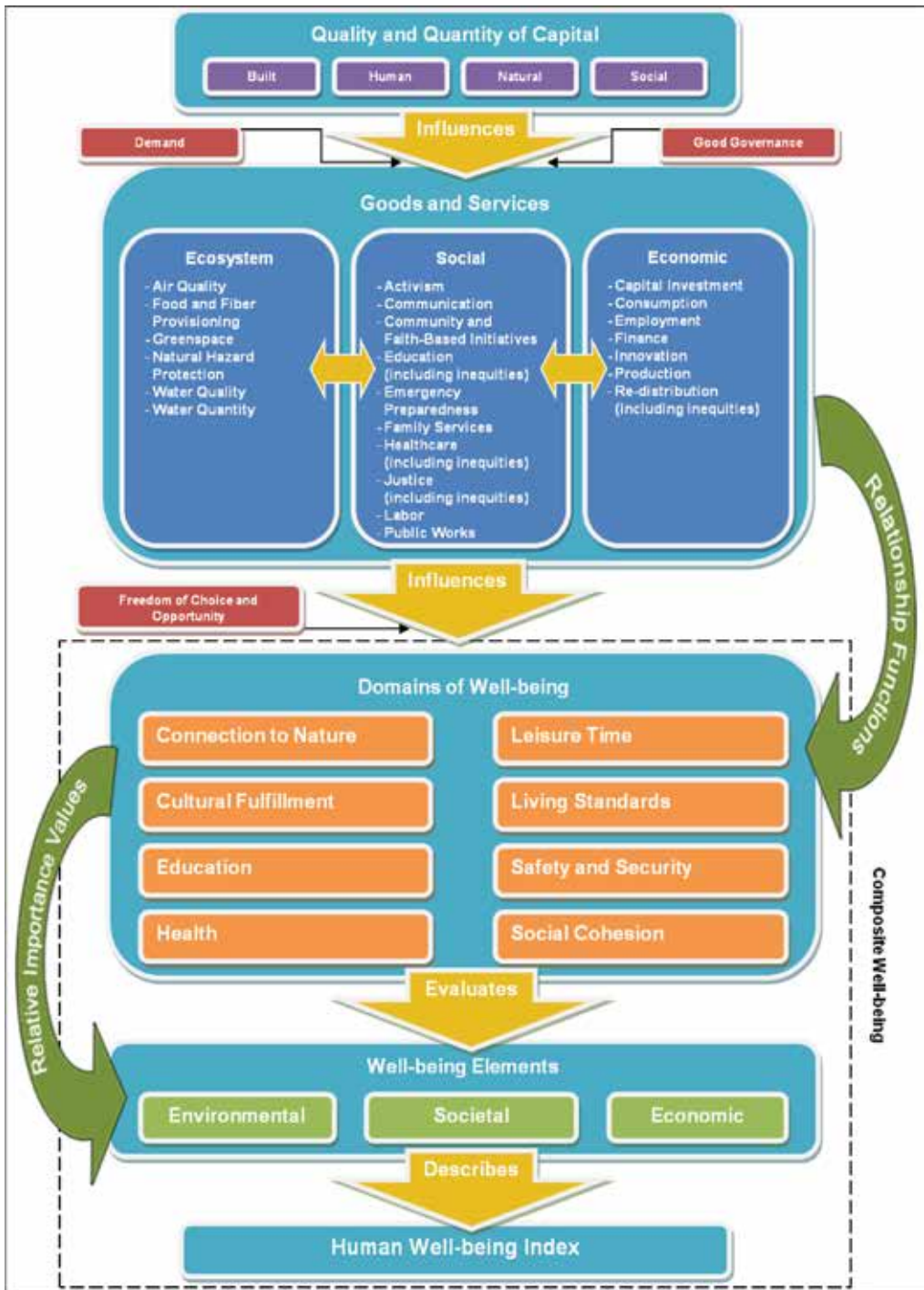


Figure 1. Conceptual framework for evaluating the influence of service flows on well-being endpoints for the construction of a Human Well-Being Index.

When tracked over time, the index has the potential to serve as a measure of sustainability and could be linked to alternative decisions that change the ecological, economic, and social well beings of defined populations. The metrics and methodologies for assembling multiple-scale measures have been developed [1–3] and, using this approach, a U.S. HWBI (for all counties) was calculated. Further, the functional relationships among domains and indicators of well-being and selected economic, societal and environmental services flows were determined. The HWBI is distinct from other well-being indices because the approach is scalable and domain and HWBI values are responsive to changes in services (e.g., economic, social and ecological), allowing it to be used as an informative endpoint in the sustainability decision-making process.

The HWBI is designed to empower and inform decision makers to proportionally weigh, in an equitable manner, the human health, socio-economic, environmental, and ecological factors that foster sustainability in a community. This would include the built and natural environments; and would help local decision makers understand the effects of alternative policies and actions on local sustainability. The HWBI can be used to identify: (a) current environmental, economic, and social trends that signal sustainability shifts; (b) the thresholds of sustainability for such indicators; and (c) performance metrics that signal that approaches designed to foster increasing sustainability are working as intended. This would include any indications of unintended consequences.

In 2011, the Sustainable and Healthy Communities Research program (SHC) in EPA's Office of Research and Development (ORD) coined the term TRIO for Total Resource Impacts and Outcomes [4]. TRIO encompasses integrated community decision-making approaches that address all three pillars of sustainability—economic, societal and environmental—in a holistic manner. While TRIO is similar to triple-bottom line accounting [5–7], many feel that the term triple-bottom line accounting conveys too much of an economic focus. SHC desired a term that would clearly demonstrate integration of all three pillars of sustainability. In the literature, methods that consider the three pillars of sustainability have included many different specific approaches—The Green Scorecard [8], Triple Bottom-Line Accounting [5–7], Happy Planet Index [9], and Millennium Ecosystem Assessment [10]. Others (e.g., Ecological Footprint) [11] have addressed one specific aspect of sustainability. All of these approaches contribute to the improvement of human well-being as a measure. As well-being is often an endpoint of concern regarding sustainability, SHC determined the need to develop an index of human well-being that fully embraced the integrated TRIO aspects of the developing SHC research program.

In an extensive review, Smith et al. [12]. examined 20 approaches to assessing human well-being (e.g., Gallup-Healthways Well-Being Index, Gross National Happiness Index) in order to determine if true TRIO-like approaches were included in these pre-existing indices. A brief summary describing the indices considered and their inclusiveness of well-being domains and indicators is shown in **Table 1**. While their findings suggested that several indices approached a full-TRIO assessment (*i.e.*, addressing all three pillars of well-being and sustainability), most approaches did not focus on the integration of all three pillars. As an example, the Gallup-Healthways Well-Being Index (Gallup) contained significant information pertaining to social drivers like health but had little or no information concerning the economic and environmental

Index	Scale	Economic well-being	Basic needs	Environmental well-being	Subjective well-being
The Economic Intelligence Unit's Quality of Life [13]	N	X	X		
Australian Unity Wellbeing Index [14]	N	X	X	X	
Human Development Index [15]	N	X	X		
Quality of Life Index for Developing Countries [16]	N	X	X	(X)	X
The Well-being of Nations [17]	N	X	X	X	
Sustainable Society Index [18]	N	X	X	X	
Hong Kong Quality of Life [19]	R	X	X	X	X
Well-being in EU Countries—Multidimensional Index of Sustainability [20]	N	X	X	X	
National Well-being Index—Life Satisfaction [21]	N	X	X	X	(X)
Child and Youth Well-being Index [22]	N	X	X		
Canadian Index of Well-being [23]	N	X	X	X	
Happy Planet Index [9]	N		X	X	X
Index of Child Well-Being in Europe [24]	N	X	X		X
Index of Social Health [25]	N	X	X		
Gallup-Healthways Well-Being Index [26]	M		X		X
The State of the Commonwealth Index [27]	S	X	X	X	X
QOL 2007 in Twelve of New Zealand's Cities [28]	L	X	X	X	X
Nova Scotia 2008 GPI [29]	R	X	X	X	
Gross National Happiness [30]	N	X	X	X	X
Human Well-Being Index [this manuscript]	M	X	X	X	X

X denotes the element was directly represented and addressed in the index; (X) denotes that element was indirectly represented but not directly addressed in the description of the indicators and domains. N denotes national scale, R denotes regional scale, S denotes state scale, L denotes local scale, and M denotes multiple scales.

Table 1. Well-being elements represented in reviewed indices [9].

pillars of well-being. Many of these reviewed approaches did not use substantial amounts of objective data, rather they relied on subjective perceived information from surveys. As shown in **Table 1**, HWBI addresses all three pillars of well-being with a clear combination of objective and subjective indicators and metrics relating to each pillar. Particularly, when linked to environmental, economic and social services flows, the HWBI epitomizes a holistic, integrated approach.

This chapter describes the approaches used to develop the HWBI and to assess services provisioning. The integrated concept of the interactions among social, economic and environmental drivers linked to well-being endpoints is demonstrated at the county level in the United States.

2. Index development, application and discussion

2.1. Characterizing Well-Being

2.1.1. Index description

The mathematical structure of HWBI is fully described in Summers et al. [44] and is reiterated here for completeness. The HWBI is an index based on a combination of objective data, subjective data collected through surveys, available data from other well-being surveys, and combined at the smallest spatial scale generally available (most often county level data). The conceptual model depicted in **Figure 1** shows the interplay of goods and services and their influence on the eight domains of well-being used in HWBI, the use of relative importance values to describe the community value structures, and the combination of all information into the three well-being elements and their subsequent combination into a single value representing well-being. The index utilizes eight domains, 25 indicators and 80 metrics (**Table 2**). First, metrics are combined to create an indicator (k) score for a spatial area (\bar{x}_k) using the following equation:

$$\bar{x}_k = \frac{\sum_{m=1}^{n_m} \sum_{i=1}^{n_c} w_i x_{mi}}{n_m} \quad (1)$$

where n_c represents the number of locations (county by year) in an area (e.g., a region, state), n_m refers to the number of metrics, w_i equals the population weight for location i , and x_{mi} is the metric value for location i and metric m combination.

A domain (d) is scored for a given area (\bar{x}_d) as follows:

$$\bar{x}_d = \frac{\sum_{k=1}^{n_k} \bar{x}_k}{n_k} \quad (2)$$

where k represents an indicator, (\bar{x}_k) refers to the indicator score and n_k total number of indicators.

Economic, environmental, and social well-being element values (e) are derived from the geometric mean of all domains factored by a relative importance value specific to each element. The overall element scoring (\bar{x}_e) for an area is given by the following equation:

$$\bar{x}_e = \prod_{d=1}^8 \bar{x}_d^{RIV(d,e)} \quad (3)$$

where $RIV(d, e)$ is the Relative Importance Value between domain d and element e .

Finally, the HWBI is calculated using a relative importance factor for each element-to-overall well-being relationship as shown below:

$$HWBI = RIV_{eco} \bar{x}_{eco} + RIV_{env} \bar{x}_{env} + RIV_{soc} \bar{x}_{soc} \quad (4)$$

where RIV_{eco} , RIV_{env} , RIV_{soc} , and \bar{x}_{eco} , \bar{x}_{env} , \bar{x}_{soc} are the Relative Importance Values and scores for the economic, environmental, and social elements, respectively.

Domain	Indicator	Metrics
Connection to Nature	Biophilia	Connection to Life Spiritual Fulfillment
Cultural Fulfillment	Activity Participation	Performing Arts Attendance Rate of Congregational Adherence
Education	Basic Educational Knowledge and Skills of Youth	Mathematics Skills Reading Skills Science Skills
	Participation and Attainment	Adult Literacy High School Completion Participation Post-Secondary Attainment
	Social, Emotional and Developmental Aspects	Bullying Contextual Factors Physical Health Social Relationships and Emotional Well-being
Health	Healthcare	Population with a Regular Family Doctor Satisfaction with Healthcare
	Life Expectancy and Mortality	Asthma Mortality Cancer Mortality Diabetes Mortality Heart Disease Mortality Infant Mortality Life Expectancy Suicide Mortality
	Lifestyle and Behavior	Alcohol Consumption Healthy Behaviors Index Teen Pregnancy Teen Smoking Rate
	Personal Well-being	Happiness Life Satisfaction Perceived Health
	Physical and Mental Health Conditions	Adult Asthma Prevalence Cancer Prevalence Childhood Asthma Prevalence Coronary Heart Disease Prevalence Depression Prevalence

Domain	Indicator	Metrics
		Diabetes Prevalence
		Heart Attack Prevalence
		Obesity Prevalence
		Stroke Prevalence
Leisure Time	Activity Participation	Average Nights on Vacation
		Physical Activity
	Time Spent	Leisure Activities
	Working Age Adults	Adults who Provide Care to Seniors
		Adults Working Long Hours
		Adults Working Standard Hours
Living Standards	Basic Necessities	Food Security
		Housing Affordability
	Income	Incidence of Low Income
		Median Household Income
		Persistence of Low Income
	Wealth	Median Home Value
		Mortgage Debt
	Work	Job Quality
		Job Satisfaction
Safety and Security	Actual Safety	Accidental Morbidity and Mortality
		Loss of Human Life
		Property Crime
		Violent Crime
	Perceived Safety	Community Safety
	Risk	Social Vulnerability Index
Social Cohesion	Attitude toward Others and the Community	Belonging to Community
		City Satisfaction
		Discrimination
		Helping Others
		Trust
	Democratic Engagement	Interest in Politics
		Registered Voters
		Satisfaction with Democracy
		Trust in Government
		Voice in Government Decisions
		Voter Turnout

Domain	Indicator	Metrics
	Family Bonding	Exceeded Screen Time Guidelines
		Frequency of Meals at Home
		Parent-child Reading Activities
	Social Engagement	Participation in Group Activities
		Participation in Organized, Extracurricular Activities
		Volunteering
	Social Support	Close Friends and Family
		Emotional Support

Table 2. Indicators and metrics associated with each of the eight domains used to characterize human well-being and calculate the index.

2.1.2. Indicators and data source selection

The domains, indicators and metrics included in the HWBI and its service drivers are shown in **Tables 2** and **3**. Subjective and objective data were collected from a number of publically accessible sources. In order to populate the metrics for the years 2000–2010, these data were organized in a hierarchical manner based on spatial and temporal resolution (e.g., national, regional, state, and county by year). When multiple spatial scales existed for a metric, the lowest spatial scale (e.g., county *versus* state) was selected for processing. To the extent possible, factors such as historic data continuity, data credibility and reliability, and future data accessibility were considered in the data selection process.

2.1.3. Data imputation, outliers and standardization

Data gaps caused by spatial and temporal disparities found among data sources needed to be filled. These gaps were filled using a carry-forward substitution imputation technique [31] using cross-year county or within year state or regional data. Using the carry-forward method allowed for more robust data analyses. An additional imputation was conducted to calculate imputed values for counties exhibiting similar demographic and economic characteristics. From the spatially and temporally complete data set, county groupings were created using a combination of the Rural-Urban Continuum Code (RUCC) classifications [32] and the Gini Index for Household Income Inequality (HII) quintiles [33]. The RUCC-HII combinations generated county data groupings that usually reflected the relative spatial relationship of a county to the nearest large urban center with their measured income dispersion. Within-year median values were calculated for each RUCC-HII banding. Missing values in the original aggregate of metric data were substituted with the resulting RUCC-HII values.

Box-and-whisker analyses were completed for each fully enumerated HWBI metric. Extreme lower and upper outlier measures were set to minimum and maximum values, respectively. The maximum values were calculated to be three times the 75% percentile for each metric and

Service type	Service	Indicator	Number of metrics
Economic	Capital Investment	Capital Formation	1
		Commercial Durables	1
		New Housing Starts	1
		New Infrastructure Investments	4
	Consumption	Cost of Living	1
		Discretionary Spending	1
		Goods and Services	3
		Sustainable Consumption	1
	Employment	Employment	3
		Employment Diversity	1
		Underemployment	1
		Unemployment	1
	Finance	Governance	2
		Loans	4
		Savings	1
	Innovation	Investment	2
		Patents and Products	1
	Production	Exports	1
		Household Services	1
		Market goods and services	2
Sustainable Production		1	
Redistribution		Inequality	1
Ecosystem	Air Quality	Public Support	5
		Usable Air	1
	Food and Fiber Provisioning	Energy	4
		Food and Fiber	3
		Raw Materials	5
	Green Space	Natural Areas	4
		Recreation and Aesthetics	3
	Natural Hazard Protection	Natural Hazard Exposure	4
	Water Quality	Usable Water	2
	Water Quantity	Available Water	2
Social	Activism	Participation	4
	Communication	Accessibility	3
		Industry Infrastructure	3
	Providers	1	

Service type	Service	Indicator	Number of metrics
		Public Service Communication	1
		Quality	2
	Community and Faith-based Initiatives	Investment	1
		Providers	1
	Education (services)	Accessibility	3
		Confidence	1
		Investment	2
		Providers	2
	Emergency Preparedness	Post-Disaster Response	1
		Pre-Disaster Planning	1
		Responders	1
	Family Services	Accessibility	2
		Effectiveness	3
		Investment	1
		Providers	1
	Healthcare	Accessibility	5
		Investment	3
		Providers	1
		Quality	1
	Justice	Accessibility	2
		Confidence	1
		Environmental	4
		Investment	2
		Providers	1
		Quality	1
	Labor	Confidence	1
		Effectiveness	1
		Employee Rights	2
	Public Works	Accessibility	2
		Investment	4
		Providers	1
		Quality	5
		Quantity	5

Table 3. Indicators and number of metrics associated with each of the three service types used to generally characterize the provisioning of goods and services that influence the human well-being index.

the minimum values were calculated as minus three times the 25% percentile. Any outliers of this three times maximization technique were set to the metric value closest to the fence. All data were standardized on a scale from 0.1 to 0.9 following the Organization for Economic Co-Operation and Development’s (OECD) Better Life Index approach [34] with minor modification to account for the difference in scale. The resulting HWBI metric data set included both imputed and non-imputed standardized data for the 3143 counties of the U.S that represented approximately three million data points.

2.1.4. Calculating the HWBI

The HWBI was derived from the indicator scores and calculated as the population-weighted average of the standardized metric values. Indicator scores were averaged for each domain score. Finally, a scaled geometric mean was calculated across domain scores to produce the final the HWBI. The calculation process provided a means for examining well-being and its constituents at multiple spatial scales. For example, the mean decadal HWBI for the nation was 52.8 ± 0.1 . At finer spatial scales, the New England region scored highest among the GSS regions and the West South Central region scored lowest in the decadal HWBI assessments. Similarly, New Hampshire had the highest decadal score (55.8 ± 1.0) for a state and Louisiana the lowest (49.9 ± 0.4) (Figure 2). Higher HWBI scores indicate greater levels of well-being.



Figure 2. Mean decadal Human Well-Being Index (HWBI) for each state across the U.S.

At the finest spatial scale, choropleth maps (**Figure 3**) show the mean decadal domain scores for all counties across the United States. This disassembled view of domain values shows observable patterns in the components that contribute to overall well-being. For example, the pattern for the domain of Leisure Time seems inversely related to Living Standards while Education may be linked to Health. Even though there is no specific indication of causality or directionality, the ability to make these types of observations may provide an initial point for identifying well-being related decision priorities.

HWBI data for metrics at spatial scales smaller than county were generally not available. To account for this limitation, an approach was developed to include the option of using relative

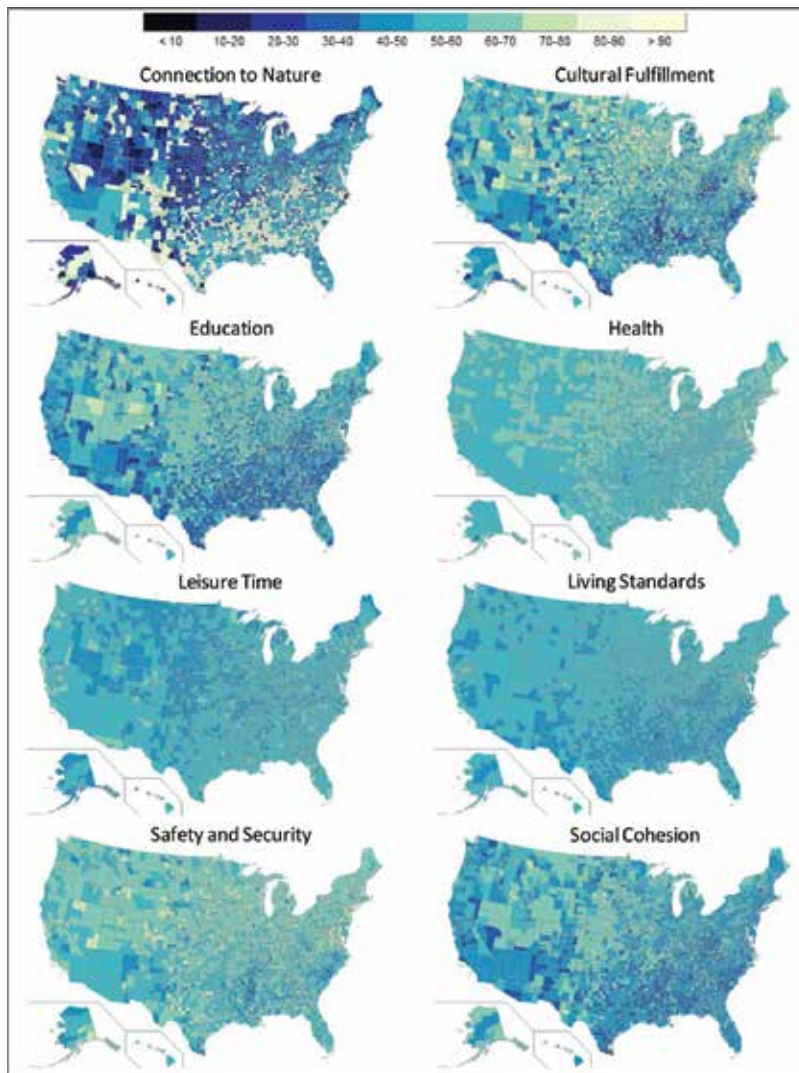


Figure 3. Spatial distribution of decadal county-level domain scores.

importance values (RIVs) derived following methods described in Smith et al. [35]. RIVs are externally supplied weighting factors that represent a set of priorities associated with local values structures that may be applied to the domain and element components prior to the final calculation of the HWBI to better represent a locality. An example application of the priority-based well-being index has been demonstrated for the Tampa Bay metropolitan area [36].

2.2. Uncertainty and sensitivity

Uncertainty analyses determined the estimated errors associated with the HWBI scores. For each spatial and temporal scale, the standard error for each indicator was calculated from the standardized metric values. Additionally, estimated errors introduced by the imputation process were propagated to the indicator level and added to the standard error estimate. The total indicator error was set to the maximum value of 0.5 or 100% error when either the standard error or the imputation error could not be estimated, or where the total error exceeded 0.5. The indicator error estimates were propagated through the index calculation to estimate the uncertainty associated with domain, element and final index values (Table 4). As would be expected, the mean reported error was much greater for indices calculated at the lowest spatial unit (i.e., county-level). The HWBI calculations for counties relied on large numbers of imputed values because fewer measurement data were available.

Sensitivity analyses were conducted to identify index measures susceptible to bias caused by unknown random or systematic error. Sensitivity to random error was tested for each metric using a one-at-a-time Monte Carlo simulation method by introducing zero-mean centered normally treatment. The analyses were run to examine the effects of spatial, temporal, or combined spatial-temporal missing value imputation methods. For random error effects, 7 of 83 metrics used in calculating the HWBI showed consistently higher bias relative to the group average ($Z > 1.65$, $P < 0.05$) (Table 5). The Connection to Nature and Cultural Fulfillment domains were most sensitive to both temporal and spatial methodological bias. The domain of Social Cohesion exhibited spatial bias sensitivity while the Health domain was, spatially and temporally, the most robust.

Time period	Scale	Average error	Standard deviation	Minimum	Maximum
Annual	National	0.40	0.03	0.33	0.43
	GSS Region	1.09	0.36	0.54	1.83
	State	2.34	1.31	0.98	8.10
	County	9.51	2.99	5.93	24.09
2000–2010	National	0.122	N/A	N/A	N/A
	GSS Region	0.33	0.11	0.19	0.51
	State	0.70	0.38	0.33	2.09
	County	2.64	0.90	1.83	6.93

Table 4. Summary statistics for estimates of uncertainty at the various spatial and temporal scales.

2.3. Index performance

The performance of the HWBI was evaluated by comparing HWBI results with established indices of similar scope to confirm the rationale and soundness of indicator choices and development approach. The existing indices chosen for comparison (Table 6) [11, 18, 37, 38] shared a common theme—a “measure” of the U.S. for two or more years within the 2000–2010 timeframe using a composite value derived from varying economic, social and environmental indicators (Figure 4).

Two of four comparisons of well-being measures focused solely on the U.S. ranking within a global context. For these indices, the U.S. generally scored higher than the HWBI for well-being. Conversely, the HWBI tracked closely with Gallup [23] and Social Science Research

Domain	Indicator	Metric
Connection to Nature	Biophilia	Spiritual Fulfillment
		Connection to Life
Cultural Fulfillment	Activity Participation	Performance Arts Attendance
		Rate of Congregational Adherence
Safety and Security	Actual Safety	Loss from Natural Hazards
	Perceived Safety	Community Safety
Social Cohesion	Attitude Toward Others and the Community	City Satisfaction

Table 5. List of domains and indicators affected by metric bias.

Source	Index name
Gallup-Healthways	Well-Being Index
Social Science Research Council	American Human Development Index
Sustainable Society Foundation	Sustainable Society Index
United Nations Development Program	Human Development Index

Table 6. List of independent national scale indices used to test the fidelity of the HWBI.

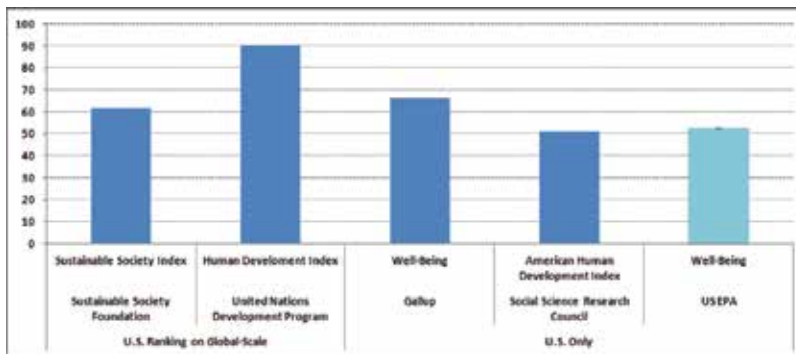


Figure 4. Average well-being type measures for four national indices and US EPA’s HWBI—based on reported 2000–2010 results. The calculated error for the HWBI is <1.

Council’s American Human Development Index (AHDI) [37], both indices which focused on the United States. HWBI calculations used both subjective and objective metrics, which did not extensively overlap with subjective measures used in Gallup or objective measures used in AHDI.

The HWBI performed most similarly to the Sustainable Society Foundation’s Sustainable Society Index (SSI) [33], the only other composite index calculated using a more holistic TRIO-like approach (Figure 5). The average environmental well-being measures were almost identical between the two indices. The Gallup index is comprised of six indicators that were available for this review. Mean indicator scores from Gallup (2008–2010) and mean domain scores from the HWBI (2000–2010) were compared. The relative scoring assigned to each of the HWBI and Gallup components are depicted as a tree map (Figure 6). This disassembling of the indices focuses on the similarities and differences among the index’s components that contribute to the respective well-being index.

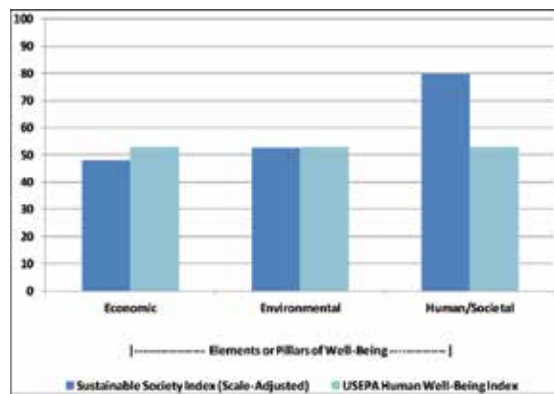


Figure 5. Total Resources Impact Outcome (TRIO)-like measures used in the Sustainable Society Index (SSI) and HWBI calculations.



Figure 6. The relative scores (scale 0–100) of Gallup Healthways Well-Being indicators and the HWBI domains.

2.4. Well-Being in the context of TRIO

The HWBI approach generates a measure that characterizes the general state of well-being contextually based on the economic, environmental, and social drivers. Data quantifying social, natural and built capital provisioning were collected and summarized describe the relationships among service flows to overall well-being [28]. To construct well-being as a TRIO measure, service indicators for the states with the highest and lowest HWBI scores were visualized along with the county-level well-being gradient for each of the two states (Figure 7).

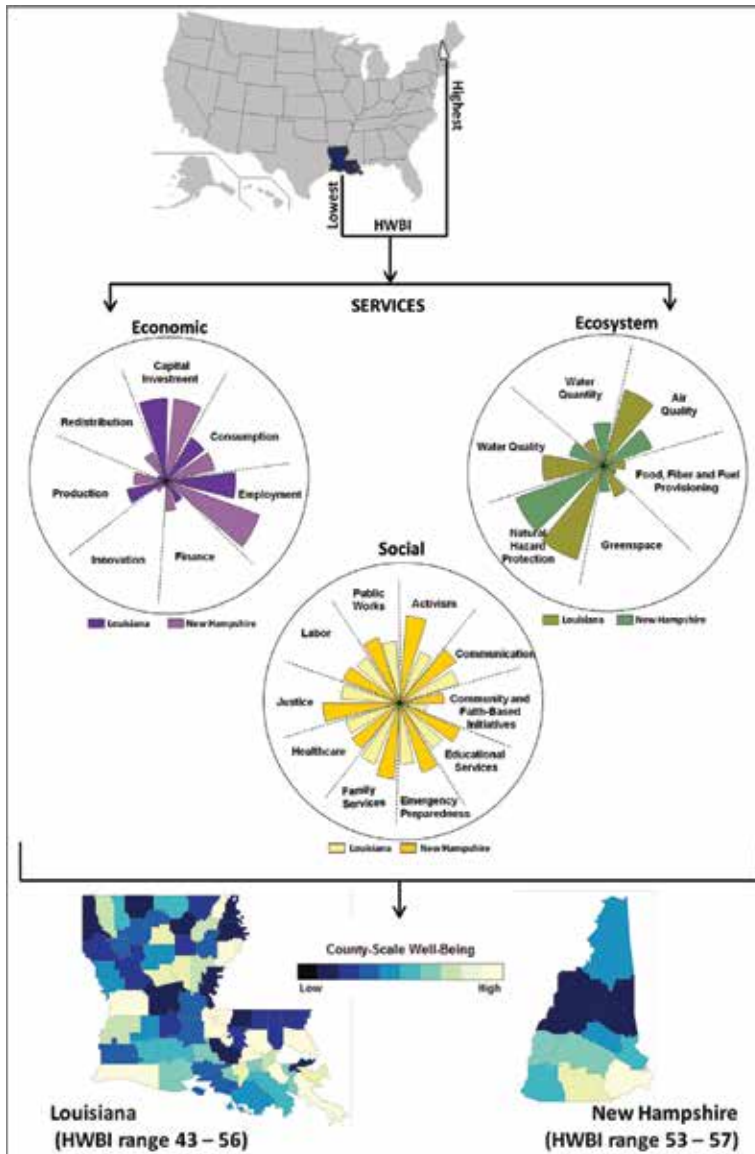


Figure 7. Hierarchical view showing the provisioning of state-level services and county HWBI gradients for states with the highest and the lowest HWBI.

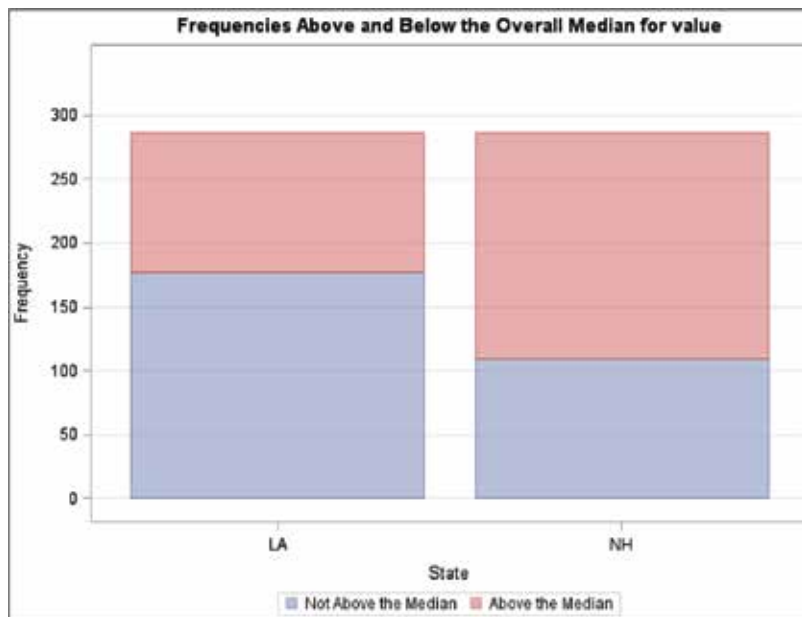


Figure 8. Median two-sample test showed a significant difference ($\chi^2(1, N = 253) = 20.6021, p < 0.0001$) for services provisioning between states with the lowest and highest HWBI.

Differences across annual HWBI values (2000–2010) for the states reported with the highest and lowest well-being were significant ($t = -14.96, p < 0.0001$) as were, the state-scale services provisioning values ($t = -2.43, p < 0.0015$). The overall difference in the number of service provisioning scores that fell either above or below the median value was significant between the states (Figure 8). Ongoing research will seek to develop service-to-domain relationship functions from which alternate HWBI outcomes may be forecasted based on changes in the provisioning of reported services and services interactions resulting from decisions.

3. Applications of HWBI to subsets of U.S. population

3.1. American Indian and Alaska Native (AIAN) Populations: Transferability of the HWBI framework

The transferability of the Human Well-being Index (HWBI) to a specific population group, inclusive of American Indian Alaska Native (AIAN) and large tribal populations, was evaluated based on the applicability and integrity of the HWBI framework and available population-specific metrics scaled to assess well-being [41]. HWBI values were calculated for the AIAN population and large tribal groups for the time period covering 2000–2010 following the identification of potential modifications needed to produce reasonably defensible well-being assessments. A review of data availability for AIAN HWBI assessments revealed that the majority (>80%) of the data available for a national AIAN assessment were specific to the target population, while the remaining data were derived from the general U.S. population. Despite the utilization of non-target data, The AIAN well-being signature was distinguishable from the U.S.

HWBI, despite the inclusion of non-target data, indicating that the HWBI approach is transferable. Although the HWBI framework, as designed, is intended to be used for a variety of spatial scales and demographic groups, the structural utilization is dependent upon the availability and quantity of quality data.

Evaluation of the transferability of the HWBI framework to AIAN population groups was based on the relevancy of domains used to describe well-being; the appropriateness of the metrics used to quantify and qualify the indicators; and the robustness of the metric data available. Alternative metrics were suggested to better capture aspects of Native American well-being where appropriate. As determined by the availability of data, metrics in the U.S. HWBI framework were categorized. Available data were used in an application of the existing HWBI for AIAN populations and large Tribal Groups for the time period covering 2000–2010.

Comparative analyses were performed to assess the integrity and relevancy of the HWBI construct for estimating the national well-being of the AIAN population. The domains, indicators and metrics underwent an additional review to ensure that the measures were relevant to the AIAN population and that the available data were adequate and comparable to U.S. values. Three primary criteria were used to review and accept metrics for inclusion: (1) metric was relevant to the AIAN population and data were available; (2) metric was relevant but no data were available; and (3) metric was not relevant to the AIAN population. Metrics were categorized based on results stemming from review of the related data (Table 7), and where appropriate, suggested alternative metrics were identified.

Approximately 65% of the HWBI metrics were classified as Category I, II and III with AIAN or AIAN-mixed population data available to assess measures at the annual scale (Table 7). Thirty-nine percent of the Category I metrics had tribal-specific identifiers. Decadal AIAN-mixed population data were available for 19% of the metrics in the HWBI framework (Category IV) [41]. With only 1 year of AIAN-mixed population data available for analysis or

Metric category	Category description	Number of metrics
I.	AIAN population data suitable for annual analysis	38
(TS)	Tribal-specific population data available (Cat I)	15
II.	AIAN population data suitable for decadal analysis and AIAN-mixed population data suitable for annual analysis	4
III.	AIAN-mixed population data suitable for annual analysis; AIAN population data unavailable or not suitable for analysis	9
IV.	AIAN-mixed population data suitable for decadal analysis with more than 1 year of data available; annual AIAN-mixed population data not suitable for analysis; AIAN population data unavailable or not suitable for analysis;	15
V.	AIAN-mixed population data suitable for decadal analysis with only 1 year of data available. Additional years may be supplemented with alternative data sources or measures	3
VI.	AIAN and AIAN-mixed population data unavailable for not suitable for analysis at any temporal scale	10

Table 7. Description of each of the six categories used to classify HWBI metrics based on available data for AIAN and AIAN-mixed populations.

insufficient data available for analysis, the remaining thirteen metrics were classified as Category V and Category VI. The distribution of categorized metrics across the HWBI domain indicators is represented in **Figure 9**. National AIAN and Tribal Group datasets were created by populating metric values from the most robust data available according to the metric categorization process and from existing U.S. HWBI metric data (**Figure 10**) [41].

Data gaps caused by temporal disparities across data sources were filled using a single imputation method carry-forward technique [42]. Imputed values were calculated based on existing data for the nearest year within a single population group. AIAN data were scored using the U.S. HWBI procedure [43], with minimum and maximum values being carried over from the HWBI dataset to allow for comparisons between HWBI and AIAN scores. The full suite of metrics and for those metrics (subset) for which AIAN specific data were available and U.S. general population data were not substituted were included in the calculation of HWBI scores for the U.S and AIAN populations. The AIAN and tribal-specific domain and HWBI scores were calculated according to the methods described for the U.S. HWBI [44]. Results from the U.S. domain and HWBI calculations were compared to results for AIAN populations.

Results from the analysis examining the differences between U.S. and AIAN HWBI and domains scores based only on metrics for which AIAN specific data were available are shown in **Figure 11**. The Connection to Nature Domain was not included in the analysis because no AIAN specific data were available. Both the Education and Social Cohesion domains scored

Domain	Indicator	Metrics									
Connection to Nature	Biophilia	VI	VI								
		IV	V*								
Cultural Fulfillment	Activity Participation	I	I	I							
		I	I	I	V						
		I	I	I	IV						
Education	Basic Educational Knowledge and Skills of Youth	I	I	I							
		I	I	I	V						
		I	I	I	IV						
		I	VI								
		III	III	III	III	III	III	III			
Health	Life Expectancy and Mortality	I	I	I	III						
		I	I	IV							
		I	I	I	I	I	I	I	I	I	I
		I	IV								
Leisure Time	Physical and Mental Health Conditions	I	IV								
		II									
		I	II	IV							
Living Standards	Working Age Adults	I	I								
		I	I	IV							
		I	I								
		IV	IV								
Safety and Security	Actual Safety	I	I	III	VI						
		V									
		VI									
Social Cohesion	Perceived Safety	II	IV	IV	VI	VI*					
		I	II	IV	IV	IV	VI				
		I	IV	IV							
		I	I	VI							
		I	V								

Figure 9. Distribution of metric categories within the HWBI framework for AIAN assessments. Category I metrics shaded lighter gray indicate tribal-specific data availability; *an alternative metric is suggested.

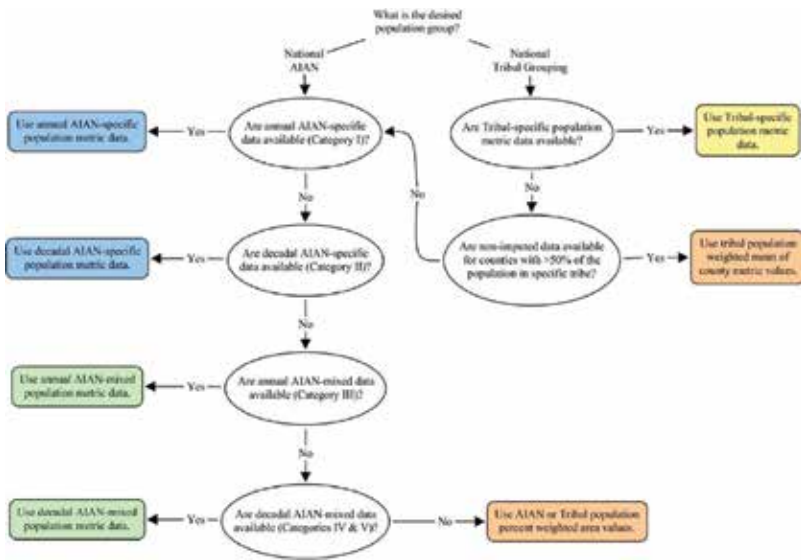


Figure 10. Process for selecting the most robust AIAN and Tribal Group data available for HWBI assessments.

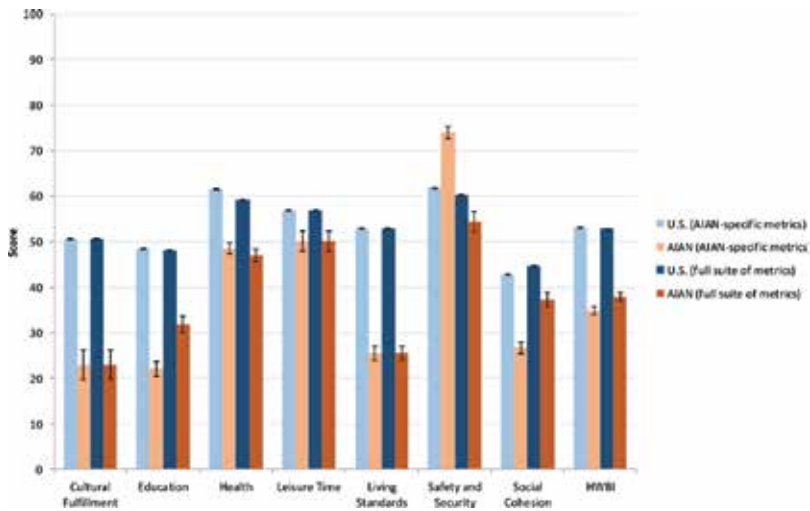


Figure 11. Comparison of U.S. and AIAN domain and HWBI scores based on full suite of framework metrics and those specific to AIAN populations only.

significantly lower for the AIAN populations when only AIAN specific metrics were used. The AIAN population overall HWBI score was also slightly, but significantly lower than the HWBI score calculated using U.S. general population data substitutions. However, Safety and Security domain scores based on AIAN specific data were significantly higher than all other calculations for this domain.

The number of metrics with tribal specific data for the 38 Tribal Groups was examined and the seven Tribal Groups with the greatest percentage of tribal-specific (TS) data (>40% of the metrics) were selected for HWBI score comparison. Included in the analysis were the following

Tribal Groups: Alaskan Athabaskan, Blackfeet, Chippewa, Eskimo, Menominee, Navajo and Sioux. Each of the seven Tribal groups was compared to the county HWBI scores for which the counties had greater than 50% of the population identified as tribal-specific.

The Tribal group HWBI scores were all significantly lower than their corresponding county-level HWBI scores, with the exception of the Eskimo Tribal group and Wade Hampton County, AK (**Figure 12**). For values with >50% TS populations, Tribal HWBI assessments differed from county HWBI values. Since the signature was unclear, the county level values could not be deemed as an appropriate replacement for tribal level values where the tribes represented the majority of the county population. Hence the need for more publicly available TS was reinforced. Similarities between the Eskimo Tribal group and Wade Hampton, AK HWBI scores are based on a large degree of imputed data at the county level; however, the characteristics of this county could be more similar to the Eskimo group since the largest population of Eskimos reside in Wade Hampton, AK. This distinction cannot be verified because of the lack of TS data [41].

The Cultural Fulfillment domain score was recalculated using a suggested alternative metric. The Performing Arts Attendance metric was replaced with the previously suggested measure, Ceremonial Attendance and a new Cultural Fulfillment domain score for the AIAN population was calculated. This resulted in a dramatic increase in the Cultural Fulfillment domain and Activity Participation indicator scores. When calculated using the existing metrics in the framework, scores for AIAN Cultural Fulfillment were low compared to the U.S.; however, when a more culturally specific metric (for the Activity Participation indicator) was substituted, the

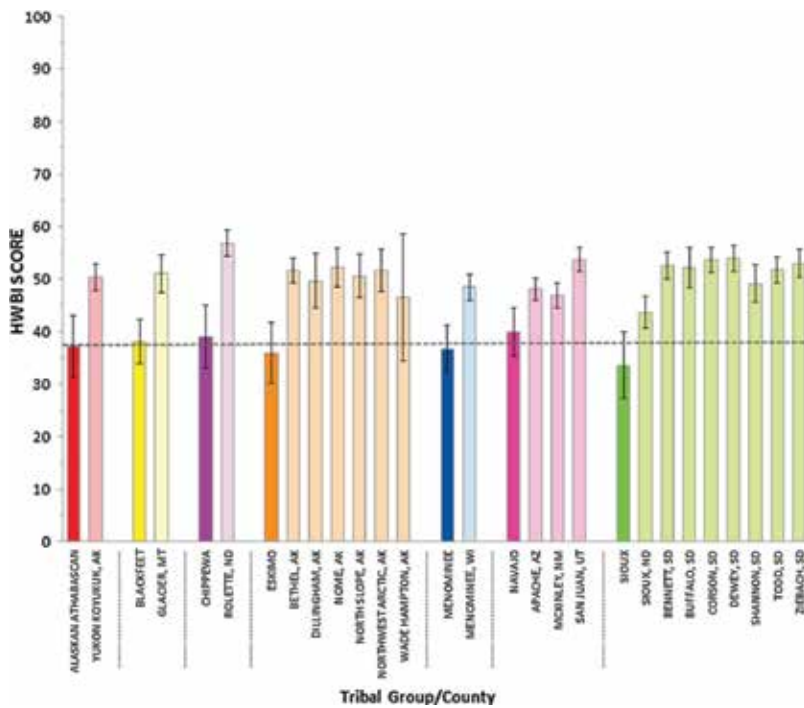


Figure 12. Comparison of HWBI scores for each of the Group C tribes compared to the scores for the counties with >50% of the population specific to the Tribal group (2000–2010). The AIAN HWBI is indicated by the dashed line.

AIAN domain score was much higher than national values [41]. This dramatic increase is the result of two factors. Only two metrics are used to describe the Cultural Fulfillment domain; therefore, this domain's scores are heavily influenced by changes in metrics. Secondly, both the original and alternative metrics in the Cultural Fulfillment domain had AIAN values that fell outside of the range of U.S. HWBI values.

The HWBI may be less sensitive at TS scales as a result of non-specific data substitutions based on the general lack of publically available data for some key areas, limited spatial and temporal resolution of available data available and inconsistent ethnic-specific identifiers in the data; however, the approach can be used to estimate well-being for Native Americans collectively with a reasonable level of confidence [41]. While the data substitution methodology utilized may be the most robust method for scaling the HWBI, the limited availability of comparable metrics at smaller spatial scales and for specific demographics may prove to be problematic [12].

The results presented are descriptive in nature and are intended to characterize representative populations for which data are available; therefore, the transferability of the HWBI approach is determined by the representativeness of the data itself [45]. HWBI data are both subjective and objective and mostly generated from probabilistic and complete surveys. The transferability of the HWBI approach was determined based on the reliability of the data rather than the target populations themselves. Demonstration of the transferability of the approach was demonstrated on data acceptance criteria and data specificity; however, the approach could be better demonstrated with a full suite of data specific to the target population. Metric level flexibility in the index structure could potentially accommodate transferability issues as determined by the end users [41].

3.2. Children's Well-Being

Well-being on a community scale is both an important and nuanced topic. In contrast to personal well-being, community assessment is very much a generalized amalgamation of various groups across space that represents the average of all individuals. While providing a workable approximation of the community, there will inevitably be populations within the community that are at the extremes. Similarly, there will be populations at greater risk of loss in the event of perturbations. Groups such as these, referred to as sensitive populations, are of significant value to a community if the attempt is to raise overall well-being. The old adage, "a chain is only as strong as its weakest link," describes well the importance of identifying these "weakest links" for the betterment of the community as a whole.

Among the populations generally regarded as sensitive; elderly, children, minorities, poor, etc., children are the most unique due to their dependence. By law, people under 18 years old do not have legal rights and are, in most cases, completely dependent on the decisions made by their parents. By itself, this dependence makes them a sensitive population, but this is increased further due to both their physical and emotional development during childhood. Impacts of trauma and exposures are potentially more extreme and long lasting in children [46–48]. Behaviors of their parents as well as exposures to views and sentiments within the community will drive the development of future behaviors. On the same token, environmental exposures will impact future health. In both aspects, the present well-being of the community is shaping the future well-being.

Both age and level of autonomy are initial considerations in children's well-being. When it comes to assessment of well-being distinct from the parental influence, there is, of course the question of how much influence the parents exert based on age of the child and the general status of the family. When community level measures are used, such as average household income, it becomes theoretically necessary to identify alternative measures that may capture the premise of income as a total community measure versus one specifically related to a dependent child. If the concept does not fit children in a similar fashion, alternatives must be developed. Confounding the theoretical shift from total community to children further is age-range. Younger children are far more reliant on their parents and likely to mimic views and attitudes conveyed to them through their parents [49]. Older children, beginning around age 11, will begin to push back against their parent's views and ultimately begin to establish their own views and identity as they approach independence.

In order to adapt the HWBI to children, it is necessary to identify the appropriate measures while maintaining the theoretical intent of the index. In other words, metrics in the adaptation should measure the same concept as the original. To accomplish this, a decision flow chart was created (**Figure 13**) to guide metric decisions. In the assessment of metrics for retention, the dependency of children on their parents creates a major theoretical hurdle. Since children are reliant on their parents for support across all well-being domains, it is easy to assume that measures of adult well-being will translate down to children. The problem with this assumption is that children are a unique group with unique vulnerabilities often not aligning with those of adults. These vulnerabilities are considered in the construction of this index adaptation within each domain of well-being.

The end result of the adaptation is a set of eight domains matching those of the original HWBI, three changes of indicator terminology, and the adjustment of 42 metrics to accommodate data availability and theoretical differences between an index meant to represent an entire population and one specific to children. While many of the metrics are altered, they are all able to

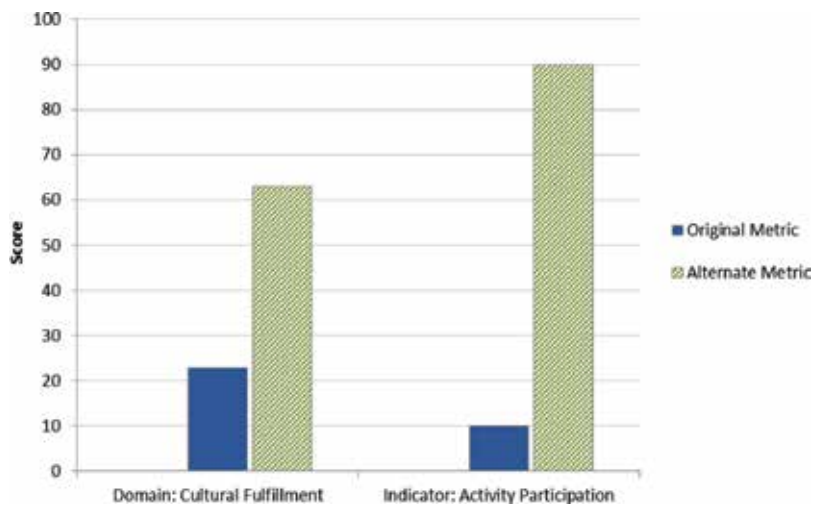


Figure 13. Comparison of the results of using an alternative metric for the activity participation indicator in the cultural fulfillment domain for AIAN populations.

maintain a structure and premise closely resembling the original HWBI [50]. All of these changes are made based on data availability and the extent to which the original metrics assess children or family specific characteristics.

The national domain scores, shown in **Figure 14**, highlight the disparity that exists between the domains in children’s well-being. There is an obvious discrepancy in scores, with Cultural Fulfillment and Connection to Nature falling well below the median of other domains. To be fair, these two domains also have the least number of measures contributing to their score, with a collective four metrics and two indicators between them, whereas no other domain has less than three indicators and seven metrics. This lack of data points to two likely scenarios, however. On one hand, there is a serious lack of data collected within these domains of well-being, which points to an area of necessary development in the future of well-being assessment if it is to be considered truly a holistic concept. On the other, even given data constraints, this index can be used as a comparative tool for assessing childhood well-being between counties and through time. As interest continues to increase, hopefully enhanced collection tools and techniques will aid in providing additional data in areas where they are currently lacking.

Spatial patterns in Children’s Well-Being are another important consideration in the development of an index. Looking at both overall scores (**Figure 15**) and domain scores (**Figure 16**), regional patterns are evident. The highest well-being values exist in the much of the upper Midwest and in the Southeast. The lowest scores are in parts of the deep South, the Southwest, and along areas of the East Coast. Domain scores also display a similar clustering pattern with much of the higher scoring counties in the Northern states. Again, worth noting, is that economics do not dominate this index. Evidence for this can be seen when comparing the Living Standards domain, where all of the economic metrics are held, to the overall CWBI. In the Northeast, the Living Standard domain is higher, whereas the overall CWBI for that same region is relatively low, likely driven by lower values in the Connection to Nature, Leisure Time, and Safety and Security domains (**Figure 17**).

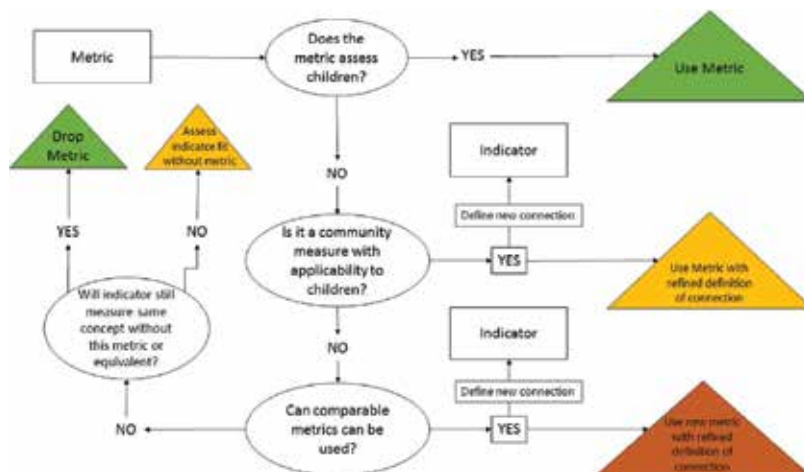


Figure 14. Decision flow chart for metric adaptation in children’s well-being index creation for the original HWBI. Start with metric in order to minimize changes at indicator or domain level. Move to right indicates metric retention, while move to left indicates dropping of metric.

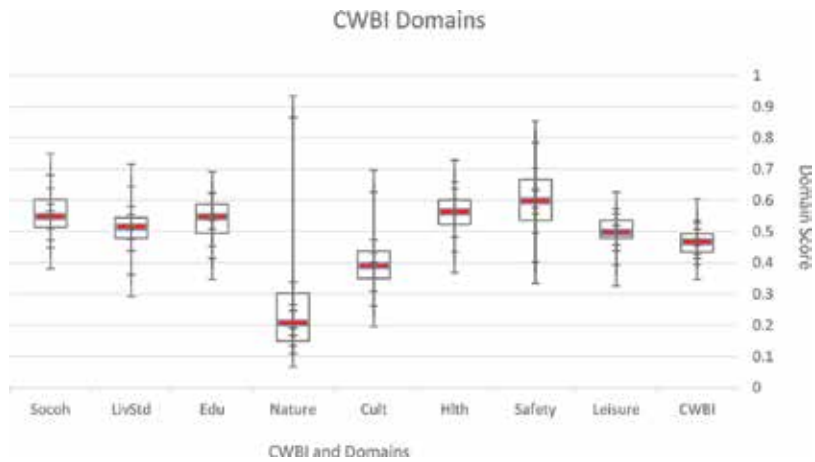


Figure 15. Children’s Well-Being Domains box plot. Center lines represent the median of each domain, while the boxes bound the 1 st and 3rd quartiles. Lines extend to the minimum and maximum values for each domain as well as the overall CWBI.

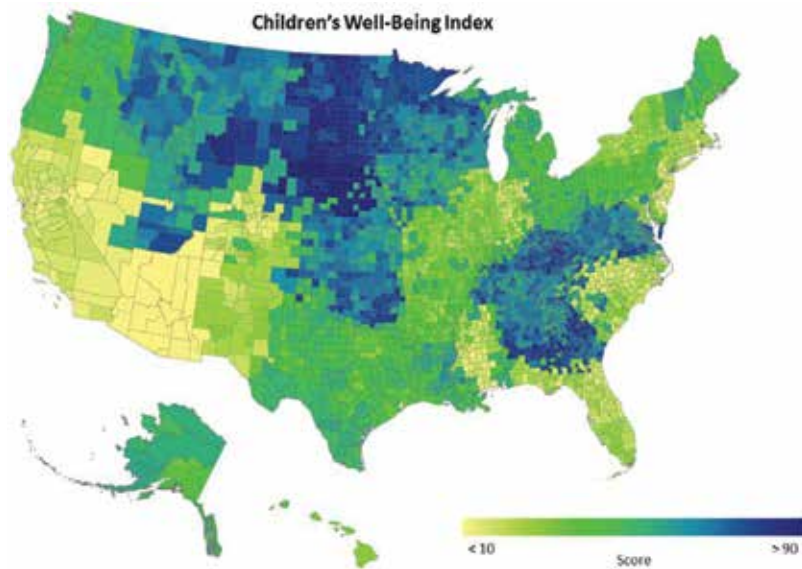


Figure 16. Children’s Well-Being Index scores for all US Counties in 2010.

While there are challenges and likely shortcomings in any adaptation of a well-being index, the task is still necessary as a means to identify how sensitive populations are faring in comparison to the general population. In the case of children, not only is this important for current assessments of a sensitive population, but it may also serve as a good predictor of future trends. Investing in children’s well-being is akin to investing in the future of a community and carries significant weight.

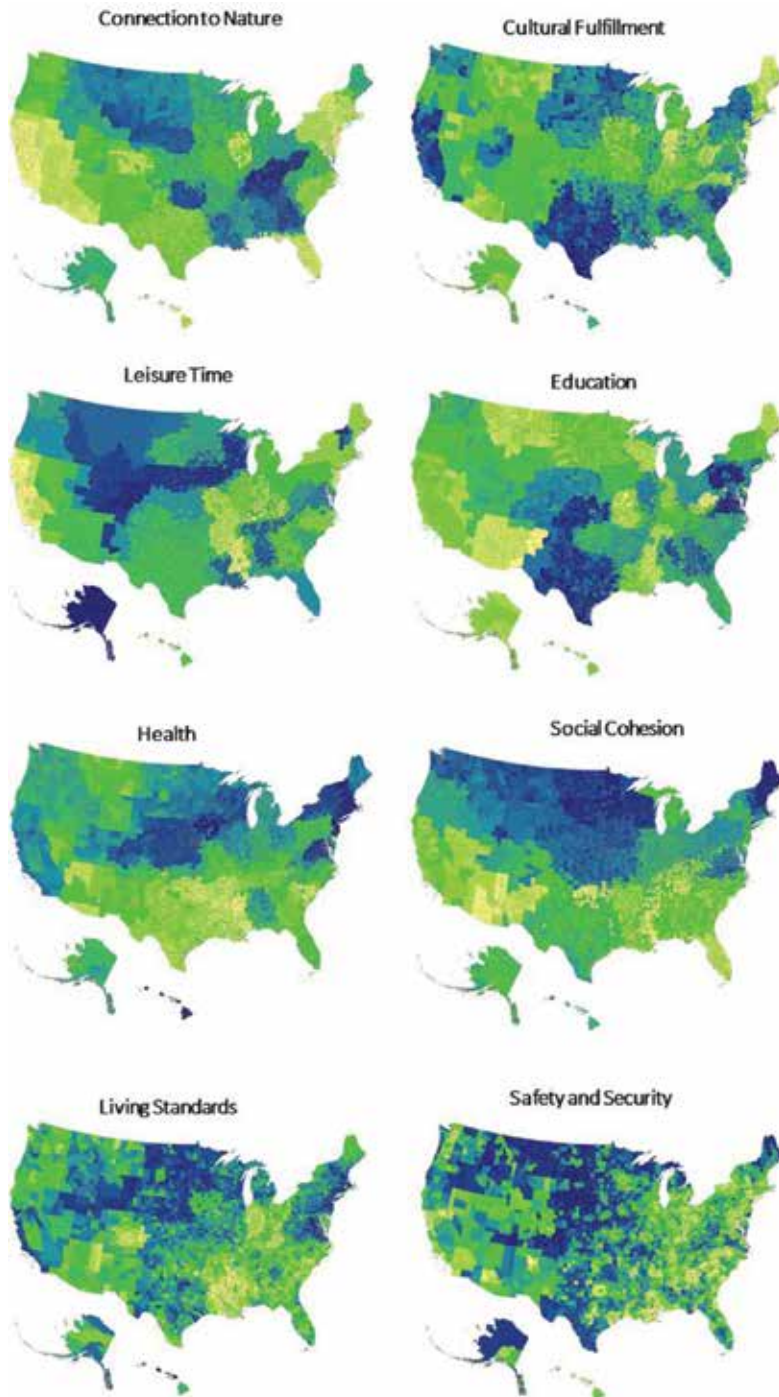


Figure 17. Eight domains of Children's Well-Being shown for all US Counties in 2010. Blue represents areas of higher well-being (darker = better) and yellow represents lower well-being (lighter = worse).

4. Community HWBI—A matter of scale

As discussed previously, the scale at which well-being is assessed makes a difference in its interpretation as an outcome measure. Individual measures of well-being, while the gold-standard, are not really useful from a policy standpoint. Just as the elements leading to well-being are distinct to the individual, so too are the community features that contribute to each person's perspective of their environment. Simply put, what makes one person happy may not make another happy. Because of the unique perspectives contributing to overall well-being, a community approximation is required to provide feedback to decision makers.

Assuming personal well-being is both unrealistic to measure and aggregate in a meaningful way for community leaders, the question then becomes how to attain data that represents needed metrics and scale to be translated into policy. This begs the question, what constitutes an ideal representation of community from a well-being perspective? The answer to this question is that it depends on the needs of the community and additional information will always be helpful. To make sense of this spatial question, it is helpful to look at human communities in a manner similar to natural communities in that none exist in isolation. The attributes of one community will be dependent on both the internal structure of the community in addition to the attributes of surrounding communities. This does not mean that a community's well-being will be high just because a neighboring community is doing well. With the highly fragmented social landscape of the US, the opposite is more likely to hold true.

In order to assess well-being at a variable scale, it is necessary to interpolate data using relationships both within and outside of defined community boundaries of interest. This allows for local patterns to be independent, yet reflect the trends occurring at the larger scales. The Model for External Reliance of Localities IN Regional Contexts (MERLIN-RC) accounts for both data lacking in smaller geographies as well as the challenge of aligning these geographies in a way that enhances specific analyses [50]. The model uses inductive statistical methods to assemble measures at multiple spatial scales and ascribe these estimated values to a smaller geography according to both same-scale and between-scale associations amongst the measures. These correlations, or deviations, between the measures ultimately become conversion factors that allow for scaling and interpolation. Distinct from other methods of imputation, no assumptions based on number of neighbors or distance are made using this model. The data produced by the model is created from a combination the deviation function and the existing data in the smaller geography.

The concept driving MERLINs development is that correlations between variables at a specific location and level of geography can be tested and applied to other scales for interpolations [51, 52]. The statistical model, based on the use of a principal components analysis (PCA), has proven to have stability at multiple scales and to be adaptable in instances where factor loadings are different at these multiple scales. [52–54]. Moreover, the relationship between variable sets at various scales can provide important details pertaining to local distributions of these characteristics. For the model to perform as intended, the smaller spatial units, or nested geographies, must exist completely within the larger spatial unit. **Figure 18** provides an

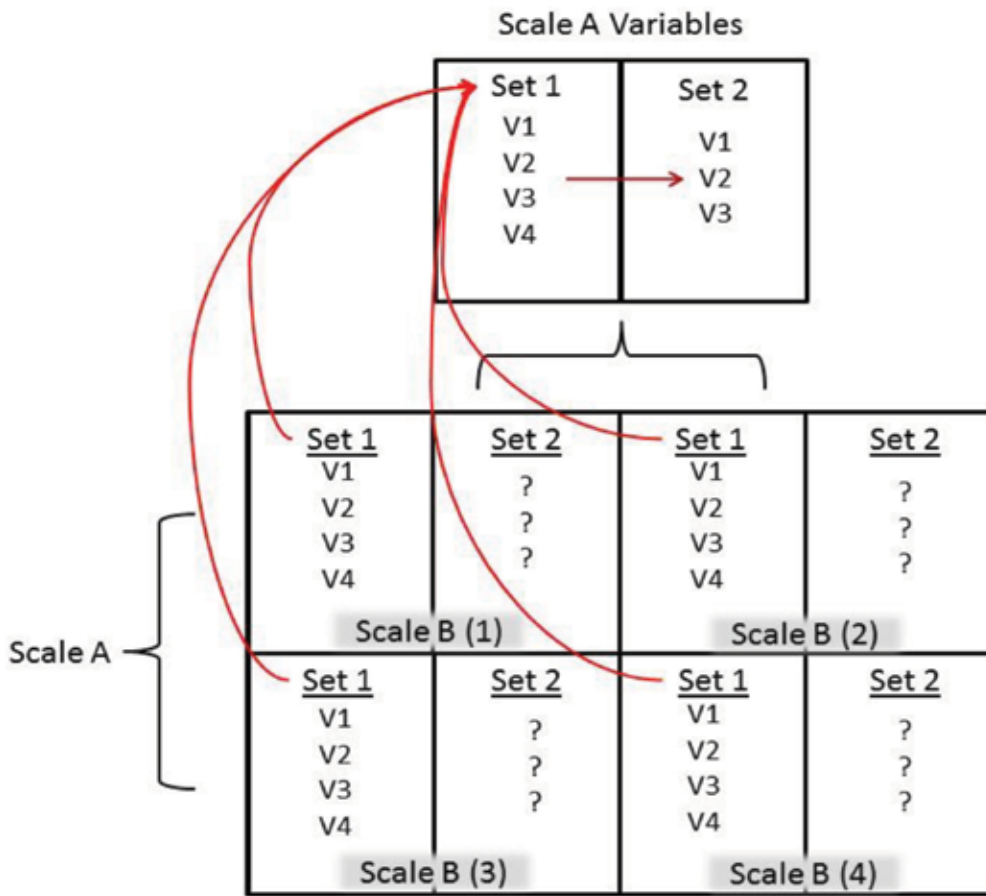


Figure 18. Diagram representing the methods for scaling variable sets at multiple levels of geography.

example of how the distribution of data would work between a larger geography (scale A) and a smaller, nested geography (scale B). The model will only work if census tracts falling exclusively within a county are used or block groups within a census tract, and so on.

In the context of well-being, MERLIN offers an alternative to kriging or other forms of spatial or temporal imputation. Instead of using only neighboring years or geographies to estimate community measures of well-being, the data are allowed to reflect directly the composition of the population and how this plays out on a larger scale. As mentioned previously, sharp divides in the social and economic landscape are normal and many spatial estimators do not fully represent this patchwork accurately. Dealing with the issue of scale is a critical step in shifting the research focus of well-being from a personal and purely subjective concept to something more widely recognized as a community-level concept. Making this shift will require a model that allows data gaps to be filled in a way that represents the composition of the community.

5. Community HWBI—utilities and tools

5.1. Community-specific HWBI

In many cases, indicator tools supply information related to a specific place. This spatial specificity often makes it necessary for stakeholders to supply data to make indicator results more relevant at spatial scales of interest (e.g. town, neighborhood, community). By their very nature, indicators and indices can be labor intensive to generate—the amount of effort needed to acquire and prepare data to quantify an index can present a barrier not easy to overcome. Therefore, it is important to offer potential users a way to easily introduce information that is locally relevant while maintaining the integrity of the index framework.

A desktop tool has been developed to accept locally-held data so stakeholders may investigate various aspects of the HWBI and calculate a “custom” index (**Figure 19**). Using Microsoft® Excel as the platform, users are offered a familiar interface in which to work and an intuitive form-based input feature to accept individual data values to quantify the HWBI metric foundation. Average 2000–2010 U.S. county-level HWBI indicators serve as baseline information. Users have the option to supply all or a portion of the metric data needed to re-calculate the index and related indicator and domain scores. Based on introduced data, the results represent either an integrated suite of HWBI measures or wholly new ones. Since the HWBI is designed to respond to changes in economic, ecosystem and social environments, an interactive dashboard is provided, populated with calculated index, domains and indicators based on new and existing data. Users can investigate how the indicators perform under increasing or decreasing scenarios applied to the availability or flow of select community service categories. The dashboard also allows users to prioritize importance of one or more of the HWBI domains to reflect community values. The HWBI data tool and companion dashboard is intended to help stakeholders increase their understanding about the relationships between social, economic, and environmental conditions and changes in those conditions that may influence well-being in their community.

5.2. Interoperability and reuse—“The Plug-N-Play” factor

To better assist communities and other stakeholders in addressing sustainability issues, it is necessary to create utilities that integrate data, structures and models to build holistic decision-platforms. However, most software applications and tools are created as unique, stand-alone products that are limited in scope and specific data requirements. As a result, many sustainability tools designed for public use go underutilized or unrecognized. The HWBI is designed specifically for use in the development of decision-support tools. Its framework can absorb the variety of adaptations or modifications that may be necessary to prove useful in a wide-range of applications. Casting the HWBI into an interoperable framework creates a highly flexible integration solution for using the index and component indicators in decision-support tool development.

The concept of interoperability is a software development paradigm that embraces the creation of self-contained software modules that communicate, execute program processes and transfer data among each other in a fashion requiring the user to have minimal knowledge of the

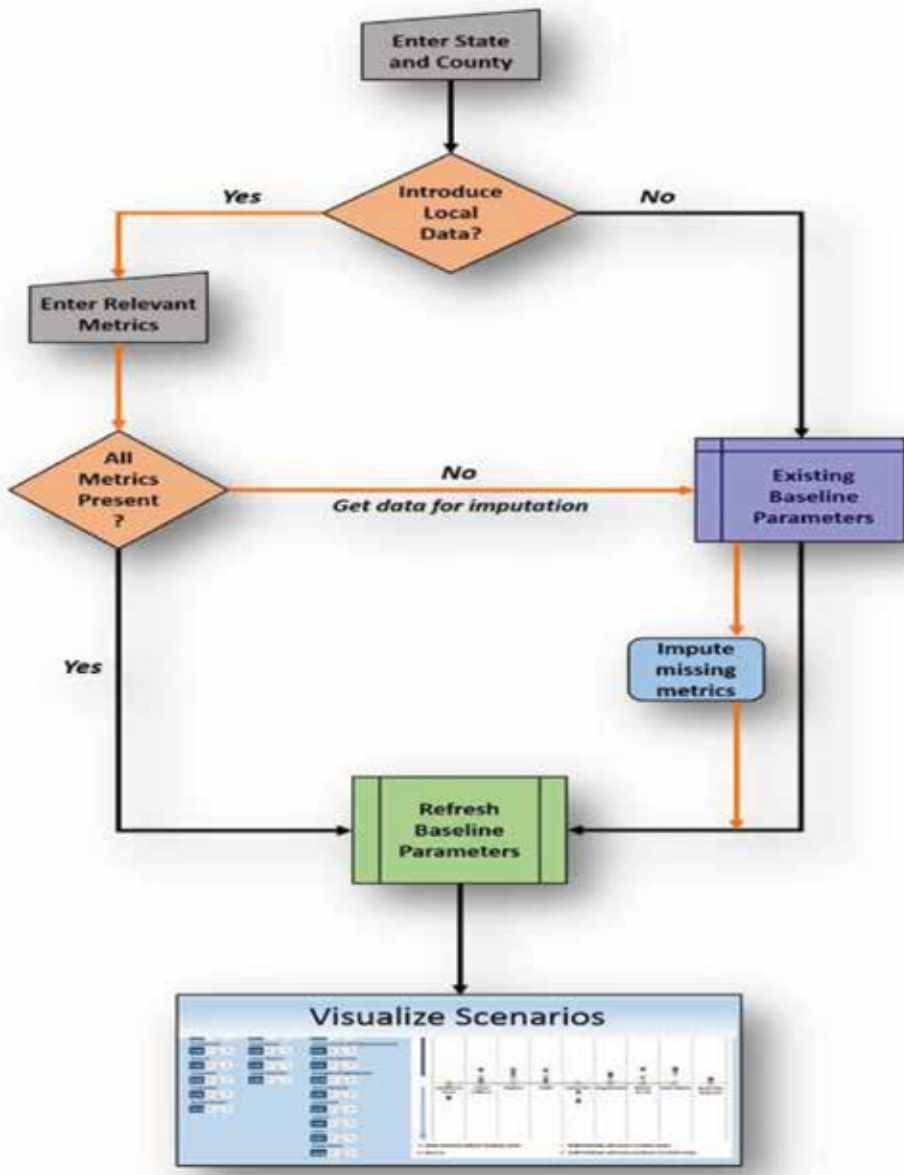


Figure 19. Decision pathway diagram governing the flow of information in the local-scale Human Well-Being Index (HWBI) calculation tool.

unique properties of each module [55]. Interoperability is an emerging set of software development best practices that leverages web technologies to promote access and transparency. Considering interoperability in the development of end-user tools adds value by creating a utility that is reusable in a variety of applications. However, the availability of flexible, modular, component-based software is largely lacking in environmental sciences, particularly in model development and data access. This gap inhibits wide-scale use of developed tools by decreasing information discovery, transparency and accessibility [56].

A reuse and interoperability demonstration project was created using the HWBI [56]. Representational State Transfer Application Programming Interface (REST API) standards provide the basis for developing on-demand information delivery tools. For the HWBI, two REST API endpoint services are available. The “locations” REST endpoint supplies base-line HWBI and related indicator result for each U.S. county. The “calculators” endpoint provides calculation information to accept user-supplied inputs for displaying HWBI scenarios. Both REST API endpoints return metadata information, as well as a complete list of input data and output values. **Figure 20** depicts the intended use of the HWBI REST API tools.

5.2.1. Demonstration tools

Envision is a GIS-based desktop tool that fosters integrated planning and environmental assessment [57]. The model uses spatially explicit environmental data and local policy rules to drive an agent-based simulation model [58]. The US EPA has demonstrated the utility of this model in place-based case study areas (Oregon, Puerto Rico, and Florida) [59, 60] to model the effects of changing land cover patterns on the provisioning of ecosystem goods and services. A more recent decision extended the model to include well-being as a different endpoint influenced by changes in land cover.

Since the Envision model framework encourages the creation of plug-in tools [61], a software plug-in was developed based on HWBI REST API inputs to replicate the services-to-well-being relationship function model described in Summers et al. [62]. This HWBI plug-in module

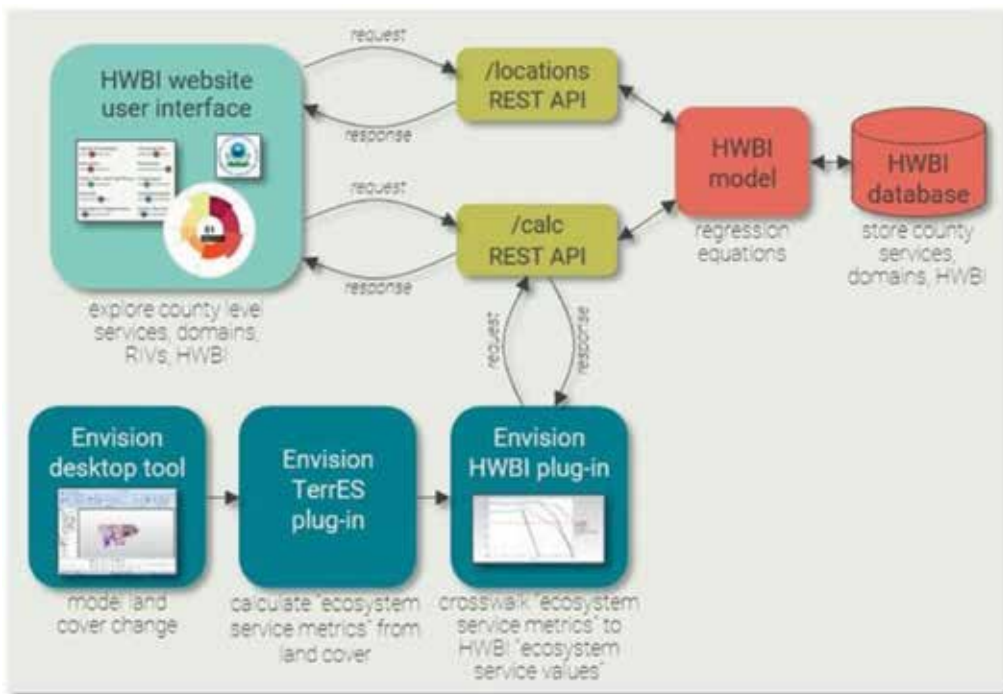


Figure 20. Overview depicting the operational framework showing the use of the HWBI REST API in web-based and desktop application development.

serves as the final endpoint in the Envision place-based demonstration. Driving the ENVI-SION model with REST API inputs extends model functionality and demonstrates the value of interoperability [63] (Figure 21). Creating HWBI REST API modules further supports the use of interoperable software design strategies and increases the utility of the HWBI as a tool.

A web application has also been created using the HWBI web services and relationship function model. This web presentation uses intuitive, interactive elements and data visualizations to encourage people to interact with the model by engaging in decision-based scenarios (Figure 22).



Figure 21. Simplified Envision desktop application flow diagram showing the relationship between climate and land use changes that influence human well-being through the provisioning of ecosystem services.

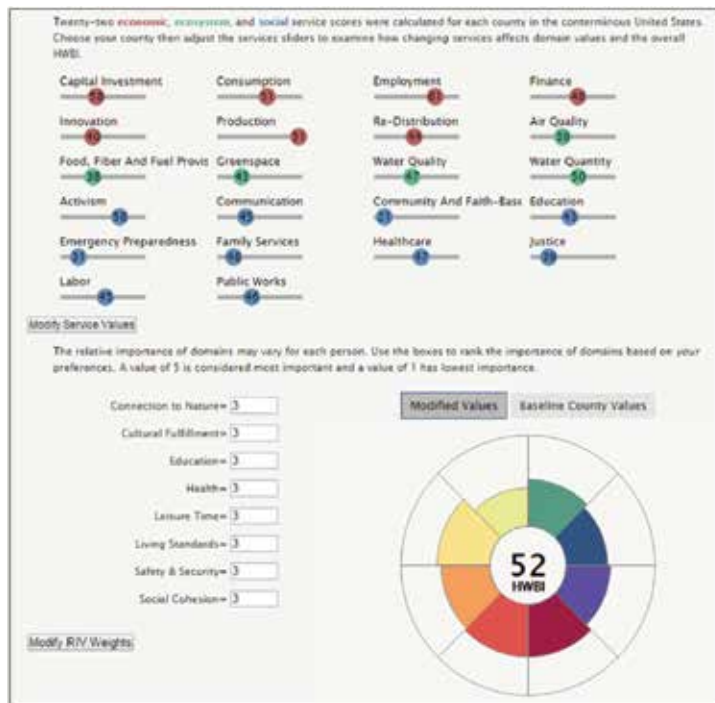


Figure 22. A snap-shot of the HWBI decision scenario demonstration application housed on EPA’s Quantitative Environmental Domain (QED). The QED brings EPA scientific models to the web to promote application development transparency and application consistency.

The application is designed to increase awareness and encourage use of interoperability software standards for tool development as well as offering a practical application of the HWBI.

An HWBI focused website houses the application (<http://qed.epa.gov>). As an HWBI information hub, it provides background information about the index, its development, and documentation related to the model and REST APIs to promote access and transparency. By utilizing responsive data visualizations, the website seeks to increase community engagement with the HWBI and its intended uses, introduce users to interoperability and reuse software design in context of real use cases and encourages users to explore ways the HWBI can be used to inform sustainability discussions.

6. Conclusions

The index presented here presents a measure of the influence of policies and services (environmental, economic and social) on aspects of overall human well-being [39]. These holistic interactions of social, economic and environmental drivers allow a better integration of the human condition and its relationship to service flows. This approach will allow decision makers to understand the potential impact of specific decision alternatives on the well-being of their constituencies. Coupling this type of decision scenario testing with social equity and intergenerational equity could permit the selected decisions to create more sustainable conditions for communities [40].

As stated in earlier publications, the main reason for the construction of the HWBI is to include explicit connections between human well-being and environmental drivers and services [9]. Earlier versions of well-being indices (e.g. [6, 10–27]) addressed only two of the three pillars of well-being well and either ignored the third pillar or inadequately addressed it [9]. The present HWBI described in this chapter includes important aspects of all three pillars of well-being in a balanced manner. Furthermore, the index is adjusted to the specific spatial level of the community (nation, state, county, community) based on information regarding the value structure of the community using representations of the relative importance of elements of the value structure [9].

Communities across the U.S. are examining the management of growth through sustainable development. The HWBI approach allows the U.S., states, counties and communities to assess the potential result of decisions on the long-term well-being of their constituencies. The HWBI allows decision makers to assess not only the direct impacts of their decisions (e.g., effects of economic decisions on jobs) but also to assess their indirect impacts (unintended consequences). Many earlier indices focused on the intersection of human well-being and environmental conditions rather than how they related. The HWBI represents an important advancement in this area by emphasizing the symbiotic relationships between nature, humans and economies. Rather than vilifying all human activity as being detrimental to the natural environment, the HWBI embraces that natural ecosystems provide goods and services that are essential for human well-being. Since people are the beneficiaries of sustainable solutions, it is essential that metrics reflect the dependence of humans on ecosystems.

Many problems exist in continuing to develop comparable measures of human well-being at multiple spatial scales. Primarily these obstacles include a lack of consistently available data, transparency of performance indicators and domains and cultural differences. In the construction of the HWBI, we have focused on an index that is based on indicators and domains that can be shown to clearly impact well-being. While the data necessary for the HWBI implementation are not always available at the smallest spatial scales, they can be collected and applied in a meaningful way at any scale in a meaningful way. Similarly, the value-based weighting factors (RIVs) can be collected at these smaller scales to represent a community and its demographic population structure (e.g., socio-economic groups, cultural entities). Additionally, in the construction of the HWBI, we have provided transparent information regarding the selection and performance of indicators [28–30] and the uncertainty levels associated with these values. With the exception of the connection to nature domain, some of the domains included in the HWBI and their associated indicators and metrics are those used in similar indices developed prior to the HWBI. The HWBI described here sets itself apart from other existing measures, in that: (1) it openly includes metrics associated with all three pillars of sustainability; (2) it provides clear measures of the uncertainty associated with the index; and (3) the approach is easily transferable to any spatial scale for which the appropriate information is available. Our development of the HWBI provides a significant step forward in a community's (or larger spatial entity's) ability to assess its well-being.

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Quality of Life, Well-Being and Social Policies in European Countries¹

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Abstract

European Public Policies have traditionally focused on material welfare conditions and indicators, but recent studies demand the inclusion of other subjective indicators. This work deals with the need to go beyond welfare to well-being and aims a critical review of the scientific literature on subjective well-being and quality of life in social policies, and of the indicators usually managed for its operationalization. A comparative study of different variables used by the OECD Better Life Index (BLI, 2014) has been carried out to analyze the relationship between social and economic indicators and the other indicators traditionally linked to life satisfaction and subjective perception of life satisfaction. As the main result, this research remarks the need to include social policies in analyses of well-being as a key element in people's satisfaction, recognizing the perception of subjective well-being and quality of life as a political and public issue.

Keywords: welfare, well-being, care, life satisfaction, social policies, family policies

1. Introduction

There is today considerable discussion on the indicators that best measure subjective well-being in relation to the public policies enacted. Most of the proposals are based on an economic point of view [14, 18, 24] and, so, social development has usually been measured by

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traditional indicators such as GDP, gross revenue, employment and unemployment, poverty, and social exclusion rates. However, in order to observe well-being and economic and social development, recent studies point to the relevance of including indicators related to personal satisfaction and social policies [2, 16] and, also, to the inclusion of subjective indicators to cater for aspects traditionally relegated to families' private lives, such as care or the perception of life satisfaction [4, 7, 9, 17]. Therefore, public policies implemented in each country would play an essential role in the quality of life of its citizens but, even though numerous indicators are being tried to measure people's quality of life and well-being, they usually do not include social policies and the need for care [3, 13].

While the traditional idea of material welfare would seem to be displaced by the concept of subjective well-being [11], sociology and economic science still operationalize well-being by means of indicators, such as employment, income, housing, health, and so on [13]. In the last decade, numerous studies have been published highlighting the importance of non-economic indicators for personal satisfaction, including those related to social policies that favor work and family compatibility [21], but we do not have sufficient data and empirical analysis in this respect. Only recently some studies have focused on indicators like personal satisfaction with one's job, the family, the neighborhood, the environment, and so on. As an example, we can point to the 2013 OECD Family Database, which measures family policies by means of a wide range of indicators (direct social spending on families, services to attend to dependents, parental leave, childcare, working hours, etc.). However, none of these definitions explicitly relate family policies with people's quality of life.

The difficulties in operationalizing well-being reveal that its definition is a complex task in itself. Griffin [8] links the definition of well-being to the way and degree of satisfying basic needs, whereas Zimmerman [27] states that well-being, in terms of quality of life, can be conceived in very different forms, depending on the country or region studied, and Sen [23] points that well-being should be interpreted considering how a person "functions in the broadest sense." Moreover, Böhnke [1] and Watson et al. [26] consider that the evaluation of quality of life should not be defined merely by means of economic and material criteria [24], but that the way in which social policies and institutions contribute to well-being also needs to be analyzed.

Cross-national studies comparing and analyzing variations in quality of life across different countries reveal that well-being is influenced not only by economic factors but also by other elements, such as social policies, health, or confidence [1, 6, 26]. In addition, the emerging research on subjective well-being shows that social and family policies implemented in different countries would help self-perception of happiness by means of work and family balance, minimization of conflicts between work and family life and, in consequence, increasing parents' satisfaction [13, 19, 22, 25]. Along this line, Wallace and Abbot [25] show the relation between the development of family policies and the well-being of parents regarding employment and family, as well as the variations between countries [13]. According to this perspective, well-being should be measured by means of subjective quality of life indicators referring to how individuals feel, how they perceive happiness, and so forth [5].

Based on the aforementioned research, the purpose of this work is to analyze the relationship between economic and social indicators and life satisfaction, in order to contribute to the ongoing discussion on subjective well-being, social policies, and economic development in the modern Welfare States in Europe. For this purpose, several indicators are analyzed in relation to people's satisfaction, in order to observe the influence of social and economic matters in well-being and quality of life in European countries.

2. Method

Interest in quality of life has increased in recent decades in Europe, as evidenced by the three European Quality of Life Surveys (2003; 2007; 2012) published by Eurofound and the well-being modules incorporated into the European Social Survey. This work analyzes indicators relative to family policies, well-being, and quality of life from the 2013 OECD family policy database and the well-being module in the 2010 European Social Survey. The indicators selected for this study have been validated and applied in previous research [13].

The data analysis carried out based on bivariate analyses has also been made of correlations to determine whether there is any type of association between the measure of well-being and other indicators traditionally linked to life satisfaction and subjective perception of happiness (including work and family balance). For this purpose, we have considered the indicators included in the OECD Better Life Index (BLI) for 2014. This index incorporates different dimensions of well-being: income and wealth, jobs and earnings, housing, health status, work and life, education and skills, social connections/community, civic engagement and governance, environmental quality, personal security/safety, and, finally, life satisfaction (subjective well-being). The countries used for the analysis are those for which comparable national data were available: Denmark, Sweden, the United Kingdom, France, Finland, Netherlands, Spain, Slovenia, Germany, Ireland, Portugal, Greece, and Belgium.

The analysis tries to illustrate the correlation between different aspects of well-being in various European countries. Although the statistical technique applied does not permit direct causality relationships to be established, it does at least allow the identification of descriptive patterns to highlight the possible associations existing between indicators of different dimensions of well-being measured through life satisfaction. This analysis can therefore serve as a reference or inspiration for future works of research on this subject.

To refer to quality of life and well-being, we selected the following indicators included in the OECD Better Life Index (BLI) for 2014:

- Income and wealth
 - Household net adjusted disposable income
 - Household net financial wealth
- Jobs and earnings
 - Employment rate

Long-term unemployment rate

Average gross annual earnings of full-time employees/personal earnings

Job/employment insecurity

- Housing

Number of rooms per person/rooms per person

Dwellings without basic facilities

Housing expenditure

- Health status

Life expectancy at birth

Self-reported health status

- Work and family life balance

Employees working very long hours

Time devoted to leisure and personal care

- Education and skills

Educational attainment

Students' cognitive skills

Expected years in education

- Social connections

Social network support

- Civic engagement and governance

Consultation on rule-making

Voter turnout

- Environmental quality

Air pollution

Satisfaction with water quality

- Personal security/safety

Homicides rates

Self-reported victimization/assault rate

- Life satisfaction

Subjective well-being

The source used is the OECD Better Life Index (BLI) for 2014. As it is described at the OECD website (www.oecd.org), the OECD Better Life Initiative, launched in 2011, focuses on the aspects of life that matter to people and that shape their quality of life. The Initiative comprises a set of regularly updated well-being indicators and an analysis, published in the *How's Life?*

Report and available in the *Better Life Index* interactive web application. It also includes several methodological and research projects to improve the information base toward a better understanding of well-being trends and their drivers.

3. Data analysis

Numerous reports have highlighted the fact that the current economic recession has accentuated inequality in Europe. This is due, among other reasons, to the effects of cutbacks in public social policies and the effects of unemployment [14, 15], but if we observe the case of different countries across Europe it is possible to appreciate a very diverse impact. Besides the characterization of the different welfare states, social theory has not been able to offer a holistic explanation about the diversity observed in the family policies across Europe [13]. An interdisciplinary perspective would help us to understand how social groups have collaborated, interacting with their natural, social, and cultural environment, to achieve greater or lesser confidence in public sphere. This interaction would have favored governments to promote different models of social policies and well-being [12].

To examine which variables are more connected to the OECD's measure of subjective well-being, we will first analyze the correlations between the life satisfaction score and the other indicators. For this purpose, we will consider the variables included in the OECD Better Life Index (BLI) for 2014. This index incorporates different dimensions of well-being: income and wealth, jobs and earnings, housing, health status, work and life, education and skills, social connections/community, civic engagement and governance, environmental quality, personal security/safety, and, finally, life satisfaction (subjective well-being). From the variables included in the model, we have selected those that showed a significant correlation with each other.

First, if we pay some attention to the complete list of dimensions of well-being and indicators that include the OECD Better Life Index (2014) (**Table 1**), the lack of variables measuring public policies' support to citizens (by means of social policies, public services, family policies, etc.) is remarkable. It is also important to remark the minority presence of indicators linked to family and social network supports (only one variable refers to this) and to care (care policies are not included in the list, and personal care is only present in the work and life balance dimension of well-being).

In addition, **Table 1** shows that most of the significant correlations refers to indicators linked to material conditions of life. This is the case of jobs and earnings, and income and wealth dimensions of well-being, where we can find variables with significant correlations with life satisfaction such as personal earnings ($R = 0.82119741$), long-term unemployment rate ($R = -0.813668032$), employment rate ($R = 0.785112796$), or household net adjusted disposable income ($R = 0.787300177$). We will focus on the analysis of these indicators, and also on social network support ($R = 0.789315912$) because these are the top five variables with more significant correlations with life satisfaction (subjective well-being) scores.

The combined analysis of personal earnings and subjective well-being (**Figure 1**) evidences that life satisfaction score is higher in countries with high personal earnings. The cases of

Variable 1		Variable 2 Life satisfaction (subjective well-being)	
		R	R ²
Income and wealth	Household net adjusted disposable income	0.787300177	0.619841569
	Household net financial wealth	0.586238933	0.343675805
Jobs and earnings	Employment rate	0.785112796	0.616402102
	Long-term unemployment rate	-0.813668032	0.662055667
	Average gross annual earnings of full-time employees	0.82119741	0.674365136
	Job/employment insecurity	-0.565872766	0.320211387
Housing	Number of rooms per person/rooms per person	0.742187265	0.550841337
	Dwellings without basic facilities	-0.069756495	0.004865369
	Housing expenditure	-0.099331557	0.009866758
Health status	Life expectancy at birth	-0.00977963	9.56412E-05
	Self-reported health status	0.391878808	0.153569
Work and life balance	Employees working very long hours	-0.466903475	0.217998855
	Time devoted to leisure and personal care	0.368469332	0.135769648
Education and skills	Educational attainment	0.615230547	0.378508626
	Students cognitive Skills	0.667809325	0.445969294
	Expected years in education	0.266057546	0.070786618
Social connections	Social network support	0.789315912	0.623019609
Civic engagement	Consultation on rule-making	0.089489741	0.008008414
	Voter turnout	0.724350929	0.524684269
Environmental quality	Air pollution	-0.421266448	0.17746542
	Satisfaction with water quality	0.757415786	0.573678673
Personal security/safety	Homicides rates	-0.01851255	0.000342715
	Self-reported victimization/assault rate	-0.093732063	0.0087857

Source: own elaboration from the OECD BLI (2014).

Table 1. Pearson correlation test (*R*) and determination test (*R*²). OECD BLI (2014).

Scandinavian countries (Sweden, Finland, Denmark) and the Netherlands are especially notable, with life satisfaction scores higher than expected according to the trend line. The same analysis can be applied to household net adjusted disposable income (**Figure 2**), an indicator that also gives higher results for life satisfaction than expected. Again, with personal earnings, Ireland would be a relative exception, with a higher level of personal earnings but with life satisfaction score lower than the expected trend. We can find a possible explanation for this attending to other indicators of the job and earnings dimension of well-being: employment and unemployment rates are worse for Ireland than for other countries with high personal earnings, and this can be analyzed as an unequal distribution of wealth, that may be linked to a lack of strong social policies and welfare state that we can find in the Scandinavian countries. Thereby, these data not only show that personal earnings are clearly considered in the OECD's measures of subjective well-being, but also remark that other social elements, such as public policies, should have a heavier presence to correct cases of unequal distribution of wealth.

Employment (**Figure 3**) and long-term unemployment (**Figure 4**) are other material indicators that have a very important weight in the measures of subjective well-being. So, again countries with high scores for life satisfaction are also countries with favorable employment and long-term unemployment rates. Denmark, Finland, and the Netherlands are fresh countries with higher scores for life satisfaction than expected according to the respective trend lines. On the other hand, Greece and Portugal are countries with lower life satisfaction scores, have unfavorable rates for employment and long-term unemployment, and also are under the respective expected trend line. Ireland and Spain are the exception cases, as they have better scores for subjective well-being than expected for their employment and long-term unemployment rates, but this could be explained by other factors, such as social and familial network support (as we analyze below).

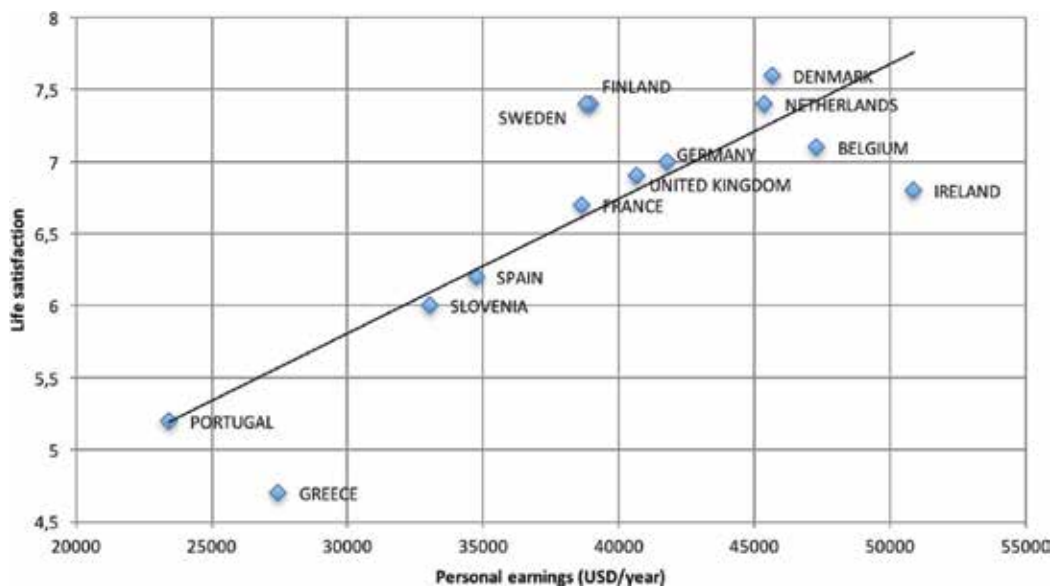


Figure 1. Life satisfaction (subjective well-being) score and personal earnings (USD/year). Source: Own elaboration from OECD BLI 2014.

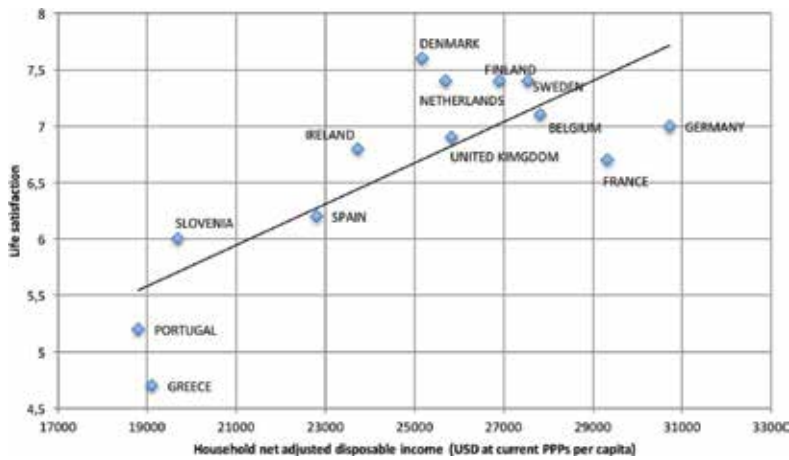


Figure 2. Life satisfaction (subjective well-being) score and household disposable income (USD at current PPPs per capita). Source: Own elaboration from OECD BLI 2014.

Social network support (**Figure 5**) also shows significant correlation with subjective well-being, but in this case, it cannot be considered as a neat material indicator. In relation to the Scandinavian countries, they present again for this variable life satisfaction scores over the expected trend, just in the same way that countries such as Greece and Portugal have low rates and scores. As we said before, it is remarkable that the cases of Ireland and Spain, with relative mid-high rates for social network support (similar, or even higher in the case of Ireland, Finland, to Sweden, and the Netherlands scores) that do not correspond with the expected life satisfaction rates, allow us to state this social indicator as a factor that probably would correct the previously mentioned mismatch between subjective well-being and general employment rates.

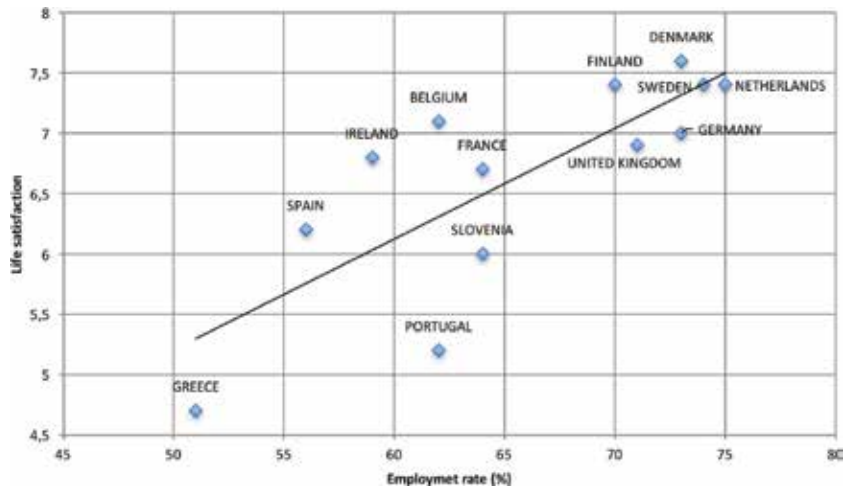


Figure 3. Life satisfaction (subjective well-being) score and employment rate (%). Source: Own elaboration from OECD BLI 2014.

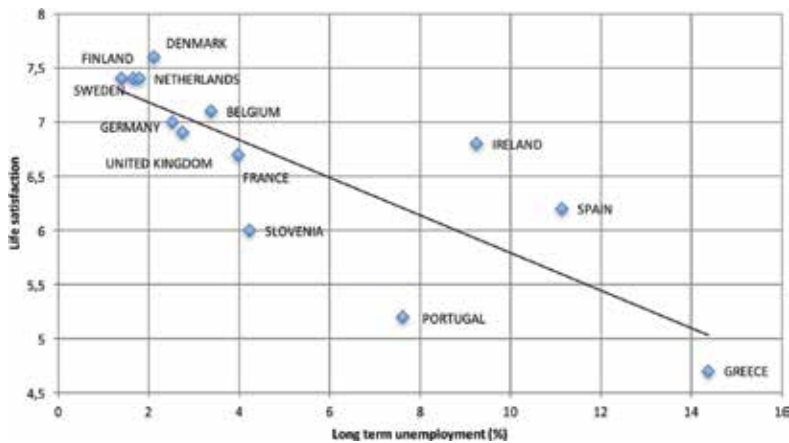


Figure 4. Life satisfaction (subjective well-being) score and long-term unemployment rate (%). Source: Own elaboration from OECD BLI 2014.

Social network support would be, therefore, the only social and non-material indicator with significant correlations when measuring subjective well-being. On the contrary, we should remark a lack of significant correlation between subjective well-being and the only OECD BLI variable that includes care components: time devoted to leisure and personal care (see **Figure 6**). This data reveals a possible secondary relevance of care attitudes and policies when measuring life satisfaction; especially in extreme examples such as Spain, a country despite having higher data (together with Denmark) presents, on the other hand, a relatively low score on subjective well-being, or on the contrary, Finland and the United Kingdom, with two of the lower scores on time devoted to leisure time and care, but with a life satisfaction punctuation higher than statistically expected. A possible explanation for the absence of such a correlation may be found considering that care and social policies still belong to private

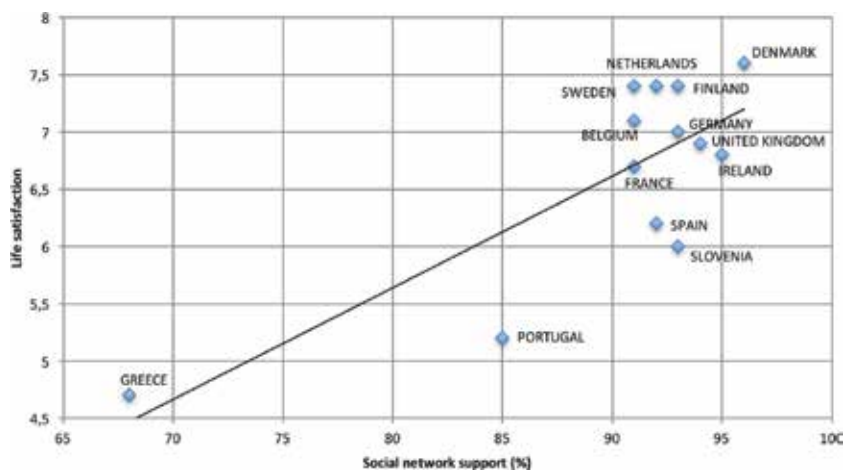


Figure 5. Life satisfaction (subjective well-being) score and social network support rate (%). Source: own elaboration from OECD BLI 2014.

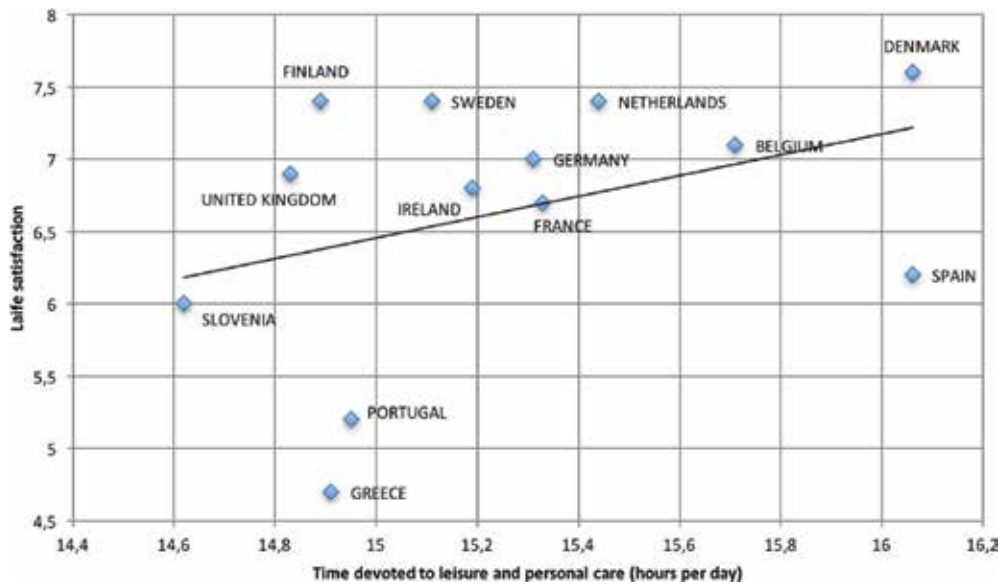


Figure 6. Life satisfaction (subjective well-being) score and time devoted to leisure and personal care (hours/day). Source: Own elaboration from OECD BLI 2014.

and family spheres, and they do not become visible as a factor of well-being despite its great importance to personal subjective well-being. So, northern European countries, historically with stronger welfare state policies, present higher correlation index than southern and Mediterranean countries, such as Spain, Greece, and Portugal, where these public services have been defamiliarized long ago.

The results lead us to support that studies and surveys on well-being should consider indicators not only related to economic situation but also personal satisfaction with life and the public policies developed. To improve the comprehension of quality of life and also to mobilize public resources and public action in favor of greater individual and familial well-being, it would be useful to introduce indicators that are able to measure the development of social services and social and family policies [13].

4. Conclusions

Following our data analysis, our proposals for future research of well-being would point to a critical review in the operationalization of several social indicators. We detect a need to go more deeply into the operationalization of social indicators, as a more subtle and exact form of well-being in terms of welfare, so further research would need to go beyond traditional economic variables in order to observe self-perception of well-being. A methodological alternative would be to combine the results obtained by regular macro-surveys with more comprehensive studies, from a qualitative viewpoint [10, 20, 21], in order to

incorporate information which would lead to a more comprehensive understanding of subjective well-being.

In this respect, we must insist on the relevance of a more detailed analysis of the relationship between life satisfaction geared to services and individual well-being, to determine whether states which promote service-oriented public spending achieve greater levels of individual well-being. Results point to the challenge of explaining the relationship between life satisfaction and well-being in different European countries. We can state that the observed differences need to be explained according to the role played by social policies in every cultural context. This would have helped the regulatory change in some countries regarding the development of social policies, in benefit of the entire community by means of greater long-term welfare of citizens [13].

The limitations of this analysis are obvious, since well-being theory has had little development and applicability in social and political studies. However, the contributions presented in this work show the need to move forward in the uses of well-being perspective in social and political studies, by including social indicators in analyses of well-being, as a key element in people's satisfaction. This study points to a possible association between the development of public care policies and citizens' satisfaction, because in northern European countries there is great development of social policies. This could be interpreted as the development of social policies in these countries because of the need for care associated to the new family lifestyles. The new theoretical insight suggests that the advances made in European citizens' quality of life and well-being are the result of development of social policies as a means of optimizing the management and political organization of welfare. Therefore, the strength of the social approach through well-being perspective can help us to understand how social policies will vary in different economic and social contexts.

In short, from the data and information provided and analyzed earlier, we can state that the OECD measures for well-being clearly privilege material conditions of life, traditionally linked to welfare, rather than subjective conditions for happiness, life satisfaction, and subjective well-being. Also, neither public services nor political support (by means of social policies) are considered for the evaluation of life satisfaction. This clearly indicates that well-being operationalization barely considers political support and subjective conditions. In order to test this affirmation, future research should include the analysis of correlations between OECD subjective well-being and data for indicators measuring the influence of public policies and services on inhabitants' quality of life. The results obtained in this analysis emphasize the relevance of social factors, such as labor, family, and social relations compatibility, to explain personal satisfaction and subjective well-being, as well as its variability among the different European countries, beyond the most usual economic factors. This finding is of great relevance for the design of social and economic policies in different welfare states. In short, these results allow us to conclude that the progress and development of a country depends not only on the evolution of the macroeconomic indicators but also on the social policies developed by different States and their impact on the personal satisfaction and well-being of the citizens.

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Cultural Well-Being and GDP Per Capita in Italy: Empirical Evidence

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Additional information is available at the end of the chapter

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Abstract

Social and cultural participation has always been a means to promote high economic growth and the development of the individual in a given society. Public and private institutions often try to make available efforts and resources to promote the usability of free time and social participation. This paper uses data from the multipurpose survey on Italian households, conducted by the Italian Institute of Statistics, and it analyses the relationship between cultural capability and the income and economic means of Italian households through the construction of a composite indicator of cultural well-being. The analysis of the individual indicators of education and cultural participation makes it possible to study issues related to the development of social capital in the northern and southern areas, thus highlighting the gap and enabling the decision-maker to apply possible corrections.

Keywords: cultural participation, well-being, GDP, additive model, composite indicator

1. Introduction

The concept of human well-being has been changing over time and space. It changes over time, because what defined it in past times is different from what guaranteed well-being a few decades ago, or what guarantees it today. The society of mass phenomena, consumer goods, and fashions has made it more complex to evaluate what ensures well-being: there are no longer only basic needs neither a certain degree of personal satisfaction to be achieved because, in advanced countries, the same needs are created by rapid economic and social dynamics.

The idea of well-being also changes through space: certainly, there are communities that are happy to just satisfy basic needs, and which do not suffer consumerist influences; others,

instead, have to manage a complex set of relationships between health, needs, and what is necessary for their fulfillment.

For many years, quantifying and measuring the level of well-being of a society has been the object of research for many researchers, economists, international organizations, and institutions. Many conceptualizations of well-being have been provided over the years. The first conceptualizations were utilitarian and reduced well-being to a hedonistic dimension and to subsequently scalar-valued utility. Subsequently, it has become more common, and perhaps necessary, to consider well-being as a multidimensional concept. In this regard, McGillivray identifies some of the multidimensional conceptualizations of well-being [1], such as the capabilities approach by Sen [2], the basic human values approach [3], the intermediate needs approach [4, 5], the universal psychological needs approach [6], the axiological categories approach [7], the universal human values approach [8], the domains of subjective well-being approach [9], the dimensions of well-being approach [10], and the central human capabilities approach [11].

Therefore, the term “well-being” is used to refer to all those areas (or dimensions, indeed) taken into consideration for an assessment of one's life. Seligman adds a positive sense, defining well-being as a positive assessment of an individual's life, which includes positive emotions, engagement, satisfaction, and meaning [12].

For decades, the idea has been accepted that this kind of research was useful when it referred to third world countries, later labeled “developing,” which did not enjoy high enough levels of income and consumption to guarantee a sufficient degree of well-being. It was believed that the Western countries, given the well-established high standard of living and the ability to access a wide range of services in all areas of life (health, education, social security, etc.), did not need such studies. For this reason, the attention of scholars and economists has often been given to the measurement of strictly economic variables, such as production, consumption, and per capita income. In this way, the increase of wealth and social progress was closely linked to the growth of GDP per capita [13].

However, the political and economic events that have occurred since the early 1970s and 1980s have questioned this paradigm, highlighting an increase of inequalities even in high-income countries, both in access to resources and to services [14].

The relationship between the individual's well-being and economic well-being, while being in part undeniable, is therefore not so solid; the interpretation proposed in the literature by Amartya Sen shows that well-being depends on many other factors [2, 15–20]. The attempts to identify and quantify these factors, developed over the years, are an integral part of welfare economics and statistics, but they are now also very important for the initiatives of national and international institutions, which have the primary goal to provide guidelines and directions for policy interventions [21]. It is possible to make a distinction based on the origin of the different measures; the first category is based on the idea that access to certain goods or services constitutes a prerequisite of well-being, and this access is quantified through the use of “Social indicators of objective variables.” A second type of measure directly regards the psychological states of individuals, through the results obtained from investigations on the subjective well-being, and from research on the dynamics concerning emotional experiences; these measures are called “Subjective Indicators of Well-being.”

Not only is the multidimensionality of well-being taken for granted (multidimensionality is now widely accepted in the literature: for example, see Ref. [22–25]), but also primary importance is attached to dimensions closely related to the participation of citizens in activities that allow the growth of the person and of human relations. Therefore, a concept of “cultural well-being” arises, which is seen as a means of fostering high economic growth and the development of the individual in a given society [26].

The growth of an individual's cultural well-being is therefore based on two different areas that contribute to its formation; on the one hand, education, because everything that a society has made for itself is made available through education to its future members [27]. On the other hand, the factors of cultural participation constitute the specific and personal resources used to meet a more general need called “cultural appreciation,” together of course with some degree of personal taste [26]. Several studies have shown that participation rates to events of cultural nature can be associated with urban residence [28], income [29, 30], and pressures stemming from membership in a particular social group [28] and age [31].

The measurement of cultural well-being is therefore essential to define one of the components of well-being that affects the material and social aspects of a person. Following the path traced by Dasgupta [32] in wanting to quantify well-being using indicators [33], one has to remember that in processes of aggregation it is possible to use different types of indicators and variables. In this case, we prefer to provide a measurement of cultural well-being at the regional level, which is a sufficiently uniform level to ensure consistent conclusions in order to understand and analyze how Italian citizens in different contexts have reached different levels of education and use their leisure time by investing resources in cultural activities.

To achieve the aim, we will build an indicator of cultural well-being, assuming that a higher level of education and greater participation in educational and cultural activities result in a better quality of life. It will be interesting to see whether an active participation in sociocultural activities and lifelong learning can be related with the strictly economic aspects of life through the use of the variable of disposable income per capita. An examination of this kind assumes considerable importance because, as noted, the reference economic measures used as standards for measuring the quality of life, do not take into account the activities covered by this analysis.

2. Materials and methods

The analysis of the literature offers several solutions to derive a priori what should be the most appropriate variables to be included in an indicator. The choice, of course, is conditioned both by the availability of data and by the purposes of the indicator itself [34–40]. The choice of variables depends on several considerations, although there seem to be no strict and validated criteria prevailing. However, we may highlight some common practices. The availability of the data constitutes one of the most difficult problems to solve; in fact, it conditions the choice of variables to be included, and so, ultimately, the very composition of the indicator [41, 42].

To define the scope of investigation, we performed a preliminary analysis on the data availability and opted to build an index on a regional basis, using variables included in the multipurpose survey on Italian households, carried by the Italian Institute of Statistics (ISTAT).

With the aim of a subsequent aggregation of the variables, we chose to maintain the same weight to each indicator, reducing interference to a minimum, even if the choice to assign the same weight to all the variables implies an implicit judgment on the variables [43]. We also note that some authors [44, 45] identify the equal weighting of the variables as the preferred procedure adopted in most applications, failing to agree [46] on the adoption of alternative procedures [47, 48].

In order to proceed with the construction of the indicators, after identifying the reference area to select the variables and build the indexes, we proceeded according to the classic additive model, which represents the most used model in the literature. The classic methodology aims to realize an index [34, 36, 49, 50], consisting of the weighted [34] or non-weighted sum [36, 49, 50] of the previously selected partial indicators.

The indicators were obtained by adding the contributions of selected variables (**Table 1**). Due to the lack of homogeneity of the selected variables, in terms of units of measurement, it was considered necessary to carry out standardization. The variables with different scales, in fact, would have a different weight in the calculation of the total score compared to the other variables [51]. Therefore, for each observation, we calculated the z-scores for each of the variables under consideration, obtained by subtracting at each observation the value of the average of the regions and dividing the result by the standard deviation of the regions. The index of education consists of the non-weighted sum of three z-scores, and the one related to cultural participation, instead, uses six z-scores [36, 49, 50, 52].

The index of education is calculated as the non-weighted sum of Z_i : given:

$$Z_1 = \frac{x_1 - \mu x_1}{\sigma x_1} \quad Z_2 = \frac{x_2 - \mu x_2}{\sigma x_2} \quad Z_3 = \frac{x_3 - \mu x_3}{\sigma x_3} \quad (1)$$

and being x_i and σx_i ($i = 1, 2, 3$), the averages and standard deviations of the variables under consideration for the area are equal to:

$$\text{Education index: } \sum_1^3 Z_i \quad (2)$$

Similarly, the social participation index is calculated as the non-weighted sum of the remaining Z_i given:

$$Z_4 = \frac{x_4 - \mu x_4}{\sigma x_4} \quad Z_5 = \frac{x_5 - \mu x_5}{\sigma x_5} \quad Z_6 = \frac{x_6 - \mu x_6}{\sigma x_6} \quad Z_7 = \frac{x_7 - \mu x_7}{\sigma x_7} \quad Z_8 = \frac{x_8 - \mu x_8}{\sigma x_8} \quad Z_9 = \frac{x_9 - \mu x_9}{\sigma x_9} \quad (3)$$

and being μx_i and σx_i ($i = 4, 5, 6$), the averages and standard deviations of the variables under consideration for the area, the index is equal to:

$$\text{Cultural participation index: } \sum_4^9 Z_i \quad (4)$$

Positive values of the indexes indicate situations of cultural well-being while, on the contrary, negative index values identify deficit situations. Note that the indexes are the sum of addenda that can be positive or negative and, therefore, may compensate each other in some way.

A composite indicator is obtained through the standardized sum of the two indicators. It is called "Composite Index of Education and Cultural Participation (ICIC)" normalized to the minimum value, thus obtaining a value of 0 for the region in the last position.

$$\text{ICIC: } \sum_1^2 S_j \quad (5)$$

Thematic areas	Variables
Education	Percentage of population aged 25–64 who received education or training in the four weeks, preceding the interview (excluding self-learning activities)— Lifelong learning
	Ratio—for each region—of people aged 15–24 enrolled in a course of studies (levels 1–8 of ISCED 2011) to the population of the corresponding age group residing in the same region. The students include those enrolled in 3- and 4-year courses of vocational education and training (VET)— Participation in education and training system
	Percentage of people aged 30–34 that achieved any university degree— University Education
Cultural participation	People aged 6 and above who have attended classical concerts outside the home in the last 12 months— Classical music concerts
	People aged 6 and above who have visited museums and exhibitions outside the home in the last 12 months— Museums and exhibitions
	People aged 6 and above who have visited archaeological sites or monuments outside the home in the last 12 months— Archaeological sites and monuments
	People aged 6 and above who have attended theater performances outside the home in the last 12 months— Theater
	People aged 6 and above who have read at least one book in the last 12 months— Books
	People aged 6 or above who have read newspapers five times a week or more— Newspapers

¹In the variables that make up the indicator, we chose to exclude cinema and concerts—except for those of classical music—because they are considered mainly as leisure activities.

Table 1. The variables considered (ISTAT, 2013, Italian male and female population aged between 15 and 64)¹.

3. Results

In this section, using the set of indicators and the above methodology, we proceed to the analysis of the results obtained through a Composite Index of Education and Cultural Participation (ICIC) built ad hoc from the synthesis of the two thematic indicators of education and cultural participation.

The ICIC index has both positive and negative values indicating better education and participation, and vice versa. Therefore, in order to allow better reading, we show the rank value in a ranking that assigns 1 to the best region and 20 to worst (**Table 2**).

First, in order to evaluate the correct choice of the indicator, we proceeded to evaluate the relationship existing between the two thematic indicators. Then, we observed the link between the composite indicator and the GDP per capita.

The link between the indicators of education and cultural participation is measured by the Pearson coefficient of linear correlation—which is equal to 0.73636—indicating that the two variables express a direct relationship between them.

Rank	Regions	Index
1	Trentino-Alto Adige/Südtirol	6.07
2	Lazio	5.65
3	Friuli-Venezia Giulia	5.36
4	Emilia-Romagna	5.21
5	Lombardia	4.51
6	Umbria	4.51
7	Toscana	3.99
8	Liguria	3.83
9	Marche	3.8
10	Veneto	3.2
11	Piemonte	3.2
12	Abruzzo	3.08
13	Sardegna	2.6
14	Valle d'Aosta/Vallée d'Aoste	2.25
15	Molise	1.56
16	Basilicata	1.22
17	Puglia	0.74
18	Campania	0.27
19	Calabria	0.14
20	Sicilia	0

Table 2. Ranking of Italian regions according to scores of the composite ICIC indicator.

It appears useful at this point to compare the ICIC index with a variable that expresses the economic well-being. As a proxy, we chose the variable of GDP per capita. The data is provided by ISTAT, with reference to the year 2011 (see **Appendix Table 1**).

The existing relationship can be measured on the actual values of the variables by using the Pearson coefficient. This turns out to be 0.80473, indicating that cultural well-being is higher in regions where the GDP per capita is higher.

Figure 1 relates the rank of the two classifications, highlighting the situations of greater disparity between the two quantities analyzed.

We observe a difference between the position in the ranking of Valle D'Aosta as regards GDP per capita (2nd) and the level of the ICIC (14th), of Umbria, 12th and 6th, respectively, of Friuli-Venezia Giulia, 9th for GDP per capita and 3rd for the ICIC index, of Sicily, 17th for GDP per capita and last for the ICIC. The other regions have positions that deviate slightly from one variable to the other.

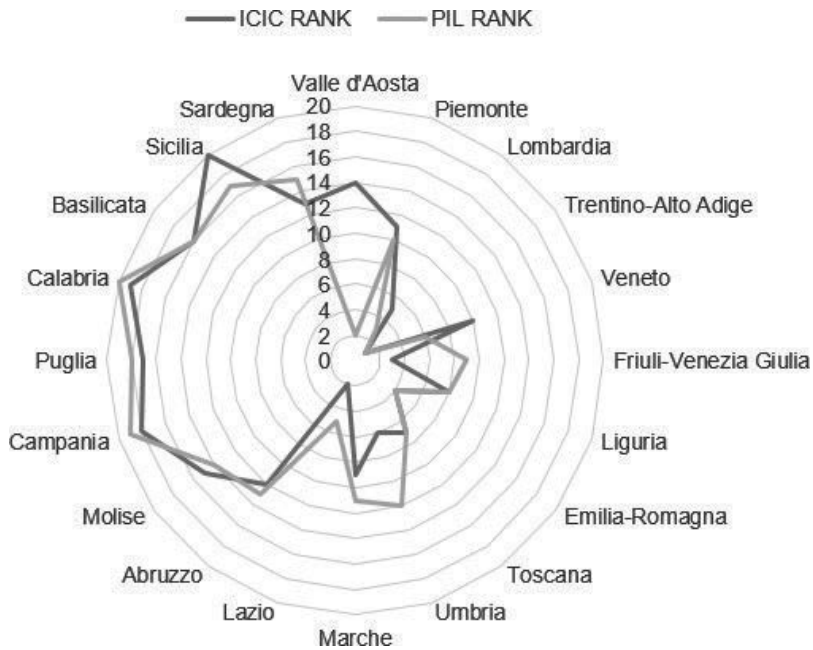


Figure 1. Comparison of the ranks between the ICIC and the GDP per capita of the Italian regions.

4. Discussion

First, it is helpful to look at some situations closely linked to the Italian context. Contrary to what is suggested by Checchi [53], the Italian regions have neither an enrolment rate nor a cultural participation rate homogeneous from north to south. The regions are not arranged randomly but, with the exception of the Valle d'Aosta/Vallée d'Aoste, all northern regions appear in the top positions above the average; on the contrary, most of the regions of Southern Italy appear in the last places with considerable differences between them and the northern regions. The strong presence of criminal organizations could partly explain this result, at least for Sicilia, Calabria, and Campania, located in the last three rankings [54, 55]. The geographical stratification is similar to that shown by the disposable income per capita, as confirmed by the calculation of the Pearson coefficient between the two values (0.80), which implies a very close relationship between education and cultural participation, and income. On closer analysis, separating the two thematic indicators and later correlating them with GDP per capita, it can be observed that cultural participation is the driving indicator, with a linear correlation coefficient of Bravis Pearson equal to 0.89, versus a thematic education index of 0.61. Both indicators appear to be influenced by the economic possibilities of the households. Costs, such as the price of a ticket, are elements that prevent participation in an event, just like education can be heavily influenced by economic aspects. In addition to these economic barriers, there are also some informational and social ones: certain activities (such as attendance to theater performances and classical

music concerts), used as variables in the indicator, are in fact traditionally linked to more affluent social classes. This interpretation also explains the good relationship recorded between educational and cultural participation indicators and GDP per capita, because people from the upper classes tend to continue more easily their studies for economic reasons [56, 57]. The relationship between the ICIC index and the GDP per capita implies a clear relationship between education, cultural participation, and available resources; one can easily observe that, in the richest regions, people have more resources to be allocated for this purpose, while in the poorest regions that possibility is more difficult to realize.

However, a rather important difference remains, which is not explained by income availability and that persists in the identification of cultural well-being, income per capita being equal. Although this conclusion confirms a concept related to cultural participation already found in the literature [28–30], it can be said that such relationship can also be applied to a more general idea of participation, which includes social participation and the use of free time and continuing education.

5. Conclusion

This research developed from the assumptions that basing the measurement of cultural well-being only on economic parameters can be misleading, and that the use of social indicators can be a way to overcome this obstacle; they also provide a useful tool for evaluating policies implemented by policy-makers.

In this light, the results have produced conflicting directions: on one hand, even if GDP per capita can be considered a reasonable approximation to the well-being, it is still not enough to give a complete and comprehensive description, making it necessary to expand the amount of essential information to complete the evaluation as much as possible. However, the good value of the Spearman's Rho coefficient leads to think that, all in all, GDP per capita gives an approximately similar result to the index of cultural well-being; on the other hand, it does not account for a number of essential elements related to cultural training, which can create more or less useful bases for an improvement in well-being.

The assumptions that form the basis for this research are that basing a measure of cultural well-being only on a few parameters can be misleading, and that using social indicators can be a way to overcome this obstacle. Indicators are a sensitive tool and each of them represents a number that can have greater or lesser significance depending on the importance that is given to them and on the knowledge available to interpret them. On the other hand, it is evident that in societies that are oriented towards performance, the indicators are valuable data. Furthermore, an indicator is the only means that we have at our disposal to give a numerical form to the efforts and results of economic and social policies, so it would be a mistake to deny their usefulness or underestimate their use.

It is necessary to point out that the quantitative exercise carried out is structurally based on the use of statistical data. The information provided by the data should not be considered an indisputable truth, nor the best description possible of the phenomenon; it should instead be taken for what it is, i.e., the representation of the phenomenon analyzed, extrapolated from

a set of proxies. This representation, however true and accurate, is still only a representation. What statistical data gathers is only a small portion of the truth, an approximation of it. A large amount of data can, therefore, guarantee a satisfactory approximation of reality, but it is not a substitute for it. This is particularly true when the intention is to provide a synthesis of the data available, which leads to a further loss of information. It is only by bearing in mind these aspects that it is possible to evaluate what the indicator reveals.

It is possible to open debates and make hypotheses, considering cultural well-being either a universal or totally subjective concept; it is possible to discuss abilities and applications. However, social policies, public investment, and government decisions are real quantities, economic means, and resources that are distributed among the population. Here lies the importance of the indicator: it is a tool to direct policies and its aim is to provide information to decision-makers.

In this perspective, the analysis of the cultural well-being distribution in the Italian regions makes it possible to study issues related to the development of social capital in the northern and southern areas, thus highlighting the gap and enabling the decision-maker to apply possible corrections.

Appendix

Rank	Regions	GDP per capita
1	Trentino-Alto Adige/Südtirol	35,256.98
2	Valle d'Aosta/Vallée d'Aoste	34,523.20
3	Lombardia	33,765.74
4	Emilia-Romagna	31,081.20
5	Lazio	30,294.42
6	Veneto	28,373.13
7	Toscana	27,746.40
8	Liguria	27,240.77
9	Friuli-Venezia Giulia	26,767.30
10	Piemonte	26,564.90
11	Marche	23,994.59
12	Umbria	22,863.86
13	Abruzzo	22,621.22
14	Molise	19,487.88
15	Sardegna	19,122.95
16	Basilicata	18,148.69
17	Sicilia	16,416.51
18	Puglia	16,388.15
19	Campania	16,210.55
20	Calabria	15,247.28

Appendix Table 1. Ranking of the Italian regions relative to GDP.

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The Mammoth Task of Realising the Right to Life: A South African Perspective

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Additional information is available at the end of the chapter

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Life is not a problem to be solved but a reality to be experienced

Soren Kierkegaard

Life is not about finding yourself, it is about creating yourself

George Bernard Shaw

Abstract

Concentrating on South Africa, this chapter critically scrutinises the realisation of everyone's right to life as guaranteed in section 11 of the Constitution of the Republic of South Africa. Although the right to life is explored within the ambit of an international legal framework, realising the right to life in South Africa, with its history of demeaning the value of the life of the majority of its inhabitants in the past, forms the main pivot of discussion. It is argued that, despite the 1996 Constitution's promise to heal these past divisions and improve the quality of life of all citizens and free each person's potential, the State has been ambivalent about realising everyone's right to life. As part of post-apartheid transformation, the State has, on the one hand, made substantial progresses in creating a supporting and legal environment for the attainment of a better life for some of its inhabitants. On the other hand, reality still reflects poignantly flaws in freeing everyone's potential, thus highlighting the mammoth task that lies ahead.

Keywords: right to life, human dignity, quality, poverty, discrimination

1. Introduction

Life is regarded as being God-given to all human beings [1]. The right to life, by itself, is thus not conferred to humans by the law [2]. It is a moral right independent of the law, since humans possess it simply by virtue of their nature as being human [3, 4]. Based on their uniqueness, the Supreme Court of New York in *Park v Chessin*, 1977 60 AD 2d 80, 400 NYS 110, acknowledged the fact that each human being is born as a whole, functional human being. As such, various authors [5, 6] advocate that each person must be treated as a complete human individual with inherent worth despite being different from others.

The inherent nature of the right to life is specifically recognised by the International Covenant on Civil and Political Rights [7], Convention on the Rights of the Child [8], the African Charter on the Rights and Welfare of the Child [9] and the Arab Charter on Human Rights [10]. Albeit its intrinsic nature, various international [11], regional [12] and foreign [13] legal instruments recognise the necessity of legally protecting the right to life. This necessity is welcomed as it serves as proof of the value attributed to the sanctity of life by the law [14]. It is, alongside, proclaimed that legal systems should create a liberating framework, providing legal subjects with qualities of moral support and independence [15].

The prominence placed on human life is, accordingly, internationally recognised as a legal entitlement by, inter alia, the Universal Declaration of Human Rights guaranteeing the “right to life, liberty and security of person” in article 3, by the International Convention on Civil and Political Rights [16], through article 6, providing that “Every human being has the inherent right to life which shall be protected by law and that no one shall be arbitrarily deprived of his life”, as well as by the United Nations Convention on the Rights of the Child. The right to life is, concomitantly, guaranteed to all people by regional instruments such as the European Convention on Human Rights and Fundamental Freedoms [17], the American Convention on Human Rights [18], the African Charter on Human and Peoples Rights [19] plus the African Charter on the Rights and Welfare of the Child [20].

It is submitted that the acknowledgement of the human's inherent worth by the law justifies the empowerment of everyone through all means to live full lives [21]. The latter was underscored by the General Comments and Recommendations, delivered by the Human Rights Treaty Bodies [22], stating that the inherent right to life must be dealt with in a broader manner requiring from States to adopt positive measures to enhance human life. Various authors [23–25] agree with this broader interpretation as to include, amongst other, a personal (encompasses an individualised claim to a basic quality of life and meaningful existence, the principle of the “sanctity of life” should take precedence over other rights [26]) right to the basic necessities of life, such as housing, education and health care (socio-economic rights). A narrow interpretation, on the other hand, would restrict the right to life to being a non-derogable right that must be respected under all circumstances [27], thus merely entailing the right to be physically alive and to breath (physical-biological existence) [3, 4, 28].

In taking a broader approach to the interpretation of the right to life, the United Nations Convention on the Rights of the Child, through article 6, obliges all State Parties to recognise

that every child has the inherent right to life and to ensure, to the maximum extent possible, the survival and development of the child. The General Comments and Recommendations [22] on the right to life in the context of the International Covenant on Civil and Political Rights concomitantly state that for the protection of the right to life by law, mandate positive measures must be taken by States in order to safeguard this right.

Both positive and negative obligations are, however, placed on State Parties. While negative duties include the State refraining from doing anything that could endanger the lives of human beings, the positive responsibilities include the duty that all possible/reasonable measures should be taken to realise life opportunities and ensure that all live a life worth living, taking economic, social and cultural conditions into account [29]. The Manual on Human Rights Reporting [30], equally, referred to both negative and positive State measures. This Manual identified the negative measures requiring from States “to refrain from any action that may intentionally take life away” and the positive measures, as those “designed to protect life”, including “increasing life expectancy, diminishing infant and child mortality, combating diseases and rehabilitating health as well as providing adequate nutritious foods and clean drinking water”. These encapsulate the creation of an environment that shows respect to human dignity by States in order to, to the maximum extent of their available resources, promote human survival and ensure optimal development which, in turn, demand the complete and holistic (physical, intellectual, emotional, spiritual, moral, psychological and social) development of at least every child [31, 32]. These positive measures, flowing forth from the right to life, entail the prerequisites for the optimal safeguarding and perpetuation of human life [33].

Since the main aim of this chapter is to provide a South African perspective on the practical realisation of the right to life, section 11 of the Constitution of the Republic of South Africa guaranteeing everyone the right to life is depicted by the way of a literature review as well as a legislative and case law analysis. Regard is taken of this country's historical experiences [34, 35] and future normative orientated Constitution promising the healing of past inequalities, the improving of the quality of life of all citizens and freeing the potential of each person in its preamble. The hope, this Constitution instilled in South Africans, is researched against the reality experienced by the majority of South Africans still anticipating a better, dignified life free from, especially, poverty.

Life is a dream for the wise, a game for the fool and a comedy for the rich, a tragedy for the poor

Sholom Aleichem

2. The right to life within a legislative framework

It was suggested that a broad definition of the right to life should be adopted in order to include much more than mere human existence. It is rather a right to the full enjoyment of human existence, without which, life would be meaningless [36]. This is underscored by the

Preamble of the Constitution of the RSA guaranteeing all a life that is worth living. The latter entails the living of a dignified life requiring that all humans be empowered to enjoy the benefits of humanity on an equal basis [21], since life is substantially diminished without dignity. An analysis of South African case law indicates that the Constitutional Court and High Court have, on several occasions [37], highlighted the importance of human dignity as a constitutional value when interpreting the right to life. As a justiciable and enforceable right, human dignity must, on the other hand, at all times, be respected and protected [38], thus obliging legal systems not to regard humans as mere objects that may be treated and punished as the State sees fit, but rather as autonomous subjects worthy of legal protection, physical and psychological growth and developed to being active participants in society [39, 40].

The kind of citizen being envisaged is one who will be instilled with values and act in the well-being of society based on respect for democracy, life, human dignity, equality and social justice. In accordance, the National Education Policy Act, 27 of 1996 [41], demands a school curriculum that aims at developing the full potential of each learner. It aims at creating life-long learners who are confident and independent, literate, numerate and multiskilled, compassionate, with a respect for the environment and the ability to participate in society as a critical and active citizen.

It is moreover emphasised that the integrity [42] including physical integrity, honour, reputation [43] and privacy [44–46] of humans needs to be protected in order to allow them to live with dignity and to create and develop sound relationships with all other human beings. The protection of the right to life coupled with the right to physical integrity was, for example, argued to be individually crucial and mutually foundational to the value system underscored by the Constitution in *Ex parte Minister of Safety and Security: In Re S v Walters* 2002 (4) SA 613 (CC) para 28, as well as in *Bernstein v Bester N.N.O.* 1996 (2) SA 751 (CC) at para 67–68.

From another perspective, the courts in *H v Fetal Assessment Centre* 2015 2 SA 193 (CC) and in *Stewart v Botha* 2008 (6) SA 310 (SCA) paras 23 and 27 were confronted with wrongful life claims posing difficult moral, ethical and social challenges. In these cases as well as in the case of *Friedman v Glicksman* 1996 (1) SA 1134 (W), it had to be considered whether the plaintiffs have suffered loss by giving birth to a child with disabilities and thus incapable of having a full and dignified life to live due to the doctors' not informing them of the unborn child's disabilities in which case they would have aborted the foetus. The enormous task for courts herein lies in the balancing of conflicting rights such as the right to life of the unborn child, the freedom of the parents' self-determination and the economic burden such a child may place on them. Such a balancing act cannot be performed by using a common normative currency such as the legal convictions of the community as it forms part of a wider political, social or moral decision-making process in an open democratic society [47, 48].

The right to life comprises much more than debating the legal medical and moral implications regarding abortion, the constitutionality of the death penalty [34, 35] or the right to die with dignity [49]. Emphasis must be placed on allowing everyone to live life in the fullest sense of the word. In this regard, non-discrimination, an adequate standard of living, human survival—the right to have positive steps taken to prolong life—and holistic human development—adding a new dimension to life—[42] are dynamic concepts encapsulated in the right

to life that must be taken cognisance of despite them presenting enormous challenges in optimally implementing the right to life in practice [33]. The mammoth task herein lies in overcoming the many encounters inhibiting humans to better themselves, optimally developing their talents and abilities to their fullest potential whilst living a responsible life in a society to which they feel a sense of belonging and wherein they can be free to be themselves [30]. With regard to living responsible lives, it is cautioned that, although people may differ on the interests which justify the right to life, they can nonetheless reach agreement that all has this right and use it as a basis to live and let live [50, 51]. The latter requires all to acknowledge that every right, even those inborn rights, has a concomitant duty.

Despite the fact that South African law does not provide for a hierarchy of fundamental rights [28], the Constitutional Court [34, 35] identified the rights to life and human dignity as the most superior fundamental right. This is due to the fact that the Constitutional Court found the right to life being a precursor to all other fundamental rights seeing that humans cannot exercise any of the rights enshrined in the Bill of Rights of the RSA without life itself. It is, in this regard, important also to mention that the normative burdens that are imposed by all other human rights must not be destructive of life or health, that deprive people of fundamental freedoms or that treat people in ways that are severely cruel or unfair [52, 53]. Whenever the rights to life and dignity, albeit being unqualified rights in contrast with international law [22, 43], are thus limited in terms of the limitation clause (section 36 of the Constitution of the RSA), they carry a great deal of weight when balanced against any justifications for their infringement [44–46]. Such limitations must thus serve a purpose which is particularly compelling in an open and democratic society [28].

With regard to life and human dignity, it is, for example, not believed that there could readily be legitimate purposes, which can justify its infringement/limitation [54]. Perhaps this can only be the case when the purpose of the limitation contains the protection of the life and/or human dignity of others or the protection of other rights, the limitation of which automatically involves the belittling of another's life, human dignity and/or physical and psychological integrity. Even then, the relation between the limitation and the purpose will be scrutinised very closely in respect of the inclination of the limitation to indeed achieve the purpose, as well as in respect of the possibility that the purpose can be achieved by alternative means [55, 56].

Although international law places both positive and negative duties on State Parties, as explained in the introduction of this chapter, when giving effect to the right to life, the positive duties of States necessitate more attention. States are obliged to view the right to life more positively and act more proactively—take deliberate, concrete and clearly targeted steps—in realising it in practice [42]. This is especially applicable to the State's duty to take action to protect human life against violation by others [34, 35 para. 117] and fulfil the most basic needs of humans. The latter entails specific focus being placed on the well-being and health of humans as well as the need for transformative State accountability in dealing with socio-economic rights. The latter requires more than just setting out abstract norms, but entails the formulation of realistic policies and workable programmes to ensure the implementation and ongoing evaluation of socio-economic rights as well as the provision of remedies in the event of violations [57]. In light hereof, the next part will cast a light on whether the State indeed fulfilled this obligation.

3. The realisation of the right to life in reality

The emphasis placed on the right to life is, *par excellence*, influenced by the current life experiences of the people living in South Africa. The history of the past decades has been such that the values of life and human dignity for the majority have been demeaned. Political, social and other factors created a climate of violence resulting in a culture of retribution and revenge of which the multiple xenophobia attacks and killings are but one example. In the process, respect for life and for the inherent dignity of every person became the main casualties. The State has played a huge part in this degeneration, not only because of its role in the conflicts of the past, but also by holding on to punishments which did not conform to a high regard for the dignity of humans and the value of every human life [34, 35, 58].

Subsequently to the adoption of the final Constitution of the Republic of South Africa, 108 of 1996, hopes were placed in the notion of freedom and a better life for all. The right to life, as guaranteed to everyone, validated a promise of opening the doors to a better and positive future for at least the majority of people, thus creating a legitimate expectation amongst the nation [59].

South Africans viewed the Constitution as signifying a significant break with the past, as it gave expression to the values of a more developed society, which relies heavily on morals rather than force, freedom rather than oppression and on equal opportunities rather than discrimination. As such, it was believed that the history of this country should influence the future positively and that all future actions should involve thoughtful thinking about the oppression and human injustices of the past in a manner providing normative direction for an improved future [60].

In this regard, the Bill of Rights of the RSA, guaranteeing the fundamental right to life to everyone, is regarded as playing a pivotal role in the inclusive building of South Africa's new democracy. Its legitimacy is, however, inevitably influenced by the prevalent legality of the democratic order as a whole [39, 40]. This part of the chapter illustrates the dangers of the right to life, as embedded in section 11, having mere symbolic value, if the implementation thereof is approached from a pure legal point of view, thus negating the multidimensional nature of the right to life encapsulating in reality a quality, dignified and enjoyable life.

It is argued that the noble ideals of the Constitution remained an ideal for the majority of South Africans since the concrete, practical daily lives lived by them and the facts they must endure on a daily basis still constitute a direct violation of their right to life [61]. Some of the most vulnerable and marginalised members of society are still being discriminated against and have not, even for a day, felt worthy of human existence [39, 40]. Research conducted in 2012—already 16 years into democracy—for example, found that poverty amongst South Africans and unequal treatment together remain to pose a significant threat to democracy [62]. As a direct result, the legitimacy levels of democracy in this country remain relatively low in comparison with other countries in Africa, albeit its value is supported by the majority [63]. Despite the fact that many factors still inhibit the full realisation of South African's right to life, emphasis can only be placed on these aspects, namely poverty and unequal treatment, within the scope of this chapter.

3.1. Poverty

Various authors [52, 53, 64], judges [60, 65] and policies [66] urgently call for the realisation of the human freedom from severe poverty, homelessness, poor health and hunger. This is done by endorsing an interest-based approach to human rights viewing poverty, consisting of a momentous level of material deprivation posing a serious threat to a number of interests such as health, physical security, autonomy, belonging, dignity, participation and friendship. It is argued that this freedom from poverty carries sufficient weight as to justify the imposition of positive duties upon others and the State specifically to protect the extreme poor from further impoverishment and assist those already suffering from severe material deprivation which puts inescapable constrain on their quality of life. This must, however, not remain an ideal in modern society as it did in South Africa. Despite government efforts in the form of allocating 60% of its budget to social wages, spending R1.5 million on erecting free homes and providing for free basic education to the poorest 60% of learners in 2013 alone, statistics indicate that 10.2 million people still suffered from extreme poverty, i.e., those living below the food poverty line, in 2011 [67].

The failure of bridging the economic divide, on which the past was built, has consequently led to increasing inequalities and undiminished levels of crime in this country [61]. It is well documented that criminals often come from the poorer section of society and that, whilst the majority of society are not involved in criminal acts, they live under constant fear of becoming victims of crime. There is thus no denying that criminal justice and criminal sanctions are essential elements of social order [47, 48].

The High Court concomitantly indicated, in *K v Minister of Safety and Security*, 2005 (6) SA 419 (CC) par. 10, that crimes violate the public's constitutional rights to privacy by invading the victims' personal spheres and murders violate the victim's right to life and, in most cases, his/her family of the right to maintenance and/or support. The Constitutional Court equally emphasised in *Steenkamp NO v Provincial Tender Board, Eastern Cape*, 2007 (3) SA 122 ((CC) para. 37), that the crime of murder entails a direct violation of the constitutional right to life.

In this regard, the State needs to be hold accountable for the high crime rate in South Africa and the legislature should carry the burden of proof to show what is proactively done to stop criminal behaviour, thus respecting everyone's right to life and social security [47, 48]. The State has, moreover, often been found to be the instigators of crimes against humanity thus negating the right to life, dignity and freedom and security of the person [39, 40]. Examples hereof include the extra-judicial killings by the police during violent suppressions of peaceful demonstrations of which the recent Marikana massacre [68] is but one example. It was in 2012 that the South African Police Force opened fire on striking mineworkers, which ended up in the fateful death of 34 mineworkers and 78 wounded. This amounted to the biggest event of police ruthlessness since the beginning of democracy, and it revived sad memories of the brutality suffered during this country's past. Further examples include the deaths and torture of people whilst being detained as a result of the bad conditions, over populated prisons or the ill treatment of prisoners [42].

Another example include the State's inability to safeguard its nation by providing immunity from arrest and surrender to the President of Sudan, Al Bashir, charged with a crime of genocide

by the International Criminal Court in the case of *Minister of Justice and Constitutional Development v Southern Africa Litigation Centre*, 2016 (3) SA 317 (SCA). It is argued that the State, in doing so, failed to protect their inhabitants' right to be protected against people making themselves guilty of war crimes and crimes against humanity and thus also their rights to life, human dignity and the right to freedom and security of the person. As such, the State also negated their obligation to always promote the spirit, purport and objects of the Bill of Rights in terms of section 39(2) thereof. The Supreme Court of Appeal, subsequently, found that the Litigation Centre's failure to deliver Al Bashir to the International Criminal Court was inconsistent with the State's obligations in terms of section 10 of the Implementation of the Rome Statute of the International Criminal Court Act 27 of 2002, and thus unlawful.

The State is, however, not only an entity to be blamed for not acting proactively to protect the right to life as all citizens are obliged to respect this right. In *S v Hangué* 2016 (1) NR 258, the Supreme Court of Appeal, for example, argued that, by abusing alcohol, the appellant had acted in breach of his duty of care towards the deceased and others not to infringe on their right to life and, for that reason, convicted the appellant of culpable homicide.

Another important consequence of severe poverty that needs mentioning is the fact that the poor, apart from being deprived of living a minimum desired lifestyle, is repeatedly denied of participation to democracy and social life at large [69]. This is mainly due to the fact that such people are experiencing concomitant extreme levels of desperation—if a person is starving and withered by the illnesses of malnutrition or HIV/AIDS, exposed to high children mortality, and poor psychological well-being, he/she may well not be able to vote or participate to any meaningful degree in political and democratic realm. As such, the very basis of participatory democracy which is endangered as the poor has an immense role to play in ensuring the practical realisation of socio-economic rights and thus shaping democratic politics [70]. The latter will not be possible or equitable unless it addresses the material conditions that impede such participation which is adequately addressed [71].

It is, in this regard, that emphasis should be placed on government's responsibility to guarantee at least a minimum core threshold of social rights that ensures that everyone is free from the general threats to his or her survival [72, 73]. Government needs to be held accountable for enhancing the general health of its society by providing preventative health-care measures such as immunisation, the provision of ample education on nutrition, hygiene and environmental sanitation [30]. Such freedom and the worth thereof are demonstrated by the incorporation of socio-economic rights in the Constitution of the RSA (and internationally), as providing an entitlement to an adequate, not a low minimum, but a higher standard of living, will enable all individuals to live decent lives [72, 73].

One example of living a decent life is access for all to a sufficient water supply as guaranteed by section 27(1) (b) of the Constitution of the RSA. In the matter of *Mazibuko v City of Johannesburg* CCT 39/09 (2009) ZACC 28, the applicants challenged the said municipality's water policy for its potential of depriving the extremely poor Phiri community of their constitutional right to sufficient water. It was claimed that the free basic water provided to them was not sufficient to guarantee them a life with dignity. They based their claim on the

constitutional promises to improve quality of life and to make every individual fit to survive and argued that the water policy was given effect to by a municipality obsessed with cost recovery through a metering system that mechanically disconnected the water supply once the basic allowance was exhausted, thus leaving the poorest amongst this community without access to sufficient water. The court was left with the mammoth task of determining the quantity of water needed to guarantee a right to life and dignity. In doing so, the court considered the obligation imposed on government by these two fundamental rights and whether or not the water policy and other measures taken were sufficient to at least ensure the progressive realisation of this community's right to water. In concluding that it was the municipality's (administrative sphere of government) prerogative and not that of the judiciary to quantify the water needed for basic human survival, the court sidestepped this task and found in favour of the municipality.

The Mazibuko judgement has been widely discussed. Some [74] agree that the municipality recognised the need to redistribute water resources and services more equitably in adopting a progressive water policy, guaranteeing the provision of a sustenance quantity of water per household per month. Others [42, 75, 76], to the contrary, argue that the municipality should have been held more accountable due to their constitutional obligations and the protection of the severely poor applicants who were subsequently deprived of water, an essential to livelihood.

The court's decision is therefore criticised, as it was based solely on the fulfilment of socio-economic rights instead of seeing the bigger infringement on the right to life as water is life. Adopting such a context-specific approach in line with the *Grootboom v Oostenberg Municipality* 2000 (3) BCLR 277 (C)-case regarding the provision of adequate housing is critiqued as it is regarded that the judiciary negated their duty to protect citizens from the coercive powers of the State and thus to advance democratic transformation. In this regard, cognisance must also be taken of the reasons why rights often come into conflict with each other. Such conflict is generally created because of the opposing responsibilities they generate for the bearers thereof which cannot always be performed simultaneously—and those responsibilities conflict because the interests they serve clashes [50, 51, 76, 77]. This is especially true when the realisation of socio-economic rights by municipalities is involved. Whilst their responsibility to create better living conditions for their community is evident, they often misuse resources for personal gain (corruption).

It is, conversely, understandable that the judiciary, as but one of the three tiers of government, is cautious of overstepping their authority when socio-economic rights are involved due to the fact that the Constitution of the RSA makes provision in section 27(2) for the State taking reasonable legislative and other measures, within its available resources, to achieve the progressive realisation of socio-economic rights, thus opening the door for placing more emphasis on available resources that the right to a dignified and quality life that will free everyone's potential [52, 53]. The inevitable result of depriving especially the poor is denying them of becoming full partners in society [71, 78]. This brings us to the second factor identified by research, which poses a threat to democracy, namely the persistence of unequal treatment.

3.2. Unequal treatment

The Bill of Rights of the RSA places pre-eminent value on equality, human dignity and life, as well as on freedom and security of persons. These and other rights to freedom of religion and belief, expression and association exist side by side with socio-economic rights.

When persistent discrimination is concerned, the institutional patterns of cultural values that constitute some as relatively unworthy of respect or esteem in a pluralistic South Africa require serious addressing as they still present a huge challenge in optimally giving effect to everyone's right to life [78]. The balancing of the right to life and cultural values presents a mammoth task as the Constitution of the RSA also allows for everyone to participate in the cultural life of his or her choice (section 30) and that person belonging to a specific cultural community may not be denied to maintain cultural associations (section 31). It is, however, important in these instances to notice that both these sections provide that cultural rights may not be exercised in a manner inconsistent with any other provision such as the right to life, the Bill of Rights. By taking cognisance of the fact that cultural rights may not be inconsistent with the Bill of Rights and the obligation of the judiciary to protect fundamental rights that the courts found in *DPP v Prins (Minister of Justice and Constitutional Development & two amici curiae intervening)*, (369/12) [2012] 106 ZASCA para 1 and *S v Chapman* 1997 (3) SA 341 (A) that so-called corrective rape, albeit its cultural connotation, infringes on the affected women's right to dignity, bodily integrity as it constitutes a humiliating, degrading as well as brutal invasion of the privacy and dignity of the victims. It was moreover found that such women are discriminated against purely by belonging to a particular cultural community. The courts also recognised the fact that women have a legitimate entitlement to live peaceful lives and to enjoy the tranquillity of their homes and families without the fear, the anxiety and the insecurity, which continuously diminishes the quality and enjoyment of their lives.

Apart from women being attributed less respect due to cultural reasons, they are also often the victims of the proprietorial attitude of men towards them. In *S v Mathe* 2014 (2) SACR 298 (KZD), it was, for example, shown that half of women killed in this country are murdered by their own husbands/partners. By regarding murder as the ultimate negation of the right to life, the court avowed that such attitudes and the concomitant presence of domestic violence had reached particularly serious proportions in society and eroded a wide range of the constitutional rights of women, such as the rights to equality, human dignity, freedom and security of their person, bodily integrity, not to be subjected to servitude, to privacy and the right to freedom of association, thus a ridicule of the right to life. It was also found that such attitudes causing women to live in constant fear are contrary to the ideals of an open democratic society based on values of human dignity, equality and freedom [79].

It is, conversely, not only the attitude of men that constitutes a problem with regard to treating all humans as equals. People with disabilities remain to be a vulnerable group in society, being robbed of living full lives. They are often explicitly and sometimes unintentionally discriminated against. It is, in this regard, essential to take note that the law and legislation alone cannot address such prejudices [76, 80]. The broader society must be made aware of the fact that even the person with severe and profound disabilities is vested with a right to life and must be afforded special care and education to maximise his/her potential as far as possible [21].

This will ensure that they too have the possibility of being employed and thus free from poverty. Despite its noble ideal, the State has hitherto not been successful in keeping up with the promises made in White Paper 6 [81] regarding inclusive education that will meet the needs of its diverse learner population and thus freeing everyone's potential to better quality of life [82]. Contradictions were, to the contrary, found in *Western Cape Forum for Intellectual Disability v Government of the Republic of South Africa* 2011 (5) SA 87 (WCC) with regard to the State's policy outwardly embracing inclusive education whilst inwardly remaining exclusionary.

Society, moreover, also often discriminates against a person on the basis of his/her sexual orientation [44–46]. The Constitutional Court in *National Coalition for Gay and Lesbian Equality v Minister of Justice* 2000(2) SA 1 (CC) alluded to the fact that such discrimination is the one of section 9(3)'s listed grounds of automatically unfair discrimination that had to be adjudicated by courts during the past decade. The court also mentioned that such discrimination in society has profound negative implications for the lives lived by gay and lesbians, stretching beyond the immediate impact thereof on their human dignity and self-esteem. They also have to endure blackmailing, police entrapment, violence and peripheral discrimination including refusal to use certain facilities accommodation and opportunities. Their situation is furthermore worsened by the fact that they constitute a political minority with little access to political power to secure favourable legislation for themselves.

Because of South Africa's history of discrimination based on race, so-called reversed discrimination also poses a mammoth task especially in the workplace due to section 9(2) of the Constitution of the RSA making provision for affirmative action. The latter has led to employment opportunities being specifically reserved for Black people to the detriment of White citizens. This has taken its toll on especially elder White men becoming unemployed and ending up living under severe poverty. Two very recent court cases, *South African Police Service v Solidarity obo Barnard* (CCT 01/14) [2014] 11 BLLR 1025 (CC) and *South African Restructuring and Insolvency Practitioners Association vs the Minister of Justice and Constitutional Development* (Case Number 4314/2014), addressed this new phenomena by specifically differentiating between numerical goals and quotas as part of an employment equity plan in terms of the Employment Equity Act. Emphasis was placed on section 15 of this Act defining affirmative action measures as processes designed to ensure that suitably qualified people from designated groups have equal employment opportunities and are equitably represented at all occupational levels in the workforce. It furthermore states that such processes must not unfairly discriminate against anyone and that the concept affirmative action includes preferential treatment and numerical goals, but excludes quotas (section 15(3)). As such, this Act does not require of employers to take decisions regarding their employment policy or practice that would create an absolute barrier (reversed discrimination) to the potential or continued employment or advancement of people who are not from designated groups. The main aim of employment equity plans should thus be directed solely at achieving "equitable" representation (section 20). Such plans should not concentrate on inflexible quotas, which are based on rational considerations, including job qualifications, the degree of underrepresentation, barriers and attempts to eliminate those from non-designated groups, as well as the pool of suitably qualified candidates. The hiring, promotion or reservation of a fixed number or percentage of persons or posts from the designated group alone—making designated group

status the only or dominant criterion—is thus prohibited and thus invalid although it very often still happens in South Africa and reverts to unfair discrimination. Employment equity plans should rather be founded on numerical goals which are grounded on realistic numbers of vacancies and which aim at appointing the best qualified applicants in vacancies.

4. Concluding remarks

Although it is well recognised that life itself is a moral human entitlement independent of the law, this chapter outlined the importance of international, regional and foreign law as well as, specifically, the Constitution of the RSA guaranteeing everyone the right to life. The latter lies in the fact, that the law attributes value to the sanctity of life, and concomitantly place both negative and positive duties upon States in this regard. In cautioning that the mere legislative recognition of such a right is not sufficient, emphasis was placed on the State's positive duties of optimally realising everyone's right to life by taking proactive, concrete and clearly targeted steps to not only protect this right from infringement, but also to do everything in their power to give effect to the development of humans and creating an environment in which everyone can realise his or her potential optimally.

By taking regard of South Africa's history mainly mirroring the total disregard for the value of the lives of the majority of its inhabitants, it was showed that fast amounts of continued severe poverty which lead to high crime rates and the persistence of unequal treatment do not even closely portray a definite commitment by the State to create better life conditions and opportunities for its society. As such, the transformational State has not fulfilled, albeit some improvement, the legitimate expectations created amongst South Africans by the 1996 Constitution of the RSA and the hopes instilled in them at the advent of a new and open democracy.

The mammoth task that lies ahead was highlighted with regard to the fact that the right to life entails more than mere human existence and thus a rhetoric concerning the moral implications regarding abortion, euthanasia and the constitutionality of the death penalty. The right to life rather involves the State and every living person to acknowledge their responsibility to one another and be accountable for developing all holistically, as well as creating the circumstances under which people live to such an extent that everyone can live life in the fullest sense of the word. In this instance, a culture of respect for life and other fundamental rights must be generated. This entails the equal treatment of all as well as the formation of an adequate standard of living and not mere survival of the fittest. For this to realise, extreme measures must be taken to eliminate the severe poverty amongst South Africans. The enormous responsibility herein lies in overcoming the many encounters still inhibiting humans to better themselves, of optimally developing their talents and abilities to their fullest potential whilst living a responsible life in a society to which they feel a sense of belonging and wherein they can be free to be themselves.

In order to achieve the above, the realisation of socio-economic rights is indispensable, as it encapsulates a right to the basic necessities of life, such as housing, electricity, water, basic education and health care without which no one can live a dignified, decent, better, full, participatory and

higher standard of living. The positive duties placed on government by socio-economic rights coupled with the right to life are enormous. Government cannot merely set abstract norms or shy away from their responsibility by continuing to use limited available resources as an excuse. They are required to formulate realistic and achievable policies and workable programmes to ensure the implementation and ongoing evaluation of socio-economic rights as well as the provision of remedies in the event of violations, thus accepting accountability. Such actions will not only better the lives of everyone but also alleviate poverty and the extreme high crime levels in this country to a remarkable degree.

Another aspect of this mammoth task that was identified in this chapter concerns the proper balancing of conflicting fundamental rights in ensuring the equal treatment of all. In doing so, the superiority of the rights to life and human dignity, thus carrying more weight than other fundamental rights must be the starting point of any balancing process. All must be made aware of the normative burdens imposed on them by democracy, never to act in a manner that may be destructive of life or health, which may deprive others of their fundamental freedoms, or that may treat people in ways that are severely cruel, degrading or unfair. Viewed against South Africa's discriminatory history, all must moreover be careful of not repeating the past by practicing so-called reversed discrimination especially in the workplace, thus depriving a different group of people of living quality lives.

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- [8] UNICEF, Convention on the Rights of the Child: Article 6.
- [9] OAU Doc CAB/LEG/24./49. 1990. Entered into force on 29-11-1999 ratified by South Africa on 07-01-2000: The right to life is dealt with under the heading "Survival and Development". Article 5 makes provision for the following: "1. Every child has an inherent right to life."
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- [11] International Convention on Civil and Political Rights (art. 6).
- [12] African Charter on the Rights and Welfare of the Child (art. 5.1); European Convention on Human Rights and Fundamental Freedoms (art. 2.1).
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- [17] Art 2(1) of the European Convention on Human Rights and Fundamental Freedoms (adopted 4 November 1950, entered into force 3 September 1953) 213 UNTS 221: "Everyone's right to life shall be protected by law. No one shall be deprived of his life intentionally save in the execution of a sentence of a court following his conviction of a crime for which this penalty is provided by law" art 3(2) of the Asian Human Rights Charter: A People's Charter (adopted on 17 May 1998): "Foremost among rights is the right to life, from which flow other rights and freedoms"; and art 5 of the Arab Charter on Human Rights (adopted on 15 September 1994 entered into force 15 March 2008) 12 IHRR 893: "1. Every human being has an inherent right to life. 2. This right shall be protected by law. No one shall be arbitrarily deprived of his life."
- [18] Art 4(1) of the American Convention on Human Rights (adopted 22 November 1969, entered into force 18 July 1978) 1144 UNTS 143: "Every person has the right to have his life respected. This right shall be protected by law and, in general, from the moment of conception. No one shall be arbitrarily deprived of his life".

- [19] Art 4 of the African Charter on Human and Peoples' Rights (adopted 27 June 1981, entered into force 21 October 1986) 1520 UNTS 217: "Human beings are inviolable. Every human being shall be entitled to respect for his life and the integrity of his person. No one may be arbitrarily deprived of this right."
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Well-Being and Quality of Working Life

Well-being and Quality of Working Life of University Professors in Brazil

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Ana Alice Vilas Boas

Additional information is available at the end of the chapter

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Abstract

This chapter presents a study about the perceptions on quality of working life (QWL) regarding factors and indicator in two public universities in Brazil. It aimed also to analyze their perceptions about university working conditions. This exploratory study is based on quantitative and qualitative analyses. A sample of 715 university professors participated on the research. Data collection was carried out in two steps: online survey and focus groups. There is a moderate negative correlation between psychological well-being and work-related stress. Emotional charge also presents a moderate positive correlation with work-related stress, as well as physical charge and psychological distress. Work-life balance is negatively correlated with physical charge, emotional charge, work-related stress, psychological distress, and burnout. We observed also that 43.6% of the professors reported high levels of work-related stress in their everyday work. The precariousness of university teaching is associated with three main elements, which we defined as the tripod of the precarization of university teaching work. It consists of academic productivism, excess of administrative work and bureaucratic activities, and inadequate working conditions. The operating dynamics of this tripod effect professors' well-being, their QWL, and even the quality of the work they develop in public universities.

Keywords: quality of working life (QWL), university professors, precariousness of university teaching, college education, worker's health

1. Introduction

The concept of quality of working life (QWL) is quite broad, and many definitions have been developed aiming its understanding. Since the twentieth century, QWL is identified as a key

element in the promotion of workers' health. Apart from that, quality of working life management is seen as a strategic issue to improve organizational efficacy too. Many researchers created different models to study QWL. Some of them focus on policies and people management practices like the Walton model [1], the structure and organization of work as the Hackman and Oldham model [2], and the biological, psychological, social and organizational variables as the Limongi-França BPSO-96 model [3].

More recently, Morin [4, 5] developed the general quality of working life model in order to explain relationship between QWL factors and indicators, such as (a) the meaning of work and the meaning at work, (b) the characteristics of the work, (c) the characteristics of labor relations, (d) workload, (e) working hours, (f) work-life balance, and (g) safety. Thus, quality of working life may be defined as a general state of well-being in the workplace that can be explained by different factors and indicators created in accordance with the parameters of work organization, considering also individual differences and the strategies that workers develop to adapt to their jobs [5, 6].

QWL may be seen as a set of actions to encourage a healthy work environment and the development of activities that provides meaningful work for employees [7]. Thus, identifying workers' perception on QWL factors and indicators regarding their professional activity is the best way to create a healthy and safe work environment. To better understand QWL, we postulate that it is also necessary to understand the context in which workers are inserted and the peculiarities of the organizations and their external environment.

It is also relevant to consider that work is an ontological founding and structuring category in the human socialization process. Work is a social action that allows the construction of subjectivity and a way for the individual to find a place within a group—through the process of creation and recognition of his status [7, 8]. Because of the jobs centrality in the life of human beings, work also plays an important role in the psychological well-being, fulfilling fundamental psychological function to meet the needs of meaning, affiliation, creativity, and emancipation [8].

Consequently, understanding the levels of psychological well-being and psychological distress is an important issue to propose actions on QWL. Massé et al. [9] investigated psychological distress and psychological well-being, and they found that these two constructs are opposite poles of the same mental health axis or independent constructs to be measured into two separated axes. They conclude that the assessment of mental health in the general population should use concomitant measures of psychological distress and psychological well-being.

In a study conducted with university professors of public institutions in Brazil and Canada, Vilas Boas and Morin [10–12] realized that there is a high positive correlation between work-related stress and mental load and a strong negative correlation between work-related stress and psychological well-being, indicating that psychological well-being decreases with increasing in work-related stress. They realized also that physical load, psychological well-being, and gender determined 55.9% of the scores of work-related stress. They also observed that men and women have different perceptions of work-related stress [12].

In this context, this exploratory study intends to analyze the perceptions on quality of working life regarding some factors and indicators in two public universities in Brazil. It aimed also to analyze their perceptions about university working conditions.

2. Literature review

2.1. Quality of working life models

In Brazil, several QWL studies have been conducted by authors such as Limongi-França [3, 13], Oliveira and Limongi-França [14], Constantino [15], Tolfo and Piccinini [16], Sant'Anna and Kilimnik [17], and Sampaio [18]. They include examples of development and validation of a generic tool to assess Quality of Life in biopsychosocial indicators with the University of São Paulo community. For this work, Constantino [15] has adapted an instrument based on biological, psychological, and social aspects from the model presented by Kertesz and Kerman [19]. Limongi-França [13] introduces a new conceptual modeling based on interfaces for Management of quality of working life in business administration. In this chapter, the authors seek to provide instrumental support for strategic, managerial, and operational actions on collective and individual challenges, seeking to rebuild well-being in the companies.

Tolfo and Piccinini [16] emphasize the distinction between purpose and meaning of work. For these authors, the construct purpose of work should be studied from a multidisciplinary point of view because it is a "multidimensional and dynamic psychological construct." Additionally, Sampaio [18] states that "the works of Estelle Morin and colleagues are a new influence in the field of QWL and bring theoretical and technical improvements to the classic models, despite its identification with well-being concepts (mainly psychological) and purposes of work." This author also states that the agenda of studies and research on QWL should consider that "the greatest challenge to QWL is the production of a valid knowledge to the new forms of labor relationships and work organization."

Taking that into consideration, this study is based on the systemic quality of working life model that was updated from the general quality of working life model [5]. **Figure 1** shows the variables that are related to QWL and their interrelations. In this model, work organization is presented as determinant for the employees' health, their attitudes, and performances. According to Morin [4], the impact of work organization on health and work performance varies according to the meaning given by people to the work.

The utility of work, autonomy, professional development, moral uprightness, relationships with colleagues, superiors and customers, recognition, workload, working hours, and job security are factors that should be considered to assess QWL. Therefore, the factors affect the perception of the meaning of work, represented herein by meaning of work and meaning at work. Thus, all factors can positively (in terms of employee's health) or negatively (causing disease and psychological distress) affect the quality of working life and lead individuals to have an optimum experience at work or to develop defensive strategies and try to improve their QWL.

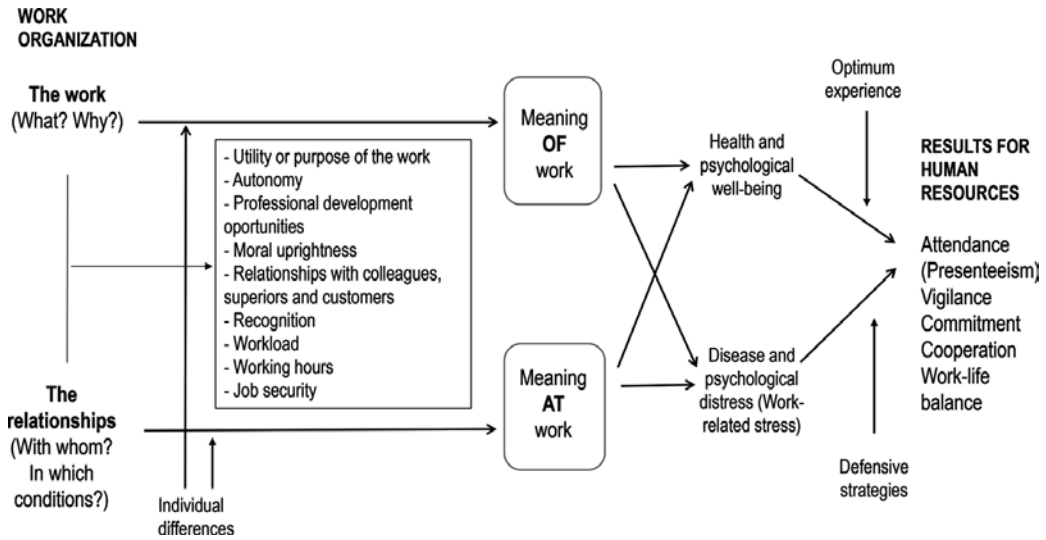


Figure 1. Systemic Quality of Working Life Model

If people see their work in a positive way, if the conditions under which they perform their work are suitable, and if personal relationships they have at work are positive, they tend to find meaning of work and meaning at work and therefore feel good, physically and mentally speaking. On the other hand, if the individuals perceive their work in a negative way, they tend to think that their work has no meaning and much less the environment where they work, which may lead them to show stress symptoms at work or psychological distress.

In addition, Morin [5] and Vilas Boas and Morin [6] say that the impact of work organization on QWL varies according to individual differences, including gender, age, education, emotional tract (i.e., tendency to experience positive or negative emotions) and assigning style (i.e., tendency to believe that we are not responsible for some situations we actually are), emotional intelligence, and guidance for work. Therefore, every study on QWL should pay attention to sociodemographic characteristics and the patterns of work organization.

Keeping these brief considerations about QWL' models in mind, we would like to present a brief description of the educational scenario in Brazil to support readers to understand the results of field research that was carried on with university professors from Brazilian public universities.

2.2. Precarious university teaching work

Teaching profession can be considered different from other work activities due to its complexity and the level of physical and emotional exhaustion that are part of the teaching routine. The process of formal education originates from the knowledge that is produced by society, and this is due to the demands of survival experiences and collective productions of a particular social group. Considering that professors play a central role in formal education in nowadays society, it is necessary to recognize the existence of a causal link between teaching

work and the levels of sickness of these professionals—highlighting the impacts that occur in professors health and their professional particularities.

Several changes have taken place in labor and employment relations, which are an indicative of a phenomenon that some authors call “precariousness of current working relations” that are also present in the processes of teaching work [20]. Professors health is directly related to social, economic, and technological factors, and these professionals are at risks of several natures. The main risks present in their work routine are physical, chemical, biological, mechanical, and ergonomic [21].

For these reasons, teaching profession has become an unhealthy activity in different countries of Latin America and Caribe, manifesting itself in work-related illnesses such as burnout, stress, and neurological diseases. These illnesses are positively correlated with the precarious conditions of teaching work [22].

Assunção and Oliveira [21] emphasize that the process of labor intensification, which affects economical sector, can basically occur in two ways: due to the reduction of the number of workers without change in the quantity produced and, in a second case, as a consequence of the growth of production without changes (increase) in the number of workers. In the teaching reality—especially in the university context—this process of intensification of the work with increases in the number of students without the proportional increases in the number of professors is perceived in many institutions in different countries. Educational institution needs a great counterpart of resources to execute such demand [21–23].

Martinez et al. [24] emphasize that the professional practice of teaching, in general, is seen as an activity without many risks compared to other professions (it is common for the teacher to be asked: Do you work or just teach?). Such perception creates an “invisibility” of these professionals. In fact, studies show that the educational activity is permeated by psychological suffering, manifested in depression, anxiety, panic attacks, and psychotic processes, and by physical suffering, manifested by the commitment/loss of voice; pain and stiffness in the lower back, neck, and extremities of the body; diabetes; gastric ulcers; and hypertension [21–25]. All these sufferings can compromise Professors’ health.

Regarding Professors’ physical health problems, we recall that professors’ are among the professionals who present a higher prevalence of specific vocal complaints and also present the highest risk for the development of vocal disorders in comparison with other professionals [21, 25–28]. Karmann and Lancman [25] point out that the current teaching activity is also under the effects of modern educational policies, which follow the neoliberal and managerial logic, characterized by overload and intensification of work, precarious conditions and poor labor contracts, and political disarticulation of workers.

The conditions of precariousness and overload of teaching work, as already seen, are also perceived in the university teaching context. Some studies have already indicated that higher education professors are also subject to precarious working conditions, characterized by flexible contracts, greater intensification of workload, and requirement of polyvalence in the activity [7, 29, 30]. Such a context of labor precariousness may have consequences for professors’ physical and mental health and may trigger diverse illnesses, such as the elevation of the level

of work-related stress [7, 31] and burnout syndrome [32, 33]. This scenario compromises the possibility for university professors to find QWL in their daily activities.

In order to understand the complexity of teaching work within the Brazilian public universities, it is necessary to know the social context that permeates teaching activity in Brazil. This context is changing strongly in recent decades, during which education has suffered great influence of the economic model of managerial neoliberal logic, characterized by overload and intensification of work, precarious conditions, temporary labor contracts, and policy disarticulation of workers. As a result, we now have a scenario marked by the commodification of higher education, a process that has contributed to the precariousness of university teaching. It happens due to the requirements of productivism and the work overload [7].

The academic productivism had its origin in the United States of America in the last century and became known as “public or perish” phenomenon, which already indicated that professors or university researchers who did not meet publication requirements, according to quantitative criteria of public or private funding agencies, would have negated their careers. On this subject, many studies indicate that academic productivism, the logic of “publish or perish,” has increased the academic stress for professors and researchers and may affect their well-being and quality of working life [12, 34–39].

Alcadipani [37] criticizes this commodification scenario of education to indicate that, from the 1990s, with the implementation of the management model in educational institutions, the educational process has been turned into a mere product. In this context, professors have become service providers, students are transformed into customers, and the dynamics of teaching/learning has to occur within a logic of consumer satisfaction.

In Brazil, the academic productivism has been the subject of many criticisms directed especially to the system of postgraduation program evaluation (master and doctorate courses) established by the Coordination for the Improvement of Higher Education Personnel (CAPES) since 1996. At this time, this government agency implemented a number of quantitative criteria for assessing academic production and accrediting postgraduation programs. At this time, a change occurred also in CAPES’s evaluation paradigm. It fails to employ criteria that prioritized the improvement of professors’ training and swap to value researchers’ training. Thus, it is worth to note that the identity of Brazilian university professors became increasingly associated with acting as a researcher and less linked to teaching [39].

To meet publishing requirements of federal bodies, such as CAPES or even the universities themselves, professors need to work longer hours and dedicate themselves to their own researches and the researches of their undergraduate and graduate students, which leads to an increase on workload. Pressures linked to workload may initiate work-related stress, imbalance between work and personal life, and mental, physical, and emotional stress, which may also initiate different health problems and even cause disturbance in relationships with the work environment. In other words, we may say that quality of working life for academics has been drastically affected by work demands or, more precisely, by the high demands of publishing in the last decades [7, 12, 37, 39–41].

According to Vilas Boas and Morin [11, 12, 40, 42], workload is a confirmed factor of psychosocial risk, and currently the workload of university professors has been very high due to the increasing demands on research and publishing [34–36, 38].

Besides the academic productivity, another factor that has contributed to workload in teaching career in public universities in Brazil relates to the effects of the implementation of the Support Program for the Federal University Restructuring and Expansion Plans (REUNI). Although it is necessary to expand the offer of free vacancies in undergraduate courses of the federal universities in Brazil, it should be noticed that public higher education professors have faced great challenges in the last decade after the implementation of REUNI. With the implementation of the REUNI, the increase in the number of places offered to students in the federal public higher education system was not proportionally followed by the increase in the number of professors who had been admitted, a scenario that is generating a workload for professors working in public universities [43, 44].

Given the above, we believe that the changes in university organization standards and in the working conditions affect educational system. These changes can be harmful for teaching standards, and, consequently, they affect professors' QWL. In this context, this study searches to understand how the current Brazilian university scenario, characterized by the precariousness of teaching work, may affect university professors' perceptions on QWL in public universities. It aimed also to analyze their perceptions about university working conditions through group interview. To do so, we will present a brief overview of the research methodology in the sequence.

3. Methodology

In this section, we present the methodological procedures that guided the present study. We show also the methods and techniques used for data collection and for the treatment of data collected during the research process.

We developed an exploratory study based on two cases aiming to analyze the perceptions of 715 university professors from Brazilian public universities about quality of working life (QWL). The whole study can be accessed in Paula [7]. For understanding the perceptions that professors have about their work, we choose some QWL factors and indicators to be analyzed, according to the model proposed by Morin [5] and Vilas Boas and Morin [6].

We considered the answers of 428 professors from the University A (59.86% of the sample) and 287 from the University B (40.14% of the sample). We use non-probabilistic sampling by categories/quotas, so that the sample corresponded to 25% of the total number of professors working in the universities analyzed. In addition to the voluntary adhesion to the study, the main criterion of inclusion in the sample was the participant to be an effective professor in the career of Higher Public Education and to be teaching at one of the mentioned universities.

Regarding the procedures used for data collection, we adopted a quantitative-qualitative approach—which seeks to associate the contributions of qualitative and quantitative researches. We also used focus group to enable such quantitative-qualitative association.

We used an online survey with a structured questionnaire for gathering quantitative data. The questionnaire was posted on Survey Monkey®, whose link was made available to the professors by e-mail in the first half of 2015, after approval by the Research Ethics Committee at the Federal University of Lavras, Brazil. This online questionnaire was divided into two parts. Part I consisted of a set of questions that aimed to gather data on the following aspects: (a) personal and sociodemographic information (sex, age, degree of academic qualification, number of children) and (b) information about the current profession and employment history (date of admission into the university, daily/monthly working hours, other university activities developed besides teaching).

Part II was composed of a set of questions with six-point concordance scales (assumed in this study as an interval scale) in which there is an ordered spectrum with quantifiable intervals. The questions were based on an early version of the instrument developed at the Center Research for Health, Work and Organizational Effectiveness (CRITEOS) by École des Hautes Études Commerciales (HEC) in Montreal, Canada [5]. The questionnaire included scales that measured the following indicators: the meaning of work and the meaning at work [45]; psychological distress and psychological well-being [46]; work-related stress [47]; and work-life balance [48]. Apart from that, the questionnaire included one scale to measure three factors related to workload. They were measured by Vidulich and Tsang [49] and Morin [5] instruments to determine physical demand (time to perform their tasks), mental demand (complex tasks), and emotional demand (emotional work related to human relationships).

Since we intended to understand the impact that work organization patterns (working conditions and interpersonal working relations) have on workers' health and performance, it was also important to control personal events that might have occurred in the past and recently in the professors' lives. These personal events also affect their psychological state (e.g., loss of a loved one, illness of the individual himself, and judicial issues). Thus, we used some control measures such as verifying the influences of personal events that may have occurred recently in the professors' lives that may have affected their physical and psychological state using the scale of Dohrenwend [50]. For more details, please refer to Paula [7].

We also controlled the effects of the bias of compliance presented by the respondents by verifying the level of social desirability. In general, people, in expressing their own opinions, have a tendency to express an opinion that is valued by the majority. We used also a scale, composed of 11 statements, to verify the level of social desirability [51]. When we use this scale, we intend to neutralize the respondent's tendency to present socially desirable ideas, which chooses a supposed answer expected by the researcher. For more details, please refer to Paula [7] too.

Methods of descriptive statistics (frequency distribution and mean) and multivariate statistical techniques (Pearson correlation analysis) were used on the quantitative analyses [52]. The data analyses were processed using the software Statistical Package for the Social Sciences

(SPSS®). In developing the statistical analyses, we also considered variables such as age, sex, working institution, working hours, and other elements of labor characterization, apart from analyzing the factors (determinant variables) and the indicators (component variables) related to quality of working life [6].

To collect qualitative data, we used focus groups with 24 professors who agreed to participate voluntarily in these groups. Qualitative data was used in content analysis procedure [53]. These procedures were carried out paying attention always to the initial objectives of the study and other relevant aspects that have been highlighted by the participants during the statistical analyses. One open question, in the end of the questionnaire, also provided appropriated comments and suggestions that guided focus group and the qualitative analysis.

4. Results and discussion

Quality of working life is a general state of well-being in the workplace that can be explained by different factors and indicators. If such individual factors and indicators are consistent, the measurement variables should be strongly correlated [5, 6, 40, 41]. QWL factors and indicators result from the patterns of work organization and individual differences. Results for Human Resource Management result from coping strategies, which may involve optimum experience or defensive strategies.

The relationship between health and disease are to be understood as a *continuum*, ranging in levels of health or illness. Since psychological well-being may be considered a health measurement, in this research, we expected a positive correlation between psychological well-being and work-life balance. The individual experiencing psychological well-being tends to keep better work-life balance, possibly perceiving his work positively and finding meaning on his work activities. Following the same logic, a worker who often experiences a feeling of high workload, burnout, and work-related stress will hardly experience psychological well-being at work. Positive psychological experiences are also related to positive meaning of work and meaning at work, while negative psychological experiences, such as psychological distress and work-related stress, are normally associated to lack of meaning of work and meaning at work.

4.1. The relationships between QWL factors and indicators

The chosen QWL factors and indicators provided reliable information (internal consistency indexes greater than 0.72) and consistent information. **Table 1** presents the means, standard deviations, Pearson correlation coefficients, the number of statements for each indicator, and the internal consistency index Cronbach's alpha. We can see that the correlation coefficients are significant in the expected direction, which indicates that there is consistency of the information that these measures enable measurement.

There is a strong positive correlation between psychological well-being and work-life balance (0.665; $p < 0.000$). On the other hand, there is a strong negative correlation between

	Means	SD	MOW	MAW	CHAPHY	CHAMEN	CHAEMO	WSTS	PWB	PDS	Burnout	WLB
MOW	16.59	2.00	(Alpha) (nb items)	(0.824) (3)								
MAW	13.52	2.82	r	0.505** (0.722) (3)								
CHAPHY	43.04	10.94	r	-0.068 (0.839) (5)								
CHAMEN	55.83	5.05	r	0.069 (0.738) (4)								
CHAEMO	47.19	9.71	r	0.267** (0.856) (6)								
WSTS	38.38	11.57	r	0.040 (0.921) (10)								
PWB	34.68	11.52	r	-0.077 (0.958) (12)								
PDS	29.15	12.15	r	0.338** (0.960) (9)								
Burnout	20.23	10.36	r	0.000 (0.938) (9)								
WLB	40.84	11.83	r	-0.281** (0.946) (6)								

Legend: **Indicators** – Meaning of work (MOW); meaning of work (MAW), work-related stress (WSTS); psychological well-being (PWB); psychological distress (PDS) and work-life balance (WLB). **Factors** – Physical charge (CHAPHY), mental charge (CHAMEN) and emotional charge (CHAEMO).

Source: Paula ([7], p. 221)

*Correlation is significant at the level of 0.05 (two-tailed).

**Correlation is significant at the level of 0.01 (two-tailed).

Table 1. Means, standard deviation, Pearson correlations among QWL's factors and indicators, scores of internal consistence and number of items (N = 715).

psychological well-being and burnout (-0.675 ; $p < 0.000$), indicating opposite relationships between these variables. We recorded also a strong negative correlation between psychological well-being and psychological distress (-0.712 ; $p < 0.000$), but not high enough to confuse such indicators. There is also a moderate negative correlation between psychological well-being and work-related stress (-0.596 ; $p < 0.000$). This means that when the levels of burnout, psychological distress, and work-related stress increase, psychological well-being experience tends to decrease. It clearly indicates that they are different variables that may influence professors' QWL.

There is also a moderate positive correlation between the meaning of work and the meaning at work (0.505 ; $p < 0.000$). In other words, the meaning of work and the meaning at work are two indicators that measure different aspects but give a consistent information with the latent variable that is supposed to represent, that is, the QWL evaluated by these public university professors.

We perceived a strong negative correlation between work-life balance and psychological distress (-0.636 ; $p < 0.000$), indicating that the two indicators are consistent to compare the QWL of university professors. In addition to this, we may observe on **Table 1** that there is a moderate negative correlation between work-life balance and burnout (-0.556 ; $p < 0.000$) and there is a moderate negative correlation between work-life balance and work-related stress (-0.495 ; $p < 0.000$). These findings indicate that work-life balance decreases if work-related stress, burnout, and psychological distress increase, as observed in previous studies [10, 12, 42].

Considering workload present in everyday teaching in universities, we may observe from the gathered data (**Table 1**) that there is a moderate positive correlation between emotional charge and psychological distress (0.472 ; $p < 0.000$). Emotional charge presents also a moderate positive correlation with work-related stress (0.532 ; $p < 0.000$). Additionally, physical charge is moderately correlated (positive) with work-related stress (0.582 ; $p < 0.000$) and psychological distress (0.453 ; $p < 0.000$), indicating that an increase in physical workload may lead to an increase in psychological distress and in work-related stress.

There is a strong positive correlation between burnout and psychological distress (0.793 ; $p < 0.000$), which is a very recurrent syndrome among teaching professionals [54]. There is also a moderate positive correlation between burnout and work-related stress (0.553 ; $p < 0.000$). We may say that these two indicators are interconnected; thus, an increase in psychological distress may lead to an increase on the levels of burnout and work-related stress.

In summary, the relationship between QWL factors and indicators presents the same patterns as explained the general quality of working life model and in the systemic quality of working life model [5, 6].

4.2. University working conditions and QWL

In order to better understand how the correlations of these QWL factors and indicators are established, we will now turn on to explain university working conditions and, later, explain some health problems triggered by such working relationships. Based on the contributions of the participants, we present the main categories that emerged from the qualitative data (**Table 2**).

Category	Description of category/subcategory
Work-life balance	This subcategory presents the strategies to reconcile the activities of private life with the duties of academic life. It also deals with the effects of the imbalance between personal life and teaching work on professors' physical and mental health.
Work relations	<i>Relations with colleagues:</i> This subcategory describes the relationship established with other university members, such as colleagues, head of department or technical-administrative staff. <i>Relationship with students:</i> This subcategory gathers the participants' considerations about the relationship with the graduate and undergraduate students.
Precariousness of university teaching work	<i>Academic productivism:</i> This subcategory refers to teachers' manifestations regarding the processes of precariousness of teaching work, with special emphasis on academic productivism experienced in daily teaching. <i>Excessive administrative work and bureaucratic activities:</i> This subcategory deals with the effects of the overload of bureaucratic and administrative tasks in professors' routine. <i>Inadequate working conditions:</i> This subcategory describes how professors evaluate their current working conditions, considering the management system that regulates their work activities, physical infrastructure and other resources made available by the institution for teaching work.

Source: Paula ([7], p. 153).

Table 2. Description of the categories of qualitative data analysis.

The first category *work-life balance* presents strategies to reconcile activities from private life with the demands of academic life. It addresses also the effects of the imbalance between personal life and academic life.

Nowadays, university professors experience an increase in “invisible” work (especially cognitive and intellectual work). Although it seems that physical overload has been reduced by the information technology, some studies show that physical charge is getting higher and higher among university professors and researchers. It is strictly related to the “publish or perish” phenomenon [12, 34–39, 42]. There is consequently an increase in the complexity of intellectual and emotional demands in academic environment, which also generate an increase in psychological distress and other professional diseases.

With the new communication technologies, professors may be increasingly available to university demands, experiencing a work overload generated by an “invisible work,” as pointed out by Professor 6:

“[...] today, it seems that work is invisible! it's there all the time ...it's there on Saturday, it's there on Sunday, it's there at dawn on Sunday, it's there at dawn on Monday. So, in that aspect with the technological modernization and with all of these facilitations, it seems that we're working harder than when we have to manage 16, 18 or 20 hours a week at the university. That's awful.” (Professor 6/ University A)

University professors and researchers are also working long hours to meet the demands of teaching and academic productivism expressed in the numbers of publications, reports, conferences, and so on [38, 42]. This situation generates stress, and it is responsible for increasing the risk of loss of balance between the instances of private and professional life [7, 34, 35].

Under such conditions, their mental health may be at risk because of the stress and fatigue they experience in their work and the imbalance between personal and professional life.

Unfortunately, this overload of teaching work is not an isolated phenomenon, but rather a result of the current model of higher education, whose efforts prioritize results connected with a mercantile and productivist logic. This, to a large extent, serves more interests of the private economic market than the collective social interests [34–38].

Other worrying statistic that confirms this distressing scenario refers to workload, as evidenced by the high number of working hours per week. In this sample, 14.7% of professors reported that they work more than 51 hours per week. When we consider the groups of respondents that works more than 46 hours per week in both universities, we will have 271 (37.9%) professors that represents more than one third of the total of respondents.

It should be noticed that, under current Brazilian labor legislation, the maximum working hours per week is 44 hours. It is relevant to observe that working more than 55 hours per week may lead to illnesses such as sleep disorders, chronic fatigue, stress, gastric problems, hypertension, and even diabetes [30, 55]. In this study, 105 professors (14.7%) are in evident risk of becoming ill—suffering especially from sleep disorders, fatigue, and stress—due to the high number of working hours per week.

We observed that 192 professors (26.9%) declared that they work two weekends per month, while 167 (23.4%) mentioned that they work every weekend. Another 133 respondents (18.6%) indicated that they work three weekends per month. When we observe the group of professors who work at least three weekends per month, we have 300 respondents (42%) in this condition. Such scenario of potential illness has a significant negative effect on the quality of life of these professors, interfering on the balance between personal and professional life too.

The second category *work relations* describes how professors perceive their relationships in the workplace. This category was subdivided into two subcategories (*relations with colleagues* and *relations with students*), which, although complementary, present distinctions as to the origin of the relation and how each one affects the perception of QWL for these professionals.

The subcategory *relations with colleagues* describes the relations established with other university workers, whether there are other professors or technical-administrative workers. In general, the professors reported that the main problems experienced in the relationship with technical-administrative workers are (a) lack of support for the development of teaching activities and (b) delay in answering requests made by them to the institution. In general, the contact between professors and institutional sectors is mediated by technical-administrative workers. On the other hand, the relationship with peers is a factor of great displeasure and dissatisfaction in the work environment of the investigated universities. Bad interpersonal relations among professors have a negative impact on their QWL, due to the conflicts and violence that sometimes permeate these relationships.

There have been reports of episodes of disrespect in the workplace that may damage working relationships and stimulate diseases. The logic of productivism also encourages intra- and extra-institutional competition, increasing the feeling of work overload and suffering, which is reflected in an increase of the number of sicknesses and withdrawals from work or even

death [56]. It is also reflected on the episodes of presenteeism [10, 41]. These informations should be considered to implement Human Resources strategies.

The subcategory *relations with students* gathers considerations of the participating professors about the relation with their graduate and undergraduate students. This category emerged from our data and was not directly mentioned in the QWL model proposed by Morin [5]. It is because the model is general and was designed based on research with other publics, such as health employees and military servants. However, the students can be considered as clients in the updated model we used [6]. It should be noted that the relationship with the students was seen in a very positive way by most of the participants and it was configured as one of the elements that may positively influence the improvement of these professors' QWL. In general, professors indicated that the relationship with students is based on the recognition of their role in the teaching and learning process and the possibility of contributing to the development of students and society, as mentioned by Professor 38:

"I really like what I do! I feel that I make the difference in students' lives and feel responsible for their future. In the last 24 months, I have been away from work for maternity leave and accompanying my husband abroad and I have felt great desire of coming back. The work makes me feel part of something important, big and relevant." (Professor 38/University B)

Another category of analysis was created to understand the scenario of *precariousness of the university teaching work* experienced in the daily life by the university professors who took part in the focus group. This category was split into three other subcategories, which must be understood in a broader context. It deals with (a) *academic productivity*, (b) *excess of administrative work and bureaucratic activities*, and (c) *inadequate working conditions* in the universities.

These three elements constitute what we defined as the *tripod of the precarization of university teaching work* (**Figure 2**), which sustains exhausting working conditions in academic environment. We may say that such conditions are also responsible for the patterns of correlations among the studied factors (workload and working hours) and indicators (work-related stress, meaning of work, meaning at work, psychological well-being, psychological distress, and balance between the demands of personal and professional life) and other damages to QWL of public university professors.

We will now deal with the productivist logic that prevails in academic everyday life and its consequences in the professors' life. The subcategory *academic productivity* discusses the process of precariousness of university teaching work, with special emphasis on the scientific productivity experienced in the reality of higher education in Brazil and abroad [7, 11, 34–39, 42].

With the commercialization of the university (which transforms the educational process into a product or commodity), the logic of a university that follows the Taylorist model starts to guide the systems and practices of evaluation of the productivity of Brazilian professors and researchers. We perceive that the product/merchandise (here understood as education and university knowledge) has been offered to the society taking into account, primarily, the interests of the economic market that compromises professors' quality of life and even the quality of the teaching process [7, 25, 29, 30].

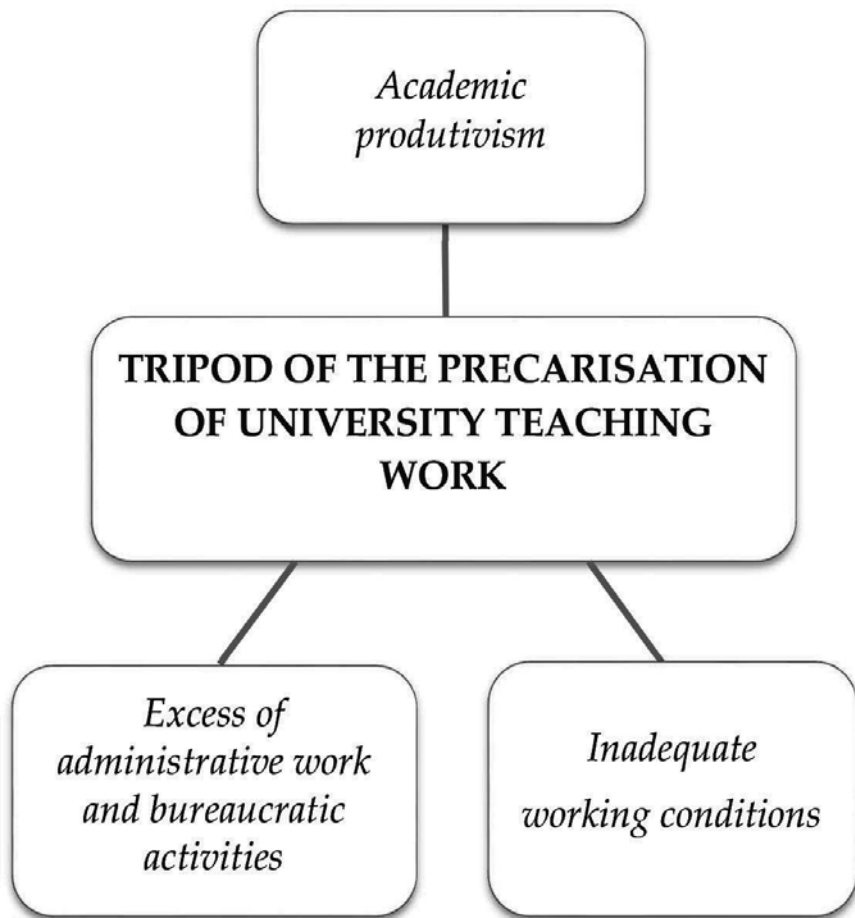


Figure 2. Tripod of the precarization of university teaching work (Source, Paula ([7], p. 192).

This Taylorist productivist system in the university favors the sickness, depersonification, and lack of meaning of work for professors (who become “machines and takers”) for not respecting the time of the professors and the “maturing” process of their researches. Such charges may lead to conflicts in work relationships and even lack of social responsibility with the results of their own researches. One respondent (Professor 84) mentioned that new professors blindly attend the logic of productivity imposed to the universities:

“The new professors who enter the academic space, especially the young doctors, blindly attend to the logic of productivity so widespread in postgraduate programs in Brazil. People are ‘labeled’ between those who produce and those who do not. The ‘being’ becomes the ‘having’: to have enough published paper, to have productivity grant, etc. In short, we have closed our eyes for those who pay our salary: the people! Honestly, when I think I have at least another 20 years, to stay in this harsh environment, I get to have chills. Many colleagues have become ill. I do not want to get sick too.” (Professor 84 / University A)

There is also a systematic pressure on the professors involved in postgraduation programs. Such professionals are pressured constantly by deadlines and evaluative metrics of public and private research and development agencies and may present a series of illnesses related to this scene. Thus, we also realize that there is already a generalized culture of charging for “results” and productivity. On addition to this, professors who are not tied up to postgraduate programs reported also that, in addition to their classes and administrative activities, they also feel pressured to produce more even for working weekends or overnight that compromises their family life and their health (Professor 49):

“There is pressure from the university to do research and publish, however the university does not leave time available for the professor to make research [...] if someone wants to make research he has to work at night or weekend.” (Professor 49/University B)

The professors emphasized that they are favorable to the production of knowledge, provided that this production is accompanied by a time of maturity of the research. Intellectual production is not seen as a problem. The issue highlighted by these professors as the major problem is the mercantilist logic, tied to the neoliberal model of economics, which dictates work rhythms and research patterns [29]. This acceleration of activities is perceived as something that is unhealthy and stressful.

We emphasize that there is another collective appeal for academic productivism, which is in association with the identity of university professor with the figure of the researcher. To be recognized and to have more status in the academic world, the professor must be more than a professor; he must also be also a researcher, as postulated by Professor 11:

“There is this idea that your identity as university professor is related to your research. This is very strong! It places a technical labor division, of those who research and those who do not research.” (Professor 11/University B)

As a virtue of this productivist logic, professors choose as priority the activities that “generate more points.” Another effect of the mercantilist logic of productivism is a proliferation of research groups with superficial debates. Such actions may deteriorate collective construction of knowledge—to strengthen individual actions—and the feeling of dissatisfaction does not meet what is required.

We may see as well as that labor relations are being neglected and this affects the meaning of work, as recommended by Morin [5] and Vilas Boas and Morin [6]. As postulated by Alcadipani [37], the measurement system, based on the mentioned mercantilist logic of productivism with managerial practices, distorts the whole process of building knowledge within the universities.

As discussed above, we may say that working conditions have a direct impact on workers’ health, engagement, and productivity [57, 58]. In this sense, the demands and difficulties arising from the organizational structure and working conditions (especially for the exercise of administrative functions) are supporting the rise of the new subcategory of analysis called *excess of administrative work and bureaucratic activities*.

Performing administrative work and bureaucratic activities, such as advice, direction, commissions, and course coordination, overwhelms professors’ life too. We noted that 198

professors (27.7%) mentioned that they exercise some administrative activity at the university. In general, these administrative functions are disconnected from the reality of the professor and destitute of meaning for the professors carrying them out. Most of the participants declared that they do not have training for the exercise of these administrative functions, as mentioned by Professor 11. A situation that becomes a factor of dissatisfaction and misunderstanding:

"We do not have structure and training to be a manager/administrator. There is no training to be on course coordinator! There is not any capacitation to assume a course coordination! There is not any capacitation to become Head of Department! You go there and falls by parachute, often peers pressure. [...] This is bad, because you're worn out." (Professor 11/University A)

Morin [4] pointed out that the characteristics of work are fundamental to establish the *meaning of work* so that, for a job to be meaningful to the worker, it is important that the person does something that is useful and has some purpose for him or for someone else—a job that contributes to others and to the society. Therefore, people are looking for a job that enables them to realize themselves as human beings and feel necessary and participative in a collective and social work. Additionally, the characteristics of the relationships performed in the job and inside the organization are important to establish the *meaning at work*. These two concepts are strictly related to the forms of work organization, and they are so relevant to make a real and effective diagnostic of QWL [5, 6, 40–42].

We realize that such administrative and bureaucratic functions are not appreciated by most of the professors, possibly because of the lack of recognition and meaning, and the physical and emotional exhaustion that these activities trigger. A meaningful and interesting work activity mobilizes workers not only to develop and to exercise their individual professional capacities but also to experience an accomplishment resulting from external factors of their work practice, as recognition of the working groups [59].

Finally, we present the third and last subcategory that make up the last "foot" of what we call the *tripod of the precarization of university teaching work*. The subcategory *inadequate working conditions* describes how the professors evaluated their current working conditions, considering the management system that regulates their work activities, physical infrastructure, and other resources made available by the institution for the accomplishment of university teaching work.

Most of the participants reported a series of complaints about the lack of organizational support or university structure to the development of their work. According to the participants, lack of appropriate structure may affect the quality of their work and represents also an impact on their physical or psychological health, as mentioned by Professors 73 and 36:

"My quality of working life is affected by the lack of infrastructure. There is not enough offices to accommodate everybody, so I've been "provisionally" housed for almost 2 years in a lab. My work desk is very old and small. The chair, though new, is uncomfortable, causing back pain at the end of the day." (Professor 73/University A)

"We work on an ugly campus. Old and ugly buildings, temporary rooms. There is no good space for scientific, artistic, or personal discussions." (Professor 36/University A)

The lack of financial, technical, or organizational support has negative influence too, such as the lack of financial resources to build the buildings for the studied universities. This indicates how much organizational support appears to be necessary to retain such professionals in the universities and to promote better QWL for them. It is because the precarization of teaching work experienced in the daily life of university professors causes impacts on their perceptions of QWL and in the desire of preserving their careers in public universities [7].

We have seen that all three components of the *tripod of the precarization of university teaching work* are present in the studied universities and they have a harmful effect on the professors' health and in the quality of the work they perform. Such "wear and tear" may compromise QWL of many professors working in public universities, and it may prevent these professionals from finding meaning on their work.

5. Final considerations

We developed this study based on the assumptions that some QWL factors and indicators may describe university professors' perception on QWL. It aimed also to analyze their perceptions about university working conditions. This study was based on quantitative and qualitative research with 715 professors in two public universities in Brazil. The whole study can be accessed in Paula [7]. We applied an online questionnaire and implemented four focus groups. We adopted the systemic quality of working life model, from Vilas Boas and Morin [6], as parameters for our analyses.

We noted, from the literature review, that the current Latin American, Caribe, and even other regions suffer from a scenario of precarization of university teaching work and it has a negative impact on professors' QWL and affection of their personal and professional life.

Physical charge, mental charge, emotional charge, and working hours were the factors analyzed in this research along with the following indicators: meaning of work, meaning at work, psychological well-being, psychological distress, work-related stress, and work-life balance. The Pearson correlation coefficients are significant in the expected direction, which indicates the information that these measures offered are reliable and consistent.

The results indicate that work-life balance decreases if work-related stress, burnout, and psychological distress increase. We have also observed that when psychological well-being decreases, professors' psychological distress increases. It was observed in the quantitative analyses and ratified in several comments collected during focus group. It was also observed that the professors' perceptions about the meaning of work and the meaning at work are directly related to their perceptions about the other indicators and factors as predicted by the adopted model that is directly affected by the patterns of work organization [5, 6].

Balance between work demands and the demands from private life become compromised by the acceleration and intensification of university work that ends up invading personal and family spheres. This disequilibrium affects professors' health, as it causes an increase in physical and psychical exhaustion. In addition to this, there is an excess of working hours to

overcome all duties required from university professors who are much more involved with research and publications nowadays than with teaching itself.

We argue that studies on the perceptions that employees have about organizational structure or working conditions are extremely relevant nowadays. It is because competition between companies and markets is extremely dynamic and fierce in dictating economic rules that affect directly public universities in different countries. This scenario pushed public universities to behave according to economic rules. However, healthy people and people compromised with their work activities become the main differential for the organizations, and it may contribute directly to the growth of human being and the organizational success too [60]. In this scenario, the worker's well-being is essential to enable meaning of work and keep workers involved with their organizations, such as public universities [58, 61, 62].

Data from content analyses allowed creating the *tripod of the precarization of university teaching work*. This tripod is composed by academic productivity, excess of administrative work and bureaucratic activities, and inadequate working conditions. All these three aspects affect directly quality of working life in public universities [7].

For further studies on QWL in the public sector, we suggest that similar research should be carried out at other public universities, thus supporting intervention programs and public policies that promote a better working environment for these professionals. It is also relevant to use qualitative approach to reinforce the quantitative findings in other public realities in order to spread this model, which may be considered an innovation on the studies about QWL. It is because this model focuses on many elements that are not addressed, as a whole, by previous models. Faced with all these considerations and notes, we would like to highlight our position that policies that guide actions on QWL should not negate the conflict capital versus work or, worse, ally with the interests of capital. QWL should be understood as a way of improving living conditions for workers and consequently for the organization itself and for the society.

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Work-Related Well-Being: From Qualitative Job Insecurity to Cognitive Reappraisal

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Additional information is available at the end of the chapter

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Abstract

This study contributes to the understanding of the moderating effect of cognitive reappraisal, as a personal resource, for the relationship between qualitative job insecurity (QJI) and work engagement. Data was collected from 190 employees (53% men) who work in a multinational company in Romania. Hypotheses were tested using a hierarchical regression analysis, with work engagement as the dependent variable. The results support the moderation hypothesis: a cognitive reappraisal, as an efficient type of emotion regulation strategy, moderates the relationship between qualitative job insecurity and work engagement. Practical implications of the present findings suggest that trainings aimed at improving emotion regulation skills can help to increase work engagement for employees that experience job insecurity based on deteriorating work conditions, specific to the qualitative job insecurity.

Keywords: work engagement, qualitative job insecurity, cognitive reappraisal, work-related well-being

1. Introduction

Many organizations are undertaking sustained efforts to enhance their own employee's well-being, in general, and employee's engagement, in special. In this chapter, we will focus on work engagement, as a particular form of work-related well-being, and its relationship with proper antecedents and moderators. Work engagement is a positive state of well-being in relation to work, characterized by identification with one's work, and a high level of energy [1]. Moreover, vigour and dedication comprise the core dimensions of work engagement [2, 3]. Based on the Job Demands-Resources model (JD-R model; [4]), well-being, in general, and work engagement, in particular, have job resources and demands as antecedents. Also, this model suggests that personal resources are predictors of work engagement and can buffer the unfavourable effects of job demands.

Job insecurity, as an economic reality, has been present in any and every market economy. In Europe, the unemployment rate has reached critically unprecedented levels [5]. In Romania, the challenges of the labour market are related to the high rate of young unemployed people. Also, the migration of highly skilled workers and an ageing population add to the challenge of developing a competitive economy for Romania. Thus, job insecurity is also a workplace stressor in organizational life, being less investigated in relation to work engagement. Against this background, the aims of the present study are to place job insecurity research in a Romanian context and investigate the buffering role of emotional regulation strategies in the job insecurity – well-being relationship; this way, we aim to contribute to the search for potential moderators.

Job insecurity “implies feelings of helplessness to preserve the desired job continuity” ([6], p. 2). Recently, in the literature, a distinction was made between two types of job insecurity (JI): quantitative and qualitative job insecurity (QJI). Thus, if quantitative job insecurity “implies feelings of helplessness to preserve the desired job continuity” ([6], p. 2), qualitative job insecurity is defined as “perceived threats of impaired quality in the employment relationship, such as deterioration of working conditions, lack of career opportunities, and decreasing salary development” ([7], p. 182). Qualitative job insecurity might develop as a result of organizational changes [8]. Because qualitative job insecurity implies a feeling of insecurity about the continuity of appreciated job aspects in the future, it can be considered an emotional demand [9]. Also, while quantitative job insecurity was extensively studied, especially regarding performance [10], research on qualitative job insecurity is less advanced. Further research is needed on the topic. This study contributes to the understanding of the relationship between qualitative job insecurity and work engagement from the standpoint of its moderators, especially in the case of Romanian workforce. De Witte [6] argued that the detection of moderators in the relation between job insecurity and outcomes has a double aim. From a theoretical point of view, this detection adds knowledge about the direction in which job insecurity influences well-being. From a practical perspective, it is significant “because it provides indications about the variables that have to be influenced or changed, when one aims to reduce the negative consequences of job insecurity” ([6], p. 5). Recently, Wang et al. [11] advocated more research on personal characteristics as moderators of job insecurity. They argued that this kind of research is crucial for the theoretical development of the job insecurity literature and provides practical implications for organizations on how to train employees to manage job insecurity crisis.

Till now, there is only limited evidence for the interaction between job demands and personal, social or cultural resources [12]. Tremblay and Messervey [13] tested the hypothesis that compassion satisfaction buffers the impact of job demands on anxiety and depression, on a military chaplain sample. The results of regression analyses showed that personal resources (like compassion satisfaction) buffered the impact of role overload, as job demand, on job strain. In this case, personal resources act as a protective factor in relation to adverse working conditions. Furthermore, in their study among Romanian migrating workers, Vîrgă and Iliescu [14] tested the moderating effect of acculturation and support for family. Specifically, they hypothesized that acculturation could buffer the negative impact of job insecurity on well-being measures (like work engagement, burnout and health) and that support for family will boost this negative relation. They asked 477 Romanian employees who work in Spain to fill in

questionnaires. Results of hierarchical linear modelling showed that acculturation buffers against the negative effects of job insecurity on well-being (engagement, burnout and mental health), but support for family had no intervening effect in this relation.

Personal resources are defined as positive self-evaluations that refer to individuals' ability to control their environment successfully [12, 15]. Personal resources (like self-efficacy, optimism, or personal ability to regulate emotions) have a great contribution to moderate the relation between job demands and well-being. Thus, personal resources can help to combat stressful situations and facilitate goal fulfilment in the face of hindrance job demands [16]. For instance, job insecurity could deplete a person's inner resources [17]. Based on the transactional model of stress and coping developed by Lazarus and Folkman [18], employees with a high level of personal resources can better cope with the job demands [19]. Nevertheless, in the literature, only a limited number of studies have examined personal resources as moderators of the effects of job insecurity on well-being (e.g. [20]). Personal resources are individual characteristics which can be modified and developed by training. This can play a significant role in increasing individual resilience in unpredictable situations that can obstruct the relations at work, like qualitative job insecurity.

Emotion regulation is defined as "the processes by which individuals influence which emotions they have when they have them, and how they experience and express these emotions" ([21], p. 275). In this study, we focused on cognitive reappraisal, as an efficient type of emotion regulation strategy. Cognitive reappraisal occurs very early in the emotion-generative process and prevents the development of negative emotions [22]. We have selected cognitive reappraisal, as a strategy for emotion regulation and personal resource, based on previous research proving this strategy is associated with positive organizational aspects [23]. Also, cognitive reappraisal may be considered a personal resource because it is malleable and continues to be improved even unto old age [24].

Specifically, we will test the cognitive reappraisal as a moderating construct in the association between qualitative job insecurity and work engagement. This study is one of the few which analyzes the moderating role of cognitive reappraisal, as a strategy of emotion regulation and personal resource too, in the relation between the job demands and organizational well-being.

Based on the transactional model of stress and coping [18], we argue that a high level of cognitive reappraisal can act as a buffer against the undesirable impact of qualitative job insecurity on work engagement. Accordingly, our study aims to reappraise cognitive reappraisal and consider it as a personal resource, which can be developed to better cope with qualitative job insecurity. Specifically, the objective of the present study is twofold. First, we will examine the relationship between qualitative job insecurity and work engagement. Second, we will investigate the moderating effect of cognitive reappraisal in the relationship between qualitative job insecurity and work engagement.

2. Qualitative job insecurity and work engagement

Work engagement is a fulfilment in relation to work and has a core component, vigour and dedication, which fosters positive individual outcomes like performance and health [1]. Vigour is characterized by a high energy level, mental strength during labour and willingness to

invest effort in work and to persist even in the face of obstacles [25]. Dedication is characterized by enthusiasm, inspiration, honour and challenge [2].

The Job Demands-Resources model (JD-R model; [4]) is one of the most used models to explain work engagement. This model can be used in any work environment and can be adapted for any job assessment, given that the principle of the model is that any job is composed of two categories of elements: job demands and job resources [12]. Job resources (like feedback, autonomy, transformational leadership or social support from colleagues) are specific for each organization and have an important role in predicting engagement. However, engagement is weakly, negatively related to job demands, such as workload, time pressure or cognitive demands [12].

Job insecurity, as hindrance job demand, has been negatively related to employees' well-being, in general, and to work engagement, in particular [26, 27]. Moreover, employees who experience job insecurity show less engagement at work [27–29].

In this chapter, we analyze a special type of job insecurity, qualitative job insecurity, which is the insecurity related to the job content, the working conditions or the degree of social support in the job one may experience in the future [8]. Recent research indicates that qualitative job insecurity is an important job stressor and may have the same negative consequences as quantitative job insecurity [30]. Research on this topic is developing, but more inquiry is needed to identify the impact of qualitative job insecurity on work-related well-being, in general, and on work engagement, in particular.

The first aim of the present study is to investigate the relationship between qualitative job insecurity and work engagement. Thus, we formulate the following hypotheses:

Hypothesis 1: Qualitative job insecurity is negatively associated with work engagement.

3. Cognitive reappraisal as moderator

The JD-R model supports the idea that the effects of job demands are moderated through personal means [4, 31]. According to Ref. [32], individual differences in emotion regulation affect the way work-related emotional events relate to individual well-being and performance. For example, emotionally competent people who actively address emotional job stressors do have less adverse health effects later [33, 34]. This study also adopts the transactional model of stress and coping [18] to analyze the relations between stressors, well-being and coping strategies in Romanian employees. Experiencing job uncertainty related to work conditions has a great potential for an increase in job-related stress and an impact on employees' feelings and behaviours [18].

Emotion regulation is a key mechanism for our survival and is at the core of successful social interactions [35]. It is defined as “a controlled process that is used to change a person's spontaneous emotional response” ([36], p. 2). According to Ref. [21], emotion regulation consists of the efforts people make during emotionally distressing events to influence the experience (its intensity, duration, etc.), and the expression of the activated emotions [22] designed a process-oriented model of emotion regulation to classify the strategies people use to regulate their emotions.

Emotion regulation strategies are ways in which people can modulate their emotions [37]. Depending on when these cognitive events occur along the timeline of information processing, there is cognitive reappraisal (also known as antecedent-focused regulation), which comes early in the emotion-generative process, and response-focused regulation (e.g. expressive suppression), which is applied when emotions are already fully experienced and only modifies the emotional display, not the experience [32].

A dysfunctional cognitive emotion regulation, in general, contributes to a decreased quality of life and well-being [37]. According to Ref. [21], the use of antecedent and response-focused strategies is considered to differ in their consequences on health and well-being. Thus, expressive suppression turns out to be an ineffective strategy in terms of altering emotional experiences because it decreases the emotional expression, but not the intensity of the felt emotion [22, 37] at the price of cognitive load which may provoke one's impaired memory and affect their social functioning [32]. Thus, individuals who resort to the use of expressive suppression also experience increased depression and anxiety, are less satisfied with their lives and relationships and are more pessimistic about the future [35, 37].

Also, reappraisal imposes a much smaller cognitive load because it does not need to monitor one's feelings and behaviour later on [22, 38], cognitive performance is not negatively influenced, memory is not decreased [38], and interpersonal communication is not impaired. Instead, health, memory and social relationships are all positively influenced by cognitive reappraisal [23, 38, 39]; people report a better interpersonal functioning [35] and positive well-being [37]. Experiencing job uncertainty is a great potential for stress in employees, and this affects their feelings and behaviours [14]. Specifically, when employees feel that the continuity of important job features is threatened, their engagement tends to decrease. However, a cognitive reappraisal, as an efficient strategy for emotion regulation, prevents the development of negative emotions [22]. We chose this strategy for the present research because the cognitive reappraisal behaves as a buffer in the relation between qualitative job insecurity and engagement. This way, it diminishes the negative effect of job insecurity (i.e. fear of losing privileges related to the job), on employees' engagement.

The second aim of this study is to investigate the moderating effect of cognitive reappraisal on the relationship between qualitative job insecurity and work engagement, which has not, to our knowledge, been so far investigated. Thus, we formulate the following hypotheses:

Hypothesis 2: Cognitive reappraisal buffers the negative relationship between qualitative job insecurity and work engagement.

4. Method

4.1. Participants and procedure

Data were collected from employees who work at a multinational company in Timisoara, Romania, regarded as one of the largest multinational companies in Romania. The employees voluntarily participated in the study and were asked to fill in paper and pencil self-report questionnaires. Anonymity was guaranteed. We distributed 300 questionnaires. Finally, 190

respondents (53% men) returned the questionnaire (63.6% response rate). The age of the respondents ranged from 20 to 61 years ($M = 29.86$, $SD = 8.56$).

4.2. Measures

We used Romanian versions of all instruments which were evaluated using the standard back-translation technique.

Qualitative job insecurity was measured with a four-item scale, tapping into similar aspects as the items of [40]. A sample item reads "I feel insecure about the characteristics and conditions of my job in the future". Respondents were asked to evaluate the items on a five-point scale ranging from 1 ("totally disagree") to 5 ("totally agree"). On our sample, the Cronbach's alpha coefficient for qualitative job insecurity scale is $\alpha = 0.82$.

For measuring *cognitive reappraisal*, we used the five-item revised version of the Emotion Regulation Questionnaire (ERQ, [35, 37]). A sample item reads "When I'm faced with a stressful situation, I make myself think about it in a way that helps me stay calm". Answers are collected using a seven-point Likert scale, ranging from 1—totally disagree to 7—totally agree. On our sample, the Cronbach's alpha coefficient for cognitive reappraisal scale is $\alpha = 0.70$.

Work engagement was measured with two dimensions of the short version of the Utrecht Work Engagement Scale (UWES-9; [41]): Vigour (three items: "At my workplace, I burst with energy".) and Dedication (three items: "I find the work that I do full of meaning and purpose"). All items were scored on a seven-point frequency scale, ranging from 0 ("never") to 6 ("always"). Following the previous research [42, 43], we used these two dimensions as core work engagement. On our sample, the Cronbach's alpha coefficient for core work engagement is 0.87.

4.3. Analysis

Hypotheses were tested using hierarchical regression analysis, with work engagement as the dependent variable.

5. Results

Table 1 presents the means, standard deviations, correlations and reliability estimates for the variables in the model. Cronbach's alpha coefficients of reliability are ranging from 0.70 to 0.87. As predicted, a negative correlation was found between qualitative job insecurity and work engagement ($r = -0.33$, $p < 0.01$). Also, a positive correlation of cognitive reappraisal was found with engagement ($r = 0.15$, $p < 0.05$).

In order to test hypotheses H1 and H2, we conducted hierarchical multiple regressions with cognitive reappraisal as a moderator. First, we transformed the predictor (job insecurity) and the moderator (cognitive reappraisal) in Z scores, and we entered the predictor variable in Step 1 and the moderator in Step 2; we then entered their interaction term in Step 3.

Variables	<i>M</i>	<i>SD</i>	1	2	3
1. Qualitative job insecurity	7.31	2.46	(0.82)	0.03	-0.33**
2. Cognitive reappraisal	23.34	5.98	-	(0.70)	0.15*
3. Work engagement	23.15	7.31	-	-	(0.87)

Notes: *N* = 190; * *p* < 0.05; ** *p* < 0.01; two-tailed. Cronbach's alphas are listed on the diagonal.

Table 1. Descriptive statistics and intercorrelations.

Table 2 presents the results of the hierarchical regression analyses. We tested the relationship between qualitative job insecurity and cognitive reappraisal and the interaction between qualitative job insecurity and cognitive reappraisal, with work engagement as the dependent variable.

In Step 1, the effect of qualitative job insecurity was tested. Results show that qualitative job insecurity explained 11% of the variance in work engagement ($\beta = -0.33$, $p < 0.01$, $F(1, 188) = 24.21$, $p < 0.001$). More specifically, high levels of qualitative job insecurity were related to lower levels of work engagement. Thus, H1 was supported.

After controlling for the qualitative job insecurity, the effect of cognitive reappraisal on work engagement was tested in Step 2 of the regression analysis. The addition of the moderator variable also revealed a significant effect for engagement. Results show that cognitive reappraisal only explained 2% of the variance in work engagement ($\beta = 0.16$, $p < 0.01$, $F(1, 187) = 5.87$, $p < 0.01$). Thus, cognitive reappraisal predicts engagement, after controlling for qualitative job insecurity. More specifically, high levels of cognitive reappraisal were related to higher levels of engagement, after controlling for qualitative job insecurity. In Step 3 of the regression analysis, we entered the interaction between qualitative job insecurity and cognitive reappraisal. Thus, the

Predictors	Work engagement		
	Model 1	Model 2	Model 3
	β	β	β
Qualitative job insecurity (QJI)	-0.33**	-0.34**	-0.34**
Cognitive reappraisal (CR)		0.16*	0.19*
QJI × CR			0.15*
<i>R</i> ²	0.11	0.14	0.16
Change in <i>R</i> ²		0.02	0.02
<i>F</i> for change in <i>R</i> ²	24.21**	5.87*	5.18*

Notes: *N* = 190; ** *p* < 0.01; * *p* < 0.05.

Table 2. Moderated hierarchical regression analyses for work engagement.

results show that the two-way interaction explains a statistically significant part of the variance in work engagement ($F(1, 186) = 5.18, p < 0.05, \Delta R^2 = 0.02, p < 0.05$). The qualitative job insecurity has statistically significant interactions with cognitive reappraisal ($\beta = 0.15, p < 0.05$).

Simple slope analyses were conducted for this statistically significant interaction. As shown in **Figure 1**, when confronted with high qualitative job insecurity, employees with a high level of cognitive reappraisal reached a high level of work engagement ($\beta = -1.37, t [189] = 12.50, p < 0.001$). Also, when low qualitative job insecurity is associated with a high level of cognitive reappraisal, employees are highly engaged ($\beta = -2.52, t [189] = 56.34, p < 0.001$).

To conclude, H2 is supported for qualitative job insecurity, in interaction with cognitive reappraisal (as a personal resource): cognitive reappraisal is a moderator and buffers the negative relationship between qualitative job insecurity and work engagement.

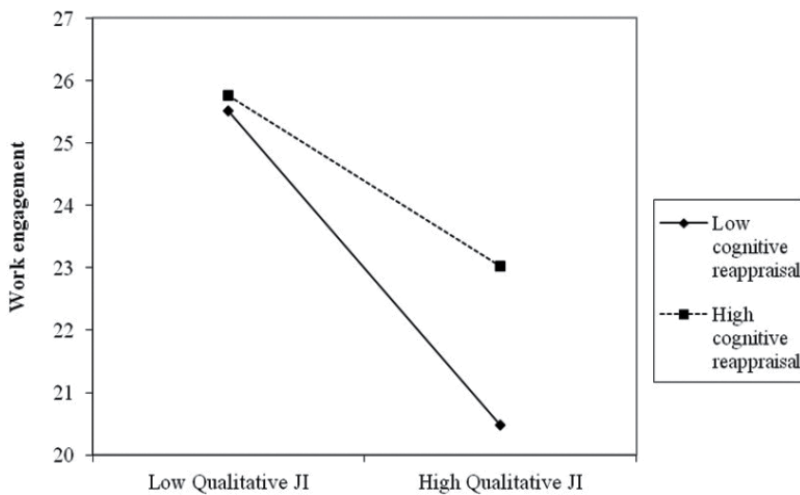


Figure 1. Interaction effect of qualitative job insecurity and cognitive reappraisal in predicting work engagement.

6. Discussions

This study examined the moderating role of cognitive reappraisal, as a personal resource, in the relationship between qualitative job insecurity, as a stressor, and work engagement, as job-related well-being indicator, for a sample of Romanian workers. Based on JD-R model [4] and the transactional model of stress and coping [14], this study proposed that cognitive reappraisal buffers the effect of job insecurity on work engagement. The results support our hypotheses and offer evidence about the relation between qualitative job insecurity and work engagement on a Romanian sample.

In addition to the initial studies that brought evidence for the detrimental associations of qualitative job insecurity with employee well-being [40], in our study qualitative job insecurity was directly associated with work engagement, as work-related well-being [20, 40]. One possible explanation for this finding is that employees who experience a fear that their working

conditions can be devaluated, or experience a high level of qualitative job insecurity, could also experience a low level of engagement for work.

The results also support the moderation hypothesis: cognitive reappraisal moderates the relationship between qualitative job insecurity and work engagement. However, the employees who use cognitive reappraisal, as a strategy of emotion regulation and, implicitly, as a personal resource, can develop a higher work engagement when they perceive a high risk of deterioration in working conditions, as compared to those who have a lower cognitive reappraisal use. Employees who use cognitive reappraisal as an emotional coping strategy would develop a positive affective attitude towards the organization in which they work, even if they perceive threats of impaired quality in the employment relationship.

7. Limits and future research

The present study has a few limitations. One limitation would be its correlation nature. This type of research design does not permit clear conclusions on causality that occurs between the studied variables. The data was also obtained by self-report, which can lead to errors due to the effects of common variance. However, it is argued that the biasing effects of self-reports are overstated and, when measuring variables like cognitive reappraisal, the subjective experience is what matters. The sample used was one of convenience, consisting of employees from the same organization. Future research could be conducted on employees in other occupational categories and different age groups.

Also, in future research, we could refine the measurement of well-being forms and study the effects of interaction between qualitative job insecurity and cognitive reappraisal for each type of well-being. Besides the interaction effects between qualitative job insecurity and cognitive reappraisal, it would be interesting to check the interaction of three variables, such as between job demands, personal resources and job resources. For future research, a longitudinal study would be necessary on this theme, in order to observe the dynamic of the relationship between these variables across time.

8. Practical implications

Based on the results of our study, employees could be trained to manage their emotions and reduce the job strain accordingly. Intervention programmes that increase the adaptability of the employees to the organizational environment should be implemented to develop the individual mechanism of emotion regulation. The employees who use cognitive reappraisal, as a personal resource, have a better organizational adaptation and a high level of work engagement.

Recent research provided evidence about the positive impact of an emotion regulation training (like Affect Regulation Training (ART); [44]) on improving emotion regulation skills and the well-being of employees in health [45]. Based on the integrative model of *Adaptive Coping with Emotions* (ACE), Berking [44] created and developed the standardized Affect Regulation

Training (ART), which focuses on the improvement of those emotion regulation abilities as strategy to increase well-being. The ART includes stress relaxation and cognitive-behavioural techniques and adds mindfulness-based strategies to improve emotion regulation [45]. One such intervention programme, which emphasizes emotion regulation skills, could strengthen personal resources of employees who are confronted with uncertainty conditions of work and increase their work-related well-being.

Thus, in the context of job uncertainty, for boosting work engagement, as work-related well-being, it's necessary to create interventions based on training for personal resources, especially emotional regulation skills. However, the strong relation between work engagement and performance adds one more argument for the project and implements effective interventions for the increase of employees' engagement.

9. Conclusion

Personal resources can help employees deal with different job demands in relation with well-being. Specifically, cognitive reappraisal, as an effective emotion regulation strategy, can be conceptualized as an important personal resource in the context of qualitative job insecurity. Especially, employees that experience feelings of uncertainty about future work conditions, or a decrease in their salary, should have a repertoire of efficient emotional strategies helping them deal with negative emotional demands. Cognitive reappraisal, as a way of cognitive change, acts as an emotional coping ability in insecure contexts and supports employees in successfully dealing with negative perspectives in work situations.

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Psychological Well-Being of Individuals as Employees and a Paradigm in the Future Economy and Society

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Abstract

We report about a new non-technological innovation aimed to manage socioeconomic crises. Economic theory cannot manage them: it is too one-sided. The model suggests solving the crises with requisite holism (RH), social responsibility (SR), human personal requisite holism (HPRH), and well-being (WB). Qualitative analysis using RH, SR, HPRH, WB, and dialectical systems theory (DST) was applied in this research. Field research covered Slovene midsize enterprises. Findings include the following: The global and local political and economic decision-makers poorly know and use systemic behavior; they are therefore one-sided rather than requisitely holistic and caused the current global socioeconomic and environmental crisis. RH/SR would make decision-makers more/requisitely holistic, honest, and reliable. RH/SR supports holism better, if upgraded with increasing WB, not welfare alone. Both RH/SR and WB support HPRH. Their innovative synergy WB&RH/SR leads to the solution of crises. DST backs WB&RH/SR methodologically. Research was qualitative analysis in desk and previous field research. Its practical implications show that the RH/SR/WB/DST/HPRH approach to managing socioeconomic crises helps practitioners essentially to avoid oversights and failures. Available literature offers no similar concept.

Keywords: socioeconomic crisis, social responsibility, (human personal) requisite holism, well-being, dialectical systems theory

1. The selected challenge and aspect of treatment

The modern overspecialization without interdisciplinary creative cooperation causes one-sidedness causing the current worldwide socioeconomic crisis in the form of neoliberalism for decades [1]. Specialists are hardly replaceable with tools but interdependent due to their differences making them complementary. Hence, human resource management (HRM) must

attain requisite holism (RH) and apply social responsibility (SR) to dig values of cooperation and creativity and make it innovative; preconditions include employees' well-being (WB) and methodological support with dialectical systems theory (DST) [e.g., [2]]. If managers practice no human personal requisite holism (HPRH), they need an innovative shift of mind set from "persecution" of bad work into the "validation" and "promoting" of good work with positive psychology. The positive psychology offers new opportunities instead of exposing the negative events, properties, and consequences; therefore, the problems diminish optimism and its positive effects on employees and the organizational performance.

2. Positive psychology and psychic well-being

Positive psychology is included in socially responsible organizational governance and management developing HPRH and WB. WB has subjective and objective dimensions that one can measure at individual, organizational, or societal levels; it includes attributes of life satisfaction which avoid definition, explanation, or influence by economic growth [3], summarized after [1]. WB is complex, and its meaning remains contested; key distinctions are between (1) hedonic and eudemonic WB and (2) objective and subjective measures [3], in [1]. Different authors' definitions of WB differ.

One can view WB with objective/outer descriptors and subjective/intern assessments of person's physical, material, social, and emotional WB, together with the scope of personal development and purposeful activity, all weighed with selected values [4], summarized in [5].

Authors find WB a positive and sustainable condition, letting humans, groups, or nations thrive and flourish [6].

Authors associate WB with two different philosophies: (1) hedonism maintains that WB stresses pleasure and happiness, and (2) in eudemonism WB reaches beyond happiness and is based on the actualization of human potential.

Experiences show that WB is actually a multidimensional phenomenon, including aspects of hedonistic and eudemonistic concepts of WB. Several authors report similar findings [7].

- Investigation of the connection between 18 indicators of WB detected two factors: (1) subjective well-being (SWB) and (2) personal growth [8]. These two factors were only modestly related. The survey indicated that the hedonistic and eudemonic views both overlap and differ; distinctive ways of measuring can improve understanding of WB.
- When laymen were asked to identify characteristics constituting good life, they included notions of happiness and meaning [9].
- Analysis of many mental indicators highlighted two factors: happiness and fullness of meaning; persons, pursuing personal goals and happiness, do not search meaning and integrity [10].

Although both theories overlap, the most interesting outcomes result from differences between both theories rather than from the overlapping attributes.

Combination of the three related models (subjective emotional WB (SWB), psychological WB (PWB), and self-determination (SD)) generated a general factor called psychic well-being (PWB); this model includes a hedonistic part of WB and a eudemonic part of WB in the context of a broad factor [11].

3. Effects of well-being and its measurement

We measured PWB with a new measurement scale, including the selective elements/claims of measurement scales about SWB, PWB, and SD that authors designed and presented.

In [1] we presented the finding: when individual's income increases, it becomes less relevant for the growth of well-being; interpersonal relations and satisfaction at work become increasingly relevant. We summarized also some main ideas from [12], including:

- Noneconomic indicators of social well-being matter, e.g., social capital, democratic management, and human rights support satisfaction at work and profitability.
- The expected (economic) results more often result from well-being than vice versa.
- Persons with the highest well-being attain more income and more success than those with lower WB.
- Persons with higher WB live in better social relations.
- Happy people more often live in a well-functioning family.
- They tend to have a better health and longer life.
- A higher WB is good also for the general economic situation, not only privately.

3.1. Influences of psychological well-being on coworkers

The coworkers' WB becomes more crucial than their productivity and efficiency as a criterion of employment; employees with high WB are more productive, efficient, and loyal to their organization than employees with lower WB. Such studies clarify ratings of human WB in particular areas of life, including job. Continuous positive job experiences let humans establish positive relationships with others; they positively impact quality of other performances. Studies also emphasize the individuals' purpose in life; therefore, motivation, strengthening the role, and rewards lead to personal growth [13].

3.1.1. *Impacts of psychological well-being on employees' health*

A research on the relationship between employee's WB and the state of the human cardiovascular system discovered that both physical and psychological WB should be seen as sources of efficiency. Human psychological WB is best viewed in psychological health; psychologically healthy people are able to optimally balance their negative and positive emotions [14].

3.1.2. *Other impacts of employees' psychological well-being*

Well-being refers to employees' physical and mental health. The benefits and facilities that employees might enjoy include a pension scheme; access to medical care; a healthy and safe working environment; help during long-term sickness; assistance in family matters, such as bereavement, crèche facilities, paternal leave for fathers, help in issues of education, and travel to job, if employees' families must move to other places; counseling; chance to receive employee support, such as an internal occupational support scheme (OSS) or an employee assistance program (EAP); food on job, socializing, and recreational conditions; preparation for the case of firing and pensioning; and advise in case of the current welfare topics [15], summarized after [1].

Coworkers should enjoy stress-free and physically safe work conditions; this situation is differently hard to achieve in different organizations. But this is not all: humans have many not only professional attributes in synergy but also (1) physical, (2) mental, (3) social, (4) spiritual, (5) economic, and (6) professional specialization. All these and other attributes form synergies [16]. Due to these attributes, individuals differ from each other.

Therefore, we must mention [17], summarized after [1], seeing well-being in its broadest and most comprehensive sense, recalling Aristotle's eudemonia as the realization of one's true potential, as an overarching indicator of well-being and happiness and its causes. Well-being is not a simple absence of the negative; instead, it is the presence of the positive [17].

3.2. **The impacts of psychological well-being on organizations**

Increasingly, many researchers explore impacts of WB [15], summarized after [18]. In the modern world, characterized by interdependence and complexity, employees are under pressure that negatively impacts their health and WB and results in high costs due to absence from work in both the private and public organizations (more in [19]). Employees' WB, among other attributes, impacts the increasingly aging workers and the need for people to work longer hours in order to secure economic security, even after retirement [18]. In addition, the new technology, increasing the speed of change, characterizes WB. The fact that both parents are economically active which creates problems of balancing between work, family, and life satisfaction, influences WB, too. The work environment, its requirements, work organization, etc. impact WB.

These facts make the growing interest for employees' WB, either in business or in governmental organizations: the coworkers' health and happiness crucially impact the current and future survival of organizations and WB of the society in general. Leaders' duty covers conditions, helping employees work in a safe, happy, and healthy environment. If their organizations have invested in healthy work conditions and WB, later on their benefit [16].

WB on job is an important factor in organizational effectiveness [20]. The reason for this is the fact that healthy employees, who feel well, are essential preconditions for organizational success and viability [19]. More and more employers recognize the so-called benefits of wellness policies; the satisfied employees are also healthy colleagues [20]. Strategies for overcoming

health problems of workers help them to effectively return to work from rehabilitation and proactively support employers providing employees' WB.

The psychological contract that existed between employers and employees changed [21]. The perception of personal performances, short-term and unethical behavior of management contributed to the growth of cynicism on job, ruins employees' WB and work performance; to eliminate that perception, managers should pay more attention to trust, respect people, and communicate with all employees in a way that expresses honesty and commitment [22].

- HRM techniques support the coworkers' WB; hence, managers must [18].
- Practice support and be worth the trust: this results in WB.
- Practice a work environment for coworkers to thrive and enjoy WB at work.
- Practice trust, honesty, mutual support, and engagement as the organizational culture.
- Create opportunities for coworkers' participation in decision-making and teamwork that support employees' WB; this supports flexibility, balances both the work and personal life, improves work efficiency, and causes less absenteeism; and this motivates coworkers and supports equality and fairness.
- Enable coworkers' development by additional training and suitable pay.
- Develop coworkers' mental and emotional health by helping coworkers be self-confident, self-esteeming, attain their objectives, feel important, and emotionally resilient.

These techniques must be part of holistic human resource management in each organization. The guideline in developing such model should be the people—owners, managers, coworkers, local population, partners, competitors, and coworkers—who serve as the critical dimension for a successful implementation of the business.

These factors show that organizational objectives are not only economic (final earnings), but they should include also the important and often overlooked WB on job, which can generate an appropriate framework for employees' requisitely holistic happiness and organizational success. Neglecting the impact of WB and employee satisfaction on job on improved productivity, reduced absenteeism, or other organizational benefits can hinder the organization's stability, employees' WB, and social stability [16].

It is not realistic to think: "equipment alone is essential, and the technological innovations alone matter; coworkers are replaceable and cause cost rather than benefit." With such a perception, detriments happen that are seen as side effects and left aside, despite their essential long-term impacts, at least [23], summarized after [24]. Among others, there are data uncovering that the richness of the western countries after WWII has been growing more in bookkeeping than in long-term economic terms: the cost of maintenance of the natural preconditions for human life in real time is not covered, but piled up [25], summarized after [24]. The economic consequences of such short-sighted abuse of the law of external economics are enormous [26], interviewed by [27]: if humankind does not act on climate changes very quickly and radically,

these climate changes might cause humankind's cost as high as 5500 (five thousand five hundred) billion Euros, which reaches beyond the cost of both World Wars combined. Without measures diminishing the hot-bed gasses, the worldwide gross domestic product (GDP) will fall for 5%, maybe even 20%' [26], summarized after [24].

Humans should remember several different levels of WB. Low levels of WB can have in the modern crisis many forms, from employees' diseases to strikes; methods of solving the problem must be adapted to various forms of combining solidarity, economics, and integrity. Their common denominator might be SR that includes business innovation in the values, culture, ethics, and norms (VCEN) of behavior. SR VCEN makes people, for normal egoistic reasons, less selfish (i.e., short minded and narrow minded) than without SR. Thus, such an innovation of VCEN is preconditioned for humankind's survival. Therefore, humankind needs the new synergy of knowledge of (1) the rise of the creative class, (2) SR, (3) modesty rather than the greedy affluence that is a dead alley (because nature has finite resources), and (4) the new motivation: employees' WB is backed by creation and innovation [24] and based on RH/SR/WB/DST/HPRH approach.

Organizational development may apply coworkers' WB: consideration of them as creative humans with equal rights enables organizations to avoid resistance, revolt, striking, and similar disturbances of creativity in work processes. Hence, the given models about treatment of coworkers fail to include RH, expressed as SR and honest consideration; thus, they offer no solutions but cause absenteeism, fictitious and serious illnesses, resistance to work instead of gladness to have chances to be creative, search for all kinds of tacit striking, including coworkers' proving to their bosses that the bosses' instructions cannot be realized because they are not requisitely realistic, etc. [24]. Perhaps, the effort aimed at innovative business and RH/SR/WB/DST/HPRH generates a basis for work success, encouraging coworkers' to create to the benefit of their organization and broader society, rather than for blocking them. The (inter)national leaders should and could support RH/SR/WB/DST/HPRH, e.g., with an (inter) national strategy fostering the employees' and citizens' WB, including monitoring the given situation and trends [28], summarized in [24].

The coworkers' well-being requires also a global/planetary ethic/SR. Single organizations may find it difficult to accept SR as the only ones. Though, poverty resulting from poor well-being and related bad productivity and rationality at work, caused by poor innovativeness, belongs to the biggest threats to the global harmony [29]. This conclusion reflects the fact that the global wealth is distributed essentially differently than in times of Adam Smith when they started to create the economic theory: then, the richness differed between the big areas of civilization on the Planet Earth was less than 2:1, and now it is more than 74:1 [23] and growing [public press in January 2017]. The current civilization is ruining itself, because it respects no limitations in no areas; humankind needs planetary ethic [23]. Namely, "unequalities ran beyond any proportions, causing hyper-terrorism against the privileged ones." Hence, humankind must innovate relation of humans to their natural environment by humans becoming "citizens of the entire world rather than single countries only." The current huge differences in income and richness cause poverty of all including people living in affluence: they also live unhealthy lives [public press in January 2017] rather than in RH/SR/WB/DST/HPRH approach.

Employees' WB encourages organizational innovation. WB raises revenues and diminishes costs, hence raising organizational performance.

3.3. The impacts of well-being on society

The current richness in the economically "advanced" countries diminishes the lack of resources covering the real needs; this lagging of resources behind the needs was/is the topic of the traditional economics of life, and now supply is replaced by affluence causing that supply extremely exceeds the demand. Therefore, suppliers are creating artificial and fictitious needs [30], total quality, low prices, and wide selection; they often neglect natural environment and therefore health, inadequate welfare of workers and people who cannot afford everything they see others have, etc. This kind of competitive pressure is no longer good, once one leaves aside the substantial side effects of the traditional economic theory: in reality, natural preconditions for the existence of humankind and WB of people are expensive. Economic growth endangers people for whom it is intended, especially when the natural preconditions are disappearing and people are neither healthy nor happy, but only wealthy [24].

The level of use of workers' capabilities and talents in the USA reaches only 23% [31]. This percentage cannot be higher in the transitional societies, such as Slovenia, since the problem has the equal source. Many owners and their authorized representatives—governors and managers—still see in the organizational hierarchy their right to be dictators like in the ancient times of building the Egyptian pyramids, when such a hierarchy was a non-technological innovation aimed at quick provision of the few experts' knowledge to their many coworkers [32]. The rise of the quoted 23% is crucial for the current economy and society. It depends on RH/SR/WB/DST/HPRH approach [16].

Better implemented capabilities could destroy the blind alley of the affluent society and its natural environment. This society understands and practices creativity and the economic measures of effectiveness in a too narrow way. With the gross domestic product (GDP), e.g., one measures the market of operations but excludes the cost of exploitation of nature, it does not tell how much of the nature's self-reproducing capacity is still around for the further existence of human civilization. The economic growth is self-purposed rather than a part of it means for people's well-being.

The affluence is achieved for a small part of humankind. One should measure affluence in terms of its negative impact: less or no interest in hard work, because one's needs are covered. Thus, better indicators might include, e.g., destroying people with drugs (such as marihuana, alcohol, passive TV mania, and computer games, etc.); their life in both work time and leisure time is unpleasant and empty, because they lack creativity. Therefore, they have a low selfesteem, and this has many negative consequences for humans, including the resulting economic ones. A huge part of potential talents remains socially and personally idle and unused source [33].

A better use of capabilities and talents includes RH/SR/WB/DST/HPRH approach, making an innovative society. This view is supported by research data [34]; see [33]: friendship/interdependence is much more productive than narrowly conceived egoism, and mutual help relieves many of the problems which egoism cannot, but it has caused them. Less egoism

(narrowness) would benefit people for pure selfish reasons, by making others better and be more accepted by them too [33]. If specialists are willing and able to work in interdisciplinary teams, they are able to solve many more problems than with the knowledge of one single discipline [35]; see [33]. Thus, WB in group shows stimulation for cooperation and creativity enabling innovation. The next basis of competitiveness [36] (see [33]) is an innovative phase but after it gives up the spoiled affluent society. This was now admitted also in the Davos meeting [daily press in January 2017].

More attention to the RH/SR/WB/DST/HPRH approach would support the well-being of coworkers and help a transition society, such as Slovenia, more easily become an innovative society, equal to the currently most developed societies. Actually, worldwide, the most develop areas have the biggest share of the “creative class,” not the areas having the biggest mineral and similar natural resources. The employees’ WB is an essential transition factor for the less-advanced areas. The current crisis is only the surface just a financial crisis; it is not solely an economic crisis but a crisis of a socio-developmental concept. The traditional concept works no longer; the new one is not there yet. The model for the employees’ well-being, based upon the creativity, SR, innovation, and requisite holism rather than laziness, makes the chances grow. The RH/SR/WB/DST/HPRH approach enables it. But one must know how to define and measure it; sources known so far in literature accessible to us offer no outcomes [24].

4. The link between the well-being of employees and the success of organizations

In organizations innovativeness must be strengthened in due the global market demands. Hence, the (HR) management needs new bases. Applicable methods include DST and applied HRM and psychology.

Humans are not just “homo economicus” to who profit and property mean everything, even after their important needs have been met. Humans are much more holistic and complex. The economic indicators show achievements that only partially contribute to human satisfaction and WB. The usual business policy is often based too narrowly on economic and accountancy data. Important noneconomic indicators of well-being and economic success include social capital, democratic governance, and human rights. Therefore, organizations must monitor the workers’ WB and improve it. Improving the individuals’ WB from psychological and sociological viewpoints better solves the problems and generates chances for improvement of economic outcomes than the economic indicators do. The more and the less innovative organizations differ. No model for integration of economic and other indicators is known, at least not concerning the transitional organizations. The RH/SR/WB/DST/HPRH approach might offer a new chance.

Supportive, reliable social relations support well-being. Well-being leads to good social relations and economic outcomes rather than only vice versa, by supporting creative cooperation. If humans are excluded from the groups or have poor relationships in groups, they suffer. Positive social relationships are crucial for policy management and may well support

management's policy and success. The good results, even the economic ones, are more often caused than followed by well-being.

We built our model—the RH/SR/WB/DST/HPRH approach—with qualitative and quantitative research methods to establish well-being as a primary managerial focus. The suggested model will enable its users to consider that well-being involves positive emotions, commitment, purpose, and meaning and contributes to the business quality reflected in a company's success and effectiveness.

Thus, organizations begin implementing interventional strategies to ensure the quality of life in order to strengthen employees' WB on job, to improve productivity, performance, and employees' potential. Investigators in organizational behavior rarely researched employees' PWB in terms of their happiness [13]; WB is primarily associated with work efficiency and quality. They assumed that the increase of WB at work enhances staff's efficiency, productivity, and commitment [13].

WB reflects people's happiness with their overall life quality; it includes their judgment of their sustained mood (happiness), evaluation of their human being (satisfaction with the human physical and mental health and performance), and its relationship to physical and psychosocial environment (both their life and job satisfaction). One can generate one's WB-based happiness by implementing one's psychological benefits, including one's day-to-day practice and crucial development objectives. Domain-specific WB areas differ with essential impacts on the transfer of experiences between life areas. For example, a poor WB on job has a negative influence on the WB at home and vice versa [13].

The achieved human WB, which is often based on multiple domains including work, matters: the satisfied employees are more productive, efficient, and loyal to organization. Also, if humans enjoy continuous positive experience at work, they establish positive relations with others, hence the basis of positive feedback information from colleagues on the quality of their work, the construction of human purpose in life, and their personal growth result from motivation, empowerment, and rewards [13].

Organizations and their managers successfully prepare, adopt, and implement decisions, including those regarding WB, if they achieve RH. Success results equally from knowledge and information and from the (interdependent!) values, culture, ethics, and norms (VCEN): they direct ones' use of professional skills [37]. Requisite holism/wholeness essentially depends on VCEN, which we express with ethics of interdependence [38, 39]: humans need each other because they complete each other up with their differences and find ways to RH and hence to success. A single individual can only achieve requisite holism/wholeness alone in very simple situations. Significantly, more holism and wholeness can be achieved in interdisciplinary creative cooperation.

Synergy of all crucial professions, attained by their interdisciplinary creative cooperation and ethic of interdependence in really democratic processes, including the ones in organizations, not only in politics, enables humans to achieve RH. RH is the aim of SR, if one applies the principles and measures of innovative business, supporting the humans' effort to attain WB, too. SR is aimed at reaching beyond the scope required by power holders in legislation to benefit humans and nature [www.irdo.si] and to take responsibility for one's impacts on society

[40]. WB results from interdependent action linking SR, economic efficiency, and requisite holism/wholeness; they generate a triple bottom line of economic success. Humans practice this triple synergy every moment, either consciously or subconsciously and either actively or passively. They practice SR by attaining RH and hence economic efficiency; they improve their WB by benefiting from SR of their co-citizens and organizations [24].

5. Strategy of promotion of social responsibility (SR): a precondition for psychological well-being and the future economy and society

Like the psychological well-being and the future economy and society, SR also is a demanding concept to promote as a specific case of RH having to do with the human approach to other people and nature with influence over the psychological well-being and the future economy and society. For success/survival many/all influential people should practice RH via SR. Work of a few individuals – professionals is not enough, except in the seeding phase, a general social support based on a clear strategy is needed, e.g. on the national, international, and world-wide levels. This is easier to see than to admit [16, 41–50] and (hundreds of references cited in them).

SR Mission should be to promote global VCEN of SR in order to help humankind, including one-self, survive by doing something good to all stakeholders (based on RH and ethics of interdependence) rather than evil (based on one-sidedness and ethics of economic independence of bosses and dependence of subordinates) beyond the official legal obligation and limitation to stockholders or owners only, but extended to stakeholders.

To realize this mission, the following goals should/could be met:

1. To create a basic interdisciplinary core of researchers working on monitoring the situation concerning SR in the area under investigation, to compare the collected findings and suggest changes/IIDP and innovations in the given area.
2. To prepare legal draft bases for legislation changes, where they are needed to cover SR everywhere per areas/topics.
3. To prepare professional, RH bases for making up the SR program in all ministries.
4. To establish dialogue with professional associations, government bodies, public institutions, non-governmental organizations, businesses and other parts of society in order to attain a shared activity for promotion of SR.
5. To include topics on SR in primary, secondary, higher and life-long/adult education, and to promote values of SR in daily mutual contacts of youngsters and adults alike.
6. To create and implement a national and world-wide program of public relations communication about SR in order to promote general awareness on how crucial a SR-based behavior of all humans and their organizations is for getting the society out of the current crises, as well as preventing long-term ones.

7. To establish portals for both-way communication in public relations concerning the SR-based behavior with both good and bad examples.
8. To collect good and bad examples of SR and related practices of RH and innovation based on SR rather than on one-sidedness, for the society to become, be and remain a RH/SR and innovative society with SR as a basic criterion of its excellence.
9. To collect information on development of SR anywhere and in the area under investigation in order to report about them.
10. To support initiatives of various stake-holders promoting SR and practicing it.

Tactics and operation should be defined per areas/topics, but in the style of a coordinated decentralization: whatever can be done on lower administrative levels remains there.

Ethic of interdependence expresses VCEN enabling the strategy of SR. This includes weighing and concerting of solidarity and economic efficiency, sufficiency, and effectiveness by RH via SR. This may help humans to provide an equilibrium with no resulting need for a too exaggerated solidarity (such as the ‘equal stomachs philosophy’ from the pre-industrial village solidarity) or too much protesting against the one-sided decisions and actions of authorities all way to terrorism (See daily press).

This strategy and ethics of interdependence may be well supported by a RH approach to the governance and management process on the organizational level. See **Table 1**.

Management Phases		Preparation Phases
Definition of vision ↓	←	Drafting of vision, mission, policy, strategy, tactics, operation
Definition of mission ↓		↑
Definition of policy/ies ↓		Definition of starting points for drafts
Definition of strategies ↓		↑
Definition of tactics ↓	<===	Consideration of experiences
Running the operations	⇒	Intervening when and where needed in all management phases
		↑
		Checking the results of operation

Table 1. The cybernetic circle of the preparation and implementation of the management process practicing SR (too) as a crucial IIDP (a simple model) [51, 52].

- *Vision* may be briefed as “survival on the basis of competitiveness by RH/SR creative work and cooperation aimed at a systemic quality in accord with customers’ requirements/needs.”

- *Mission*: “delight customers with an excellent systemic quality and attract them as sustained and sustainable customers.”
- *Policy*: “implement innovative business and SR as a source of a continuous systemic quality in all parts of the business process and all units.”
- *Strategy* towards implementation of such a policy may employ continuous self-assessment of one’s own quality in terms of the Deming Prize of Japan, the European Excellence Award, or Baldrige Award of USA, or (as a first phase) attainment and re-attainment of International Standards Organization’s rules as ISO 9000, 14000, 27000 certificates, and/or something similar (See the Slovenian [53] reward for SR HORUS at www.horus.si).
- *Tactics* for implementation of such an IIDP strategy include organized criticism, followed by teams, and task forces, to work on solution of the selected problems (on a free-will basis and on company/organizational time, one hour a week) with awards for inventions (symbolic in value, but with no delay) and innovations. Innovation reward is foreseen for all of the innovative team, all members of their own organizational units, every organizational member including managers, while a half of the value created by innovation enters the company business funds to support further IIDP.
- *Practice*: permanent IIDP on a RH/SR basis as its management style and process.
- *Monitoring and Intervening*: Managers’ committee for promotion of IIDP and excellence based on SR – in session once in 3 or (later) 6 months, agenda: 1. Comparative assessment of all units; 2. Variable part of income of units’ managers depending on this assessment; 3. Approval of new innovation (of all types) related objectives of units.
- *Rewarding*: non-monetary (justified feeling of being considered creative and innovative by peers and bosses) and monetary (e.g. 50% of innovation-based profit goes to enterprise funds, 50% to coworkers, of which: 30% to authors and coauthors, 10% to all in the innovative unit, and 10% to all in the enterprise, including managers).
- *Training*: in profession and creation, including creative interdisciplinary cooperation.

We learned from practice and its summary in e.g. Gladwell [54–56](2004; 2008; 2009) that a good preparation is crucial, but it includes consideration of conditions and preconditions, too.

6. Conclusions

Well-being matters for both employees and their organizations, improving their success and innovativeness. Organizations with more employees’ well-being care more for their employees with programs reducing employees’ stress, too. They enjoy less absenteeism, more employee satisfaction at work, and better results. RH/SR/WB/DST/HPRH approach supports this non-technological innovation process toward the way out from the current. This is the way and the opportunity how organizations and employees can be changed and become more well-being and less profit oriented. Therefore, it is necessary to integrate social responsibility, which values, culture, ethics, and norms (VCEN) goes beyond the limitations prescribed by the law.

We can speak about important non-technological innovation of leadership, human resource management, and strategic management.

To improve the enterprise's performance and indirectly also the objective and subjective well-being of individuals and society, we suggest testing the proposed non-technological innovation in several enterprises. This will provide opportunities to improve these potential innovations, which affect all levels of management and therefore also organizational policy. With these proposal we can build new organizations on the enterprise's governance/policy hierarchical level. This is based on idea of integral management and such management values that influences governance. This management is based on persons and social responsibility, requisite holism, and well-being.

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Physical and Psychological Well-Being and Stress: The Perspectives of Leaders and Employees

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Abstract

Stress among employees is a significant issue in each organization and society because of its costs on individual, organizational, and society levels. Addressing and reducing stress is thus an important goal, which leads humans to well-being. The main role of managing stress at work belongs to leaders. Their leadership can have effects on the level of stress of employees as well as for themselves. They also decide about their systemic approaches for overcoming stress within organizations. We therefore conducted a stress (qualitative and quantitative) research of employees and leaders within organizations with the main goal to find out the differences between their stresses. The main purpose of this article was to research stress among leaders and employees and to compare their perceived physical and psychological well-being (and stress). For this purpose, we used descriptive statistics and Mann-Whitney *U*-test. We confirmed that (1) leaders report a higher frequency of some kinds of the daily work stress than employees, (2) on average, leaders were more frequently under pressure than employees, (3) on average, leaders had more frequently satisfying sleep than employees, and (4) on average, employees could use their strong points at work less frequently than leaders.

Keywords: employees, leaders, physical and psychological well-being, stress, stress management, work

1. Introduction

As stress becomes more and more one of the biggest problems in our everyday lives, both personal and professional, a very important question arises: how to manage it and how to prevent it. Although the question might seem quite simple, the answer is more complex, especially if we consider that people perceive decisions regarding stress as ethical problems,

which poses a major challenge in organizations, where such stressful environment is practically a part of its culture and is seen as an almost normal, everyday phenomenon.

The main purpose of our research was to identify differences between leaders and employees regarding the physical and psychical well-being and their activities. We also researched the frequency of daily work stress of employees and leaders. We developed four hypotheses, which we verified through descriptive statistics and Mann-Whitney *U*-test for independent samples.

Based on the Dialectical Systems Theory and its Law of requisite holism [1], the following chapter includes the theoretical background about stress and its management. It is followed by the report on the present study including the empirical results of the research. Then, we discuss the results of the hypotheses' verification. In the conclusion, the contributions to theory and practice, along with limitations and future research possibilities are presented.

2. Literature review

2.1. About stress in general

For us, stress is a general term that encompasses a process through which variables in the workplace environment can lead to poor psychological and/or physical health and well-being [2]. Stress not only affects an individuals' well-being but also influences the organizational efficiency. Employees working under the negative stress are less efficient, more dissatisfied, absenteeism, and presentism prone; with such employees, there is a much bigger probability that they will leave the company or work poorly.

Stress can manifest itself in both positive and negative ways. Factors, causing the stress response with the individual, are called stressors. Stress has positive implications, when the situation offers an opportunity for one to gain something. On the other hand, stress can have negative implications, when limits or demands are placed on us. Let us see limits and demands a bit more in detail. Limits are barriers that keep us from doing what we want to do. Purchasing a new car or a house may be your wish, your desire, but if you cannot afford it, you are constrained. We see that limits take control of a situation out of your hands. If you cannot afford the car, you just cannot buy it. Demands, on the other hand, may cause you to give up something you wish. If you wish to go out with friends on Tuesday night, but have an examination on Wednesday, the examination may take precedence. Thus, demands pre-occupy your time and force you to change your priorities [3, pp. 328–329].

2.2. Stressors

Stressors can be divided into physical and psychological, but we will look into the organizational and personal stressors. They directly affect both employees and their jobs. There is no shortage of stressors within any organization. Pressures to avoid errors or complete tasks in a limited time, a demanding supervisor, and unpleasant coworkers are a few examples. We can organize stressors into five categories [3, p. 330]:

- Task

Task demands related to an employee's job include the design of the person's job (autonomy, task variety, and degree of automation), working conditions, and the physical work layout. Work goals create pressure on employees when their outcomes are perceived as excessive. Employee's tasks and the tasks of others are interdependent; the greater is this interdependence, the more potential stress surfaces. Autonomy, on the other hand, tends to lessen one's stress.

- Role

Role demands are connected to pressures placed on an employee as a function of the particular role this employee plays in the organization. Role conflicts create expectations that may be hard to adjust to or satisfy. Role overload is experienced when the employee is expected to do more than time or capacity permits. Role ambiguity is created when role expectations are unclear and the employee is unsure what to do.

- Interpersonal demands

Interpersonal demands are pressures created by other employees. Lack of social support from colleagues and poor interpersonal relationships can cause considerable stress, especially among employees with a high social need.

- Organizational structure

Organizational structure can be defined as a stressor, because it can also increase stress. Excessive rules and an employee's lack of opportunity to participate in decisions that affect them directly and personally are examples of variables that might cause stress.

- Organizational leadership

Organizational leadership presents the supervisory style of the organization's company officials. Some leaders create a culture that has the characteristics such as tension, fear, and anxiety. Leaders establish unrealistic pressures to perform in the short run, impose excessively tight controls, and routinely fire employees who do not measure up. The effects of this leadership style flow all the way down through the organizations hierarchy to all employees.

Personal factors that can create stress include family issues, personal economic, health or similar problems, and inherent personality characteristics. Because employees bring their personal problems to work, a leader must first understand these personal factors in order to fully understand employee stress and control it well. Symptoms must be recognized.

2.3. Symptoms of stress

When a person goes through a stress process, he or she passes three phases or stages (GAS—general adaptation syndrome). This model was founded in 1936 by Austrian-Canadian endocrinologist of Hungarian origin Hans Selye. He observed that the body would respond to any external biological source of stress with a predictable biological pattern in an attempt to restore the body's internal homeostasis. With the general adaptation syndrome, a human's adaptive response to stress has three phases: alarm stage, resistance stage, and exhaustion stage. One's

first reaction to stress is the recognition that there is a danger—one prepares to deal with the threat (fight or flight response). During the alarm phase, the main stress hormones cortisol, adrenaline, and noradrenaline are released to provide instant energy. If the produced energy is repeatedly not used by physical activity, it can become harmful. Too much adrenaline results in a surge of blood pressure that can damage blood vessels of the heart and brain—a risk factor for heart attack and stroke. The excess production of the cortisol hormone can cause damage to cells and muscle tissues. Stress-related disorders and disease from cortisol include cardiovascular conditions, stroke, gastric ulcers, and high blood sugar levels. At the first stage, everything is working as it should—you have a stressful event, your body alarms you with sudden hormonal changes, and you are now immediately equipped with enough energy to handle the situation. In the resistance stage, one's body goes into the second phase; the source of stress is possibly resolved. Homeostasis begins returning balance and a period of recovery for repair takes place. Stress hormone levels may return to normal, but you may have a reduced defense and adaptive energy left. If a stressful condition persists, your body adapts by a continued effort in resistance and remains in a state of arousal. Problems begin to manifest themselves when you find yourself repeating this process too often with little or no recovery. Then, the body goes into the last phase. In the exhaustion stage phase, the stress has continued for some time. Your body's ability to resist is lost because its energy supply is gone. It is often referred to as overload, burnout, adrenal fatigue, maladaptation, or dysfunction—here is where stress levels go up and they stay high. The process of adaptation is over and, not surprisingly, this stage of the general adaptation syndrome is the most dangerous one to your health. Chronic stress can damage nerve cells in tissues and organs. Particularly vulnerable is the hippocampus section of the brain. Thinking and memory are likely to become impaired, with tendency toward anxiety and depression [4].

Lu et al. [5] mentioned several drivers of occupational stress such as physical environment, workload, career advancement, management style, working relationships, organizational support, work itself, rewards, job security, job autonomy, role conflict, and ambiguity. We can add that interpersonal work (one of the most important factors of job satisfaction) relations may cause high stress levels, when employees are subject to team pressure and express opinions not embraced by the work group [6]. Another stressor is also individuals' opportunity to influence decisions or to be involved in decision-making [7].

For leaders, stress can be a sort of dilemma in a way that they actually want their employees to be just under enough stress so they don't feel too relaxed and that such "good" stress would lead them to better results and efficiency. So when humans talk about stress and stress reduction, humans tend to have in mind its harmful and possibly dangerous consequences and its other dysfunctional aspects.

Ingram and Di Pilla [8] expose that early signs of stress caused by work are usually easy to recognize; the effects of (job) stress on chronic diseases, however, are more difficult to see because of a long time and many other influential factors. Stress plays an important role in several types of chronic health problems such as (1) cardiovascular diseases, (2) musculoskeletal disorders, (3) psychological disorders, (4) workplace injury, and (5) suicide, cancer, ulcers, and impaired immune function.

These facts require stress management.

2.4. Stress management

Employers must be aware that they have little or sometimes no control over personal factors. They also face an ethical problem when personal factors cause stress in a way just how far can or may one intrude on an employee's personal life. To help them deal with this issue, many companies started different employee assistance and wellness programs. These programs are designed to assist employees in financial planning, legal matters, health, fitness, stress, and similar areas where employees have difficulties. One of the first ways to reduce stress is to make sure that employees are properly matching their jobs (person-job fit)—and that they understand the extent of their "authority." Furthermore, letting employees know precisely what is expected from them reduces role conflict and ambiguity.

Redesigning jobs can also help ease work overload-related stressors. Employees need to be directly involved in what affects them: involvement and participation have been found to lessen stress. Contemporary employee assistance programs (EAPs) are extensions of programs that had their start in US companies in the 1940s. Companies like DuPont, Standard Oil, and Kodak recognized that some employees were experiencing problems with alcohol. Formal programs were implemented on the company's site to educate these workers about the dangers of alcohol and help them overcome their addiction. The main purpose of all these programs, which still holds today, is returning a productive employee to the job as soon as possible. Following their early focus on employees having problems with alcohol, EAPs entered into new areas like adoption counseling, legal assistance, death of a loved one, and child-parent relations. US companies spend almost \$1 billion each year on EAP programs. Some studies suggest that most companies save from \$5 to \$16 for every EAP dollar spent. That means, for most organizations, it is a significant return on investment [3, pp. 332–333].

It is very important to develop a stress prevention program. Ingram and Di Pilla [8, p. 13] mention general methods that have successfully reduced worker stress and job dissatisfaction. For reducing workers' stress, one can [8, p. 13] (1) address work-related stressors, (2) establish stress management programs, (3) provide readily available counseling from a non-judgmental source, (4) provide flexibility and innovation by supervisors to create alternative job arrangements, (5) provide an organized and efficient work environment, (6) ensure that the workload is in line with workers' capabilities and resources, (7) clearly define workers' roles and responsibilities, (8) improve communications, (9) recognize and take action on legitimate complaints regarding supervisors, (10) design jobs to provide meaning, stimulation, and opportunities for workers to use their skills, and so on.

Humans encounter stress almost everywhere, in family and working environment. Šarotar Žižek et al. [9] have already explained how people who are, because of their personality, less susceptible to negative effects of stress, as well as those who are more exposed to physiological, psychological, or behavioral consequences of stress can learn to effectively cope with stress. Individual strategies that have, so far, proven successful include regular physical activity, meditation and other relaxation methods, healthy lifestyle, and time management. Here are some suggestions of activities that could be appropriate on individual level: yoga, medical hypnosis, autogenic training, visualization relaxation, cognitive methods, biofeedback relaxation

method, emotional freedom technique (EFT), Bowen therapy, massage and aromatherapy, music therapy, color therapy, humor and laughter, or even something as simple as sleep [9].

2.5. Some facts about stress at work

Stress at work is a ubiquitous and multifaceted phenomenon [10] that is costly for organizations, because it contributes to expensive voluntary turnover [11]. Work stress can be a particular problem in customer-oriented fields because employees often experience conflicting demands of the company, supervisors, and customers, and these conflicts create dissonance for employees [12].

In the case of our study, we took as one of the basis the job strain model proposed by Karasek [13], who stated that psychological strain is due to the combined effects of job demands and other factors. Specifically, a high strain job includes high job demands, or workplace stressors. Job strain can appear as poor mental health, physical health problems, and job dissatisfaction and performance problems [13, 14].

Literature review shows us that the roles of control and autonomy at the workplace are important in relation to job stress [15–17]. Furthermore, higher negative correlation between stress and job performance among leaders compared to non-leaders was found out [18].

Prior research revealed that humans have a diversity of different types of stressors in their daily lives, including interpersonal tensions, overloads at work, and arguments at work and also at home, but that the most common type of stressor is interpersonal tension [19]. There is mixed evidence with regard to the relation between work stress and work outcomes. Several studies nonetheless showed a negative link between stress and job satisfaction (e.g., see [20]) and a positive link between stress and turnover (e.g., see [21, 22]). Similarly, research with a sample of US leaders [23] shows that self-reported work stress was significantly related to both lower job satisfaction and higher turnover.

Management (mostly human resource management), sociology, and psychology (work, and organizational psychology) are among the various disciplines engaged in the investigation of work-related stress [24, 25]. They mainly converge that stress importantly affects productivity and performance of organizations [26].

3. The present study

The main aim of the reported-about study was researching the differences between leaders and employees, regarding the physical and psychical well-being and their activities. Our objective in the theoretical part of the article was therefore to present stress in general, expose stress at work and stress management. In the following chapter presenting the empirical part of the research conducted among the leaders and employees in Slovenia, we explored the different level of physical and psychical well-being—stress, each of both groups is exposed to. Therefore, we developed and verified four research hypotheses.

3.1. Hypotheses development

A few empirical studies have been conducted examining and comparing stress among managers and employees:

- McLean and Andrew [27] found no major discrepancies between employees and managers by researching the nature of job commitment, satisfaction, stress, and control among social services managers and social workers in the UK and found very clear associations.
- Wilkes et al. [28] found that employees had more stress than their supervisors did, while they examined job demands and workers' health in machine-paced poultry inspection.
- Steptoe and Willemsen [29] exposed that different stress tests had detected that high- and intermediate-level supervisors in the British civil service system suffered less stress throughout the workday than their worker bees, both men and women, although the picture is a bit murky for women.
- De Moortel et al. [30] found social class inequalities in mental well-being in the European working population for both men and women. They expose that compared to unskilled workers, managers reported the best mental well-being, while supervisors held an intermediary position.

Results of research provided by Skakon et al. [31] show that managers reported lower levels of stress than employees did. This was partly explained by an active job with high demands at work as well as high control of managers, and that managers had a more positive perception of their working conditions. Skakon et al. [31, p. 103] added that "these results contradict the lay perception of managers being under higher pressure and experiencing more stress than employees. Interventions aiming at reducing employee stress levels, especially regarding behavioral and cognitive stress, could benefit from focusing on psychosocial work environment exposures, such as skill discretion, meaning of work, psychological demands, information flow and management quality."

Therefore, the following hypotheses were verified in the empirical part of this research:

Hypothesis 1: Leaders report a higher frequency of daily work stress than employees.

Hypothesis 2: On average, leaders were more frequently under pressure than employees.

Hypothesis 3: On average, leaders had more frequently a satisfying sleep than employees.

Hypothesis 4: On average, employees could use their strong points at work less frequently than leaders.

3.2. Procedure

Data were collected using a quantitative survey with the final sample. The on-line study started on 9 July and was finished on 19 July 2013. The workers having a job with at least 10 working hours per week and having colleagues at work fulfilled the criteria to participate in the study. The workers categorized themselves with respect to their position in the company as leaders or employees.

3.3. Participants

Out of the 292 respondents included in the sample from Slovenia, 265 answered the questions about stress. Twenty-seven questionnaires, gathered from the respondents who did not answer the questions about stress, were excluded from further analysis. Thus, the data analysis included 265 completed questionnaires. Although there were some missing values in the database, the number of responses to each question was sufficient to apply the data analysis methods listed in the next section. Out of the 265 respondents who answered the questions about stress, 71 (26.8%) were classified as leaders and 194 (73.2%) as employees.

3.4. Data analysis

The collected data were processed with the Statistical Package for Social Sciences (Version 21). As the variables are the ordinal ones, the median was used in this survey as the measure of central tendency. We also displayed the frequency tables. As the collected data were measured on an ordinal scale, the independent samples of the Mann-Whitney *U*-test were used to verify the null hypothesis: The distribution of the physical and psychical well-being or their activity of leaders and employees is the same across categories of positions in the company.

4. Results

Table 1 shows that the highest middle value of the frequency of the workers' physical and psychical well-being or their activity in the last seven days and nights falls in category 5—more often. Median 5—more often—was achieved for the following workers' physical and psychical well-being or their activity in the last seven days and nights: "I laughed," "I was in a good mood," "I was successful in what I did," "I was in good spirits," "I felt as if I could get everything done," and "My work promoted my abilities and competencies." This middle value was achieved by leaders also for the following statements: "I had a satisfying sleep," "I was able to make independent decisions," "I had the chance to make suggestions at work," "I was supported by my colleagues," "I contributed to important decisions," "I could decide myself how I perform my tasks," "I could use my strong points at work," "I was supported by my friends," and "I had the chance to work on a variety of tasks." In the independent sample of employees, no additional median 5—more often—was achieved.

The reason that the leaders reached median 5 at the above-written additional nine claims, and the employees did not reach it, is that all these claims are related to leading work (the decision making, more complex works, more accountable, more demands, etc.) what also often offers the leaders the possibility to be able to decide independently, give proposals, and determine work and tasks.

Table 1 also shows that the lowest median of the frequency of the workers' physical and psychical well-being or their activity in the last seven days and nights falls in category 2—seldom. Median 2—seldom—was achieved for the following workers' physical and

Statement	Leaders		Employees		All workers	
	N	Median	N	Median	N	Median
In the last seven days and nights...						
... I watched TV.	71	4.00	194	4.00	265	4.00
... I laughed.	70	5.00	194	5.00	264	5.00
... everything bothered me.	69	3.00	194	3.00	263	3.00
... I felt physically fit.	71	4.00	192	4.00	263	4.00
... I was in a good mood.	71	5.00	192	5.00	263	5.00
... I had difficulties in concentrating.	70	3.00	191	3.00	261	3.00
... I worried about unresolved problems.	70	3.00	193	3.00	263	3.00
... I had a good time with my friends.	71	4.00	193	4.00	264	4.00
... I had a headache.	71	2.00	193	2.00	264	2.00
... I was tired from work.	70	3.00	194	3.00	264	3.00
... I was successful in what I did.	71	5.00	192	5.00	263	5.00
... I felt uncomfortable.	71	3.00	194	3.00	265	3.00
... I was annoyed by others.	71	4.00	193	3.00	264	3.00
... I felt down.	71	2.00	194	2.00	265	2.00
... I had a satisfying sleep.	69	5.00	194	4.00	263	4.00
... I was fed up with everything.	70	2.00	194	3.00	264	3.00
... I was in good spirits.	71	5.00	194	5.00	265	5.00
... I was overtired.	70	3.00	190	3.00	260	3.00
... I slept restlessly.	71	2.00	194	3.00	265	2.00
... I was annoyed.	71	3.00	194	3.00	265	3.00
... I felt as if I could get everything done.	71	5.00	194	4.00	265	5.00
... I was upset.	71	3.00	193	3.00	264	3.00
... I put off making decisions.	71	2.00	192	3.00	263	3.00
... I made important decisions.	69	4.00	191	4.00	260	4.00
... I felt under pressure.	70	4.00	192	3.00	262	3.00
... I felt that many of my efforts were in vain.	70	3.00	193	3.00	263	3.00
... I had time for my personal needs.	68	4.00	194	4.00	262	4.00
... I could rely on my friends.	69	4.00	193	4.00	262	4.00
... I was able to get some rest during my breaks.	70	4.00	192	4.00	262	4.00
... I felt burned out through my work.	69	3.00	194	3.00	263	3.00
... I felt frustrated through my work.	70	3.00	192	3.00	262	3.00

Statement	Leaders		Employees		All workers	
... I experienced consistence among my colleagues.	70	4.00	192	4.00	262	4.00
... I could pass my breaks in stillness.	68	4.00	190	4.00	258	4.00
... I had a lot of work at home.	70	4.00	194	4.00	264	4.00
... I could not stop thinking about problems of work at home.	70	3.00	193	3.00	263	3.00
... there were some disputes between colleagues at work.	70	2.00	192	2.00	262	2.00
... I was able to make independent decisions.	70	5.00	191	4.00	261	4.00
... my work promoted my abilities and competences.	71	5.00	193	5.00	264	5.00
... I had the chance to make suggestions at work.	71	5.00	194	4.00	265	4.00
... I did not get my work out of my head.	68	4.00	189	3.00	257	3.00
... I could pass my breaks as scheduled.	71	4.00	191	4.00	262	4.00
... there were misunderstandings between colleagues at work.	70	2.50	194	2.00	264	2.00
... I was supported by my colleagues.	71	5.00	190	4.00	261	4.00
... I felt very exhausted.	70	3.00	194	3.00	264	3.00
... I was able to relax during my breaks.	70	4.00	193	3.00	263	3.00
... I contributed to important decisions.	71	5.00	193	3.00	264	4.00
... I could not be enthusiastic about my work anymore.	70	2.00	193	3.00	263	3.00
... I had the possibility to recover and relax.	71	4.00	193	4.00	264	4.00
... I could decide myself how I perform my tasks.	71	5.00	194	4.00	265	4.00
... I felt that my work is not acknowledged very much.	71	3.00	194	3.00	265	3.00
... I could use my strong points at work.	71	5.00	194	4.00	265	4.00
... I was supported by my friends.	69	5.00	192	4.00	261	4.00
... I had responsibilities in my leisure time.	70	4.00	194	4.00	264	4.00
... I experienced that I cannot achieve much in several things.	70	2.00	194	3.00	264	3.00
... I had the chance to work on a variety of tasks.	71	5.00	191	4.00	262	4.00
... I doubted the importance of my work.	70	2.00	192	3.00	262	3.00

N, Number of respondents. Measured on a seven-step ordinal scale: 1—never; 2—seldom; 3—sometimes; 4—often; 5—more often; 6—very often; 7—always.

Source: own research.

Table 1. The medians of the frequency of the workers' physical and psychical well-being or their activity in the last seven days and nights.

psychical well-being or their activity in the last seven days and nights: “I had a headache,” “I felt down,” “I slept restlessly,” “There were some disputes between colleagues at work,” and “There were misunderstandings between colleagues at work.” This middle value was achieved by leaders also for the following statements: “I was fed up with everything,” “I put off making decisions,” “I could not be enthusiastic about my work anymore,” “I experienced that I cannot achieve much in several things,” and “I doubted the importance of my work.” In the independent sample of employees, no additional median 2—seldom—was achieved.

Employees, who do not work as leaders, often perform routine tasks that are physically and mentally exhausting. This may be the reason that employees working on these workplaces, on average, sometimes do not feel the enthusiasm, have seldom conflicts with coworkers, sometimes doubt the importance of their work, and so on. This is also negatively reflected on the abilities to rest and perform activities in private life.

We were verifying statistical differences, regarding the workers’ physical and psychical well-being or their activity, between the two independent samples of workers: leaders and employees. **Table 2** shows the results of two independent samples of the Mann-Whitney *U*-test.

Between leaders and employees, there are no significant differences regarding the following physical and psychical well-being or activities: “I watched TV,” “I laughed,” “Everything bothered me,” “I felt physically fit,” “I was in a good mood,” “I had difficulties in concentrating,” “I worried about unresolved problems,” “I had a good time with my friends,” “I had a headache,” “I was tired from work,” “I felt uncomfortable,” “I felt down,” “I was in good spirits,” “I was overtired,” “I slept restlessly,” “I was annoyed,” “I was upset,” “I felt that many of my efforts were in vain,” “I had time for my personal needs,” “I could rely on my friends,” “I was able to get some rest during my breaks,” “I felt burned out through my

Statement In the last seven days and nights...	Asymptotic significance	Decision on the null hypothesis
... I watched TV.	0.651	Retain
... I laughed.	0.514	Retain
... everything bothered me.	0.209	Retain
... I felt physically fit.	0.088	Retain
... I was in a good mood.	0.213	Retain
... I had difficulties in concentrating.	0.638	Retain
... I worried about unresolved problems.	0.968	Retain
... I had a good time with my friends.	0.309	Retain
... I had a headache.	0.472	Retain
... I was tired from work.	0.518	Retain
... I was successful in what I did.	0.044	Reject
... I felt uncomfortable.	0.711	Retain

Statement In the last seven days and nights...	Asymptotic significance	Decision on the null hypothesis
... I was annoyed by others.	0.043	Reject
... I felt down.	0.629	Retain
... I had a satisfying sleep.	0.015	Reject
... I was fed up with everything.	0.407	Retain
... I was in good spirits.	0.513	Retain
... I was overtired.	0.616	Retain
... I slept restlessly.	0.257	Retain
... I was annoyed.	0.461	Retain
... I felt as if I could get everything done.	0.028	Reject
... I was upset.	0.934	Retain
... I put off making decisions.	0.630	Retain
... I made important decisions.	0.003	Reject
... I felt under pressure.	0.042	Reject
... I felt that many of my efforts were in vain.	0.334	Retain
... I had time for my personal needs.	0.265	Retain
... I could rely on my friends.	0.594	Retain
... I was able to get some rest during my breaks.	0.544	Retain
... I felt burned out through my work.	0.783	Retain
... I felt frustrated through my work.	0.918	Retain
... I experienced consistence among my colleagues.	0.015	Reject
... I could pass my breaks in stillness.	0.483	Retain
... I had a lot of work at home.	0.763	Retain
... I could not stop thinking about problems of work at home.	0.228	Retain
... there were some disputes between colleagues at work.	0.917	Retain
... I was able to make independent decisions.	0.011	Reject
... my work promoted my abilities and competences.	0.018	Reject
... I had the chance to make suggestions at work.	0.001	Reject
... I did not get my work out of my head.	0.122	Retain
... I could pass my breaks as scheduled.	0.797	Retain
... there were misunderstandings between colleagues at work.	0.155	Retain
... I was supported by my colleagues.	0.013	Reject
... I felt very exhausted.	0.827	Retain
... I was able to relax during my breaks.	0.717	Retain
... I contributed to important decisions.	0.000	Reject

Statement In the last seven days and nights...	Asymptotic significance	Decision on the null hypothesis
... I could not be enthusiastic about my work anymore.	0.064	Retain
... I had the possibility to recover and relax.	0.532	Retain
... I could decide myself how I perform my tasks.	0.017	Reject
... I felt that my work is not acknowledged very much.	0.205	Retain
... I could use my strong points at work.	0.003	Reject
... I was supported by my friends.	0.082	Retain
... I had responsibilities in my leisure time.	0.925	Retain
... I experienced that I cannot achieve much in several things.	0.219	Retain
... I had the chance to work on a variety of tasks.	0.001	Reject
... I doubted the importance of my work.	0.484	Retain

Null hypothesis: The distribution of the workers' physical and psychical well-being or their activity is the same across categories of position in the company. The significance level is 0.05.

Source: own research.

Table 2. The results of the Mann-Whitney *U*-test for the distribution of the workers' physical and psychical well-being/their activity for two independent samples: leaders and employees.

work," "I felt frustrated through my work," "I could pass my breaks in stillness," "I had a lot of work at home," "I could not stop thinking about problems of work at home," "There were some disputes between colleagues at work," "I could pass my breaks as scheduled," "I felt very exhausted," "I had the possibility to recover and relax," "I felt that my work is not acknowledged very much," and "I had responsibilities in my leisure time."

Furthermore, **Table 1** shows that the middle value of the leaders' responses for the statement "I was fed up with everything" falls in category 2—seldom, and of the employees' responses for this statement in category 3—sometimes. Despite this fact, the distribution of "I was fed up with everything" is not significantly different between leaders and employees (**Tables 2** and **3**). The same conclusion can be drawn for "I put off making decisions," "I could not be enthusiastic about my work anymore," "I experienced that I cannot achieve much in several things," and "I doubted the importance of my work."

Table 1 shows that the middle value of the leaders' responses for the statement "I did not get my work out of my head" falls in category 4—often, and of the employees' responses for this statement in category 3—sometimes. Despite this fact, the distribution of "I did not get my work out of my head" is not significantly different between leaders and employees (**Tables 2** and **3**). The same conclusion can be drawn for "I was able to relax during my breaks."

Moreover, **Table 1** shows that the middle value of the leaders' responses on the statement "I was supported by my friends" falls in category 5—more often, and the middle value of the employees' responses on this statement in category 4—often. Despite this fact, the distribution of "I was supported by my friends" is not significantly different between leaders and employees (**Tables 2** and **3**).

Table 2 shows that between leaders and employees, there are significant differences regarding the following physical and psychical well-being or activities: "I was annoyed by others," "I had a satisfying sleep," "I felt as if I could get everything done," "I felt under pressure," "I was able to make independent decisions," "I had the chance to make suggestions at work," "I was supported by my colleagues," "I contributed to important decisions," "I could decide myself how I perform my tasks," "I could use my strong points at work," and "I had the chance to work on a variety of tasks."

Statement In the last seven days and nights...	Category	Frequency – valid percent						
		Never	Seldom	Sometimes	Often	More often	Very often	Always
... I was successful in what I did.	Leaders	0.0	1.4	5.6	25.4	35.2	25.4	7.0
	Employees	1.0	2.1	16.1	25.5	28.6	21.9	4.7
... I was annoyed by others.	Leaders	4.2	19.7	25.4	19.7	12.7	15.5	2.8
	Employees	11.4	26.4	21.2	17.6	9.3	10.4	3.6
... I had a satisfying sleep.	Leaders	4.3	4.3	17.4	18.8	21.7	24.6	8.7
	Employees	4.6	10.8	26.3	17.0	20.6	13.9	6.7
... I was fed up with everything.	Leaders	25.7	27.1	11.4	10.0	12.9	10.0	2.9
	Employees	18.6	27.8	18.0	10.3	11.9	8.2	5.2
... I felt as if I could get everything done.	Leaders	2.8	1.4	11.3	21.1	25.4	33.8	4.2
	Employees	2.6	4.6	16.0	28.9	23.2	18.6	6.2
... I put off making decisions.	Leaders	12.7	40.8	14.1	23.9	7.0	1.4	0.0
	Employees	14.6	29.2	28.1	17.2	6.8	2.1	2.1
... I made important decisions.	Leaders	2.9	4.3	23.2	27.5	24.6	13.0	4.3
	Employees	2.1	17.8	29.3	25.7	12.6	7.9	4.7
... I felt under pressure.	Leaders	4.3	22.9	15.7	20.0	20.0	11.4	5.7
	Employees	6.8	24.0	27.6	20.3	10.9	5.2	5.2
... I experienced consistence among my colleagues.	Leaders	1.4	2.9	21.4	25.7	22.9	17.1	8.6
	Employees	2.6	16.7	21.9	22.9	15.6	12.0	8.3
... I was able to make independent decisions.	Leaders	1.4	4.3	5.7	27.1	27.1	27.1	7.1
	Employees	3.1	12.6	17.3	23.6	14.7	19.4	9.4
... my work promoted my abilities and competences.	Leaders	1.4	1.4	8.5	11.3	28.2	32.4	16.9
	Employees	1.0	5.2	13.0	21.8	24.4	19.2	15.5
... I had the chance to make suggestions at work.	Leaders	1.4	4.2	12.7	19.7	28.2	21.1	12.7
	Employees	1.0	17.0	20.1	20.1	20.1	12.4	9.3
... I did not get my work out of my head.	Leaders	2.9	13.2	30.9	19.1	17.6	10.3	5.9
	Employees	8.5	16.9	30.2	14.8	18.0	7.9	3.7

Statement In the last seven days and nights...	Category	Frequency – valid percent						
		Never	Seldom	Sometimes	Often	More often	Very often	Always
... there were misunderstandings between colleagues at work.	Leaders	12.9	37.1	22.9	11.4	10.0	5.7	0.0
	Employees	21.6	34.5	22.7	9.8	5.7	5.2	0.5
... I was supported by my colleagues.	Leaders	1.4	4.2	14.1	23.9	35.2	14.1	7.0
	Employees	1.6	14.2	20.5	27.4	14.2	15.8	6.3
... I was able to relax during my breaks.	Leaders	8.6	17.1	21.4	18.6	12.9	14.3	7.1
	Employees	6.2	20.2	24.9	17.1	14.5	7.8	9.3
... I contributed to important decisions.	Leaders	4.2	8.5	9.9	25.4	23.9	21.1	7.0
	Employees	7.8	19.7	24.9	22.3	9.8	11.4	4.1
... I could not be enthusiastic about my work anymore.	Leaders	22.9	32.9	14.3	12.9	10.0	5.7	1.4
	Employees	17.6	22.3	21.2	17.1	10.4	7.8	3.6
... I could decide myself how I perform my tasks.	Leaders	2.8	7.0	12.7	19.7	21.1	23.9	12.7
	Employees	2.6	12.9	20.1	21.6	18.0	17.5	7.2
... I could use my strong points at work.	Leaders	2.8	4.2	9.9	19.7	23.9	29.6	9.9
	Employees	1.5	10.8	21.6	24.2	18.0	12.9	10.8
... I was supported by my friends.	Leaders	4.3	8.7	5.8	26.1	23.2	23.2	8.7
	Employees	1.6	9.9	22.9	24.5	16.1	14.6	10.4
... I experienced that I cannot achieve much in several things.	Leaders	21.4	32.9	15.7	18.6	4.3	5.7	1.4
	Employees	18.0	24.2	26.8	13.4	8.8	5.2	3.6
... I had the chance to work on a variety of tasks.	Leaders	1.4	4.2	8.5	26.8	31.0	19.7	8.5
	Employees	0.5	11.0	23.6	27.2	18.3	12.6	6.8
... I doubted the importance of my work.	Leaders	28.6	27.1	12.9	11.4	12.9	4.3	2.9
	Employees	22.4	23.4	25.0	14.1	8.3	4.7	2.1

Source: own research.

Table 3. Frequency table for selected statements about the workers' physical and psychical well-being or their activity.

Moreover, although the middle value of responses on the statement "I was successful in what I did" falls in category 5—more often—in both independent samples: leaders and employees (**Table 1**), **Table 2** shows that the null hypotheses: "The distribution of 'I was successful in what I did' is the same across categories of position in the company," is rejected. This result is confirmed by the distribution displayed in **Table 3**. For example, only 7% leaders, but even 19.2% employees were never, seldom, or sometimes successful in what they did; on the other hand, 67.6% leaders, but only 55.2% employees were more often, very often, or always successful in

what they did. Similar conclusions about the same middle values and different distributions can be drawn for the statement “My work promoted my abilities and competences.”

Similarly, although the middle value of responses for the statement “I made important decisions” falls in category 4—often—in both independent samples: leaders and employees (**Table 1**), **Table 2** shows that the null hypotheses: “The distribution of ‘I made important decisions’ is the same across categories of position in the company,” is rejected. This result is confirmed by the distribution displayed in **Table 3**. For example, 30.4% leaders, but even 49.2% employees had never, seldom, or sometimes made important decisions; on the other hand, 41.9% leaders, but only 25.2% employees had made important decisions more often, very often, or always. Similar conclusions can be drawn from the results in **Table 1–3** for the statement “I experienced consistence among my colleagues.”

4.1. Discussion

We developed four main hypotheses presented in the third chapter. The first hypothesis was: “Leaders report a higher frequency of daily work stress than employees.” This hypothesis can be partially confirmed with results in **Table 1**. We can confirm that leaders report a higher frequency of the following daily work stressful feelings than employees:

- I was annoyed by others.
- I felt under pressure.
- I did not get my work out of my head.
- There were misunderstandings between colleagues at work.
- I contributed to important decisions.
- I had the chance to work on a variety of tasks.

Considering the above-written daily work stressful feelings, **Table 2** shows that there are significant differences between leaders and employees regarding the following physical and psychical well-being or activities: “I was annoyed by others,” “I felt under pressure,” “I contributed to important decisions,” and “I had the chance to work on a variety of tasks.”

Employees report a higher frequency of the following daily work stressful feelings than leaders (**Table 1**):

- I was fed up with everything.
- I slept restlessly.
- I put off making decisions.
- I could not be enthusiastic about my work anymore.
- I experienced that I cannot achieve much in several things.
- I doubted the importance of my work.

However, the differences between leaders and employees regarding the daily work stressful feelings are not statistically significant (**Table 2**).

Research results show us that managers are under greater stress than employees are. The fact that Slovenian organizations have been faced with the consequences of the 2008 crisis, with effects still being felt in 2013, can contribute to the understanding of these results. This leads us to the conclusion that managers must prepare special anti-stress programs when organizations are faced with the crisis. It is also associated with manager's empathy because we start from a specific working environment where managers very difficultly terminate an employee employment contract because of social awareness. Thus, managers feel more personally responsible, in order to retain employees and are therefore under increasing pressure to an organization to function effectively.

Based on the research results, presented in **Tables 1** and **2**, we can confirm the second hypothesis: "On average, leaders were more frequently under pressure than employees." Leaders reached median 4—often—at the item, "I felt under pressure," and median 3—sometimes—was achieved by employees at this item (**Table 1**). **Table 2** shows that between leaders and employees, there are significant differences regarding the frequency of this feeling.

The consequences of the crisis in 2008 may threaten the existence and development of organizations. In order to avoid the negative effects of such crisis, managers work quantitatively and qualitatively more as in conjuncture. They are therefore also under increasing pressure, which can be reduced through various activities integrated in stress management.

Based on the research results, presented in **Tables 1** and **2**, we can confirm Hypothesis 3: "On average, leaders had more frequently satisfying sleep than employees." **Table 1** shows that for the frequency of the statement "I had a satisfying sleep," median 5—more often—was achieved by leaders, and median 4—often—was achieved by employees. **Table 2** shows that the differences between leaders and employees regarding the above-written statement are statistically significant.

Despite the fact that managers in Slovenia are under stress and feel the pressure, they sleep well. We may assume that they are aware of their physical and mental well-being, and they improve it with a variety of activities, which result in a satisfying sleep. We conclude that employees fear for their existence, because they could lose their job and this presents long-term uncertainty, resulting in a poor sleep—and are under constant pressure (which has a deeper and more long-term consequences). Managers are under the major short-term pressures, but do not fear for their own existence, and despite all they sleep better.

Similarly, we can also confirm Hypothesis 4: "On average, employees could use their strong points at work less frequently than leaders." **Table 1** shows that for the frequency of the item "I could use my strong points at work," median 4—often—was achieved by employees, and median 5—more often—was achieved by leaders. **Table 2** informs us that the above-written difference is statistically significant.

The workplace of managers and related powers and responsibilities of managers are complex. Therefore, managers must apply all their abilities, knowledge, skills, and personal attributes

including their motivation, will, values, and other feelings. The workplaces of other employees are not so complex and so they cannot use their strong points at work as frequently as managers can.

The issue of workers' physical and psychical well-being or their activities in Slovenia gain importance in 2012, since a new Law on Safety and Health at Work [32] was passed. Since 2012, it is obligatory to implement the precautions about safety and health at work. According to this law, one must assess the risk of every working place in company/organization, which can negatively impact the employee. To minimize these risks, it is necessary to implement systematic activities, which have a positive impact on reducing stress and stressors. All activities are performed in the frame of workplace health promotion (WHP).

5. Conclusion

5.1. Contributions to theory

In the present study, we investigated the differences in physical and psychical well-being of employees and leaders. These operated in a crisis, because in 2013 the consequences of crisis were very intensive in Slovenia. This exploration of stress of leaders and employees focuses on differences, because leaders could manage their employees on the basis of health-caring leadership. Therefore, it is important to develop such a leadership style.

5.2. Contributions to practice

Leaders can see differences in physical and psychical well-being of employees compared to themselves. They can manage employee's stress through work health promotion. It is a process, which is structured in the following phases: preparation, design, realization, score, and follow-up. It affects several areas [33, p. 41]:

- Psychological areas: impact on employees aims on one hand to improve the current and future physical well-being and on the other hand to develop better eating habits and recreation, and to reduce the existing health problems and prevent the future health problems.
- Mental area: employees, who increasingly value company, have greater motivation and job satisfaction. We can also see improvements in dealing with work more responsibly and stress management, which is present in the workplace.
- Social sphere: the impact on employees is primarily in the form of better interpersonal relations, which means that employees have intensive contact with colleagues. The consequence of that includes the increased group cohesion and less internal conflicts among employees.
- Facilitating prevention activities: in this phase, you can use the appropriate promotion of health and safety to save time, because work cannot be organized individually. We can see improvement in the health care and increased support from the psychosocial perspective.

- General cognitive and affective outcomes: this area affects the positive changes in behavior that is associated with health, a better understanding of health, a sense of increasing productivity, and so on.

5.3. Limitations and further research

Limitations are related to economic conditions; namely, we studied employees and leaders in various organizations that operate in crisis. Further research should be directed to the study of employees and leaders in favorable economic conditions. Stress of unemployed persons remains completely open to further researches.

Employees, who do not work as leaders, often perform routine tasks that are physically and mentally exhausting. This is also negatively reflected in the abilities to rest and perform activities in private life. This is also a relevant area for further research.

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Human Work and its Discontents

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Additional information is available at the end of the chapter

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Abstract

The objective of the proposed chapter is to discuss the evolution of research on meanings and quality of life at work, highlighting gaps and emphasizing the way the approach that articulates “work” and “human suffering” can contribute to advance in contemporary studies in this field [1]. Given its centrality in people's life and in society development, work has been analyzed from different perspectives and methodological-theoretical-conceptual approaches [2–5]. Notwithstanding the plurality of views on the theme, it is generally possible to define it as an activity that has an objective and is aimed at producing some personal or collective result that is objectively and/or subjectively useful. It can also be carried out within the space of employment, employment being understood as the set of remunerated activities performed within a system that is economically organized and marked by institutionalized exchange relations.

Keywords: human work, human suffering, psychopathology of work

1. Introduction

In this chapter, the authors seek to gather a set of views from colleagues, as well as excerpts from articles they have produced on themes concerning contemporary individual-work-organizations-society relations [6–9]. Such preparations and academic productions were mainly incited by the centrality of work in people's lives and in the development of society, in addition to the plethora of focuses and theoretical-methodological approaches adopted in the pursuit of their study and experience [1, 2, 4, 5, 10, 11]. In the plurality of views about the theme notwithstanding, it can be generally defined as an objective-seeking activity veered toward yielding some result, personal or collective, containing an objective and/or subjective usefulness. It can also be executed within the confines of employment, understood as the set of gainful activities performed in an economically organized system, market by institutionalized exchange relations.

However, attributing the strict meaning of employment to work may entail negative implications, both at the personal and institutional levels. Above all, work is an activity through which individuals are inserted into the world, exercise their talents, define themselves and create value, and provide them with feelings of personal accomplishments in return. Therefore, work is also a means to manage the anguish of emptiness.

Kilimnik [12] purports that work contains a historic-philosophic importance, to the extent that it is through work that man changes nature and himself and, by doing it, creates culture, science, language and the society where he lives. It also contains scientific relevance given the great interest that theme has aroused as concerns the development of research efforts in myriad areas of knowledge [13]. Its economic relevance is equally undisputable, to the extent that work is the main means by which human beings obtain the financial resources for their livelihood [14]. Also notable is work's sociological importance: after all, in today's society, the work context has a greater social needs satisfaction potential than family, neighborhood or social clubs. In the same vein, its psychological significance is appreciable, since work positions the individual in society, making a contribution towards the construction of his identity and personality [15].

These aspects notwithstanding, only recently—for the past two decades—have the importance of work in the preservation of people's physical and mental health been recognized more broadly and systemically. Even more recent is the recognition, by managers of the impacts that work has upon health, especially as concerns its psychic dimension. Therefore, this current concern with the meanings of work or quality of work life seems to be closely related to, among other factors, the importance that work has been taking in the psychic dimension of individuals [16].

Nevertheless, the theories developed so far about work and quality of life and also about the meanings of work have been under much criticism [17]. First, some studies have been criticized for excluding important variables from their analyses, which affect the characteristics of the endeavor. Second, many models have not given due attention to the extent to which job satisfaction can be determined by relatively stable worker personality variables. Third, a major part of the models have given scant emphasis to the examination of possible environmental determinants in job satisfaction. Finally, there is a scarcity of studies that seek to analyze human work through the perspective of suffering.

Concerning the last gap mentioned above, Chanlat [1] posits that the psychopathology of work offers consistent contributions to the understanding of the articulation between work and suffering, since this field of study places suffering in the center of the psychic relationship between man and work. The author defines suffering as the struggling space that covers the field between well-being, on one side, and mental disease or madness, on the other. It can be classified as singular suffering—that inherited from each individual's own psychic history (diachronic dimension) and current suffering, emerging in work situations (synchronic dimension). To minimize suffering, the individual proceeds to construct original solutions simultaneously favorable to work and health (creative suffering). On the other hand, unfavorable solutions are called “pathogenic suffering” by this author [1].

In his study, Chanlat [1] posits that work pressures that jeopardize psychic balance entail from the organization of work (division of tasks), contrarily to embarrassment caused by work's

physical and biological conditions, for which the body is the main target. The author also argues that it is a mistake to try and eliminate suffering from work, as previous studies suggest. First, because once driven away, suffering reappears and crystallizes in other forms offered by reality. Second, because pleasure at work derives from suffering. Therefore, in the organizational context, it behooves the manager to provide conditions in which workers may manage their suffering themselves, to the benefit of their health and, consequently, to the benefit of productivity. The challenge would then be reconciling mental health and work.

Consequently, the classic work motivation rationale—ensuing from Maslow's hierarchy of needs—is now challenged to the extent that the motivation notion is replaced by the discomfort and suffering dynamics concept. Therefore, the perspectives around discomfort and human suffering in organizations, as reiterated by the psychopathology of work, can make relevant contributions to the contemporary debate about human work and are personal, organizational and societal implications.

In this context, the objective of this proposed chapter is to discuss the evolution of research on meanings and quality of work life, highlighting gaps and emphasizing in what way the approach articulating “work” and “human suffering” can contribute toward advancing studies into this area [1]. Beyond this introduction, the first chapter approaches the origin, the concepts and dimensions of quality of working life—QWL. Later, studies are discussed that introduce the notion of the meanings of work. In the sequence, the perspective that articulates “work” and “human suffering” is presented. The present chapter ends with final considerations and suggestions for future studies.

2. Quality of working life: origin, evolution, concepts and dimensions

2.1. Origins and evolution

The theme “quality of working life” is not an exclusive concern of today's researchers. Since the beginnings of civilization, man has sought manners to make his struggle for survival milder. History and paleontology, for example, provide myriad evidence that individuals, since time immemorial, have sought to develop artifacts, tools and methods to minimize wear and tear from work and/or make it more pleasurable.

However, the scientific study of work conditions and their influence upon production and worker morale began with the industrial revolution and the systematization of production methods in the eighteenth and nineteenth centuries. Albeit through an eminently economic perspective, the first theorizations into issues concerning worker satisfaction and productivity can be found in the works of the “liberal school”. Smith, in his “The Wealth of Nations,” highlighted the influence of compensation upon worker satisfaction and, consequently, upon productivity improvement.

Upon the advent of scientific management, the study of human work found new dimensions. Work became thoroughly studied, seeking at extracting the best result from the workers' efforts. Taylor, sharing with Smith the belief that a supposed harmony of interests between employers and employees, stated that employee prosperity was associated with employer

prosperity and thus (and still through eminently economic-rational lenses) the importance of considering the worker satisfaction issue. However, by promoting an excessive fragmentation of work and turning the human being into a simple cog in the production system gears, Taylorism methods entailed a series of explicit discontent reactions, the increase of absenteeism and the number of sabotage, strike movements and myriad conflicts.

At this time, the Hawthorne (US) experiments, coordinated by Elton Mayo, and the Tavistock Institute (UK), under the direction of Eric Trist, brought great contributions to the study of human behavior in organizations by signaling, for the first time, the importance of psychological and social factors [18]. Mayo's studies, for example, signaled that human work yield is influenced not only by aspects of the physical-chemical environment but also by the particular characteristics of each individual and by the relationships such individual establishes with the group wherein he or she belongs.

Besides the works of Mayo and Trist, the studies developed by Maslow (the human motivation pyramid) and Herzberg (the Motivation-Hygiene Theory) are noteworthy. Maslow [19] developed the human needs pyramid composed of five levels: (1) physiological needs, (2) safety needs, (3) social needs, (4) self-esteem needs and (5) self-actualization needs. According to the author, for individuals to be interested in higher level needs, their lower level needs must be satisfied. Thus, only when needs related to physiological aspects (e.g., food and water needs) are under control will individuals be concerned with safety and shelter. Upon meeting these needs, people would feel the need for interpersonal relationships. Next, they would require personal esteem, recognition and prestige, and finally, they would be motivated by the need to reach their full potential as human beings [19].

Herzberg [20] in turn suggested that motivation is composed by two dimensions (unrelated): work aspects that may hinder satisfaction but do not impact employees in their growth and development (hygiene factors) and work-related aspects that effectively encourage such development (motivation factors). The first category—hygiene factors—comprises aspects extrinsic to the task, that is, aspects related to the conditions under which the same are performed, such as the company's administration policy, supervision, interpersonal relations, work conditions, compensation and job security. These factors do not entail an increase of job satisfaction, but their absence can cause dissatisfaction. The second category of needs—motivational factors—comprises, in turn, those aspects responsible for satisfaction in itself and contains the following dimensions: freedom to create and innovate, actualization, recognition, responsibility, and the possibility of growth and development [20].

These studies, therefore, drove the consolidation of the "human relations school", where the quality of working life will find great identification for the emphasis given to the worker's psychosocial and motivational aspects. Thus, during the 1950s and 1960s, the behavioral approach was recognized as the true origin of QWL [21].

Thenceforth, QWL field work saw a quick growth, and the early 1970s was marked by important initiatives in the sense of adapting the new knowledge of the behavioral science to

organizations. Nadler and Lawler [22], upon conducting an analysis of the movement around QWL, concluded that, initially treated as an individual reaction to work and then as a link in cooperative work projects, QWL evolved and became understood as a means for work environment enrichment and to achieve greater productivity and satisfaction [22].

Currently, the apologia for workaholics, established personae in the 1980s, had been strongly repealed, and concern with quality of life has prompted a growing number of researchers to explore the global conditions where work is performed in an attempt to rescue the humanization of the organizational environment. Today's QWL emphasis resides upon the replacement of a deskbound lifestyle and stress by an increased balance between work and leisure that entails a better quality of life [23].

This current concern with the quality of life at work seems to be closely related, among other factors, to the importance that work has assumed in the psychic plane of individuals. Today's organizations may perhaps be the main venue for man to acquire his identity and seek his ideal ego.

Once completed this contextualization about QWL origins, the following section expounds the main concepts and dimensions related to this theme.

2.2. Concepts and main dimensions

QWL has been defined in literature by different forms. However, most concepts share a QWL understanding as being a reaction movement against Taylorism and, consequently, as an instrument whose objective is to provide for greater work humanization, increased employee well-being and their greater participation in organizational decisions. Along this line, QWL has been construed as a concrete application of a humanist philosophy, seeking to change aspects of and in work, in order to create a more favorable situation for employee satisfaction vis-à-vis the increase of organizational productivity.

Huse and Cummings [24, p. 79] understand the quality of working life as a "manner of thinking" involving people, work and the organization, highlighting two distinctive points: (a) a concern with employee well-being and organizational efficiency and (b) employee participation in decisions and work issues". Walto [25] posits that QWL describes certain environmental and human values neglected by industrial societies in favor of technological, industrial productivity and economic growth advances. Davis [26] also submits a generic QWL concept, indicating that it can be construed as the favorable or unfavorable conditions of a work environment for employees.

Guest [27, p. 76] is a little more specific and defines the quality of working life as follows:

[...] a process by which an organization tries to unveil its personnel's creative potential, involving them in decisions that affect them in their work. A marked characteristic of the process is that its objectives are not simply extrinsic, focusing upon productivity and efficiency improvements; they are also intrinsic as concerns what employees see as self-actualization and self-aggrandizing purposes. [27]

Fernandes [28] presents a more systemic QWL concept and argues that it is supported by four pillars: (1) problem-solving involving organization members at all levels (participation, suggestions), (2) restructuring work's basic nature (job enrichment, job redesign, job rotation), (3) innovation in the reward system (financial and non-financial rewards) and (4) improving the work environment (ambiance, culture, physical environment and ergonomic aspects).

Beyond concepts, literature on QWL harbors different theoretical models discussing dimensions and factors impacting the quality of working life. Because of their theoretical relevance, the models by the following persons were approached, following a chronological order: (1) Walto [25]; (2) Belanger et al. [29]; (3) Hackman and Oldham [30]; (4) Lippit [31]; and (5) Huse and Cummings [24].

In 1973, Walto proposed a model to evaluate the quality of working life based on eight criteria, which comprise the diagnostic of aspects such as fair and adequate compensation, safety and health in working conditions, the immediate opportunity to develop human capabilities and social integration in the organization, among other factors listed in **Table 1**.

In the same year, Belanger et al. [29] discussed the role of four dimensions of quality of working life, presented in **Table 2**.

Factors	Dimensions
1. Fair and adequate compensation	1.1. Income adequate to work 1.2. Internal equity 1.3. External equity
2. Safety and health in working conditions	2.1. Working hours 2.2. Safe and healthy physical environment
3. Immediate opportunity to develop human capabilities	3.1. Autonomy 3.2. Task meaning 3.3. Task identity 3.4. Variety of skills 3.5. Feedback
4. Future opportunity for continuous growth and professional assurance	4.1. Career possibilities 4.2. Professional growth 4.3. Job security
5. Social integration in the organization	5.1. Equal opportunities 5.2. Relationship 5.3. Community sense
6. Constitutionalism	6.1. Respect for laws and workers' rights 6.2. Personal privacy 6.3. Freedom of expression 6.4. Norms and routines
7. Work and total life space	7.1. Balanced work role
8. The social relevance of work	8.1. Corporate image 8.2. Social responsibility for services 8.3. Social responsibility for employees

Table 1. QWL dimensions, adapted from Ref. [25].

Dimensions	Variables
1. Work in itself	Creativity, variability, autonomy, involvement feedback
2. Personal and professional growth	Training, growth opportunities, relationships at work, organizational roles
3. Meaningful tasks	Complete tasks, enhanced responsibility, financial/non-financial rewards, enrichment
4. Open functions and structures	Climate and creativity, transfer of objectives

Table 2. QWL dimensions, adapted from Ref. [29].

Two years later, Hackman and Oldham [30] upheld the idea that job characteristics promote the emergence of three critical psychological states capable of determining an individual's job satisfaction. The first of these critical psychological states is defined as the perceived significance, or the degree to which a person perceives his job as being important, valuable and significant within his value scale. The second refers to responsibility as perceived by the worker vis-à-vis his work, that is, the extent to which the individual feels responsible for the results of the work he or she performs. The third critical psychological state concerns the employee's understanding of the work done, that is, the extent to which the individual knows and understands his or her effective task performance.

The task dimensions present in their model and whose presence creates these critical psychological states are [30] as follows:

1. **Skill variety (SH):** The extent to which a task requires myriad different activities to be performed, through the involvement and use of different skills and talents by the same individual.
2. **Task identity (TI):** The extent to which the task requires the performance of full work, that is, work done from beginning to end aiming at obtaining visible results.
3. **Task significance (TS):** The extent to which the task bears a substantial impact upon the life or work of other people, be they organization members or outsiders.
4. **Autonomy (AU):** The extent to which the task provides the individual with substantial independence and freedom to schedule his work and determines the procedures for its execution.
5. **Extrinsic feedback (EF):** The extent to which the individual is given clear information about his performance, from his superiors, colleagues or customers.
6. **Knowledge of outcomes (KO):** The extent to which the performance of work activities provides direct, clear information about the worker's performance.
7. **Interrelationship (IR):** The extent to which work requires employees to deal directly with other persons, customers included.

In the sequence, Lippit's model [31] resumes the eight QWL criteria proposed by Walton [25] and organizes them into four key factors, as shown below (Table 3).

Factors	Dimensions
1. Work in itself	Performance feedback Clear work objectives Reduced controls Greater responsibility Individual involvement in the decision-making process
2. The individual	Improving self-image Learning possibilities Climate favorable to friendship Coherence between life and work objectives
3. The yield of work	Increased responsibilities Intergroup collaboration Full and unit work Rewards for quality/innovation Measurable objectives
4. Organizational jobs and structure	Climate favorable to creativity Adequate communication (two-way) Respect for the individual Feeling of advancement and organizational development

Table 3. QWL dimensions, adapted from Ref. [31].

For Lippit [31], this model is veered toward meeting both the individuals' and the organization's needs.

In 1985, Huse and Cummings [24] called attention to the fact that QWL involves the people-work-organization trinomial. In this sense, for these authors, the implementation of quality of work life should take the following factors into account (**Table 4**).

Despite the relationship between QWL and productivity, the assumption that the by Quality of Work Life improving satisfaction and thence increasing productivity has proven quite simplistic and often mistaken. For the authors, QWL technology may, indirectly, improve productivity by having a positive impact upon organizational communication, employee motivation and worker capacity building. In a nutshell, Huse and Cummings [24, p. 204] conclude that:

Factors	Description
1. Worker participation	The operationalization of worker participation can happen via their involvement in quality control circles (QCC), works councils, cooperative groups or upon other channels to allow them to participate in decision-making processes
2. Job design	Job designs should be adjusted to workers' needs and technological requirements. Job enrichment should be sought, taking into account the aspects such as the variety of skills, feedback and establishment of self-managed work groups
3. Innovation of the reward system	This factor concerns the review of the entire organization job & wages plan aiming at seeking a better balance among the different wage levels and functional status
4. Improvement of the organizational environment	Involves the provision of conditions such as flexible working hours, changes of workplaces or work equipments and the establishment of semi-autonomous work groups

Table 4. QWL dimensions, adapted from Ref. [24].

In summary QWL interventions may have a direct effect upon productivity by improving communication and coordination, employee motivation and individual capacity-building. They may also directly influence productivity via the secondary effects of worker well-being and satisfaction improvements.

For the purpose of advancing along the construct “quality of work life”, some studies have sought to investigate the “meanings of work,” such as the research work developed by the *Centre de Recherche et d’Intervention pour le Travail, l’Efficacité Organisationnelle et la Santé—Criteos*, under the coordination of Professor Estelle M. Morin. We will delve deeper into this and other studies in the following section [7, 9].

The word “senses” has two origins. From Latin *sensus*, it means the faculty of perception and also meaning, import and interpretation. It also means the idea or image that represents a signal, an experience. Its German root, *sinnan*, means to go, travel, strive after, have in mind and perceive. In psychology, the senses especially refer to the experience of coherence, equilibrium and fullness. Thus, senses comprise three components:

1. **Meaning** (*Sensus*): the meaning of work, its value in the eyes of the individual and its definition or representation.
2. **Orientation** (*Sinnan*): the direction of the individual at work, what the person seeks and the purposes that guide his actions.
3. **Coherence** (Phenomenology): the result of the consistence between the person and the work he performs, and between his expectations and values and what this person demonstrates daily at work.

Besides considering these components, the sense that individuals attribute to work is influenced by their perception of the environment in which it is developed. That is, work makes sense for people when they perceive an alignment with their identity, their work and the context in which it is done.

As a theoretical-methodological approach, the perspective of work senses is linked to the conception of existentialist psychiatrists. People need to find sense in their activities, lest they plummet into *existential frustration* [32]. Modern existentialism thinkers, be they philosophers, psychologists and/or artists, are concerned with the concrete experiences of human existing when discussing the senses issue in organizations [33], among the focuses of studies centered on work senses, the research efforts mentioned in **Table 5** are notable [34].

The characteristics of meaningful work were the specific object of several research endeavors since the 1960s. By way of consequence, a new field of knowledge, called job design, came into being [35–37].

The meaning of work is perceived as a state of satisfaction caused by the perception of coherence between the person and the work the person performed [38]. This author defined eight characteristics that contribute toward providing sense to work: (1) identification with the work and the environment wherein it is performed, (2) good relations with others, (3) a feeling

Main authors	Analytical variables
Mow [13]	Work adds value to something Work is central to people's lives Work is an activity that benefits others Work is not pleasant Work is physically and mentally demanding Work is a regular, gainful activity
Emery [35, 36] Trist [37]	Work shows varieties and is challenging Work brings continuous learning Work allows autonomy and decision-making Work is recognized Work brings social contribution Work can be used as defense against anguish
Hackman and Oldham [30]	Work should provide, besides context features: - Variety of skills - Task identity - Task meaning - Interrelationship - Autonomy - Intrinsic feedback - Extrinsic feedback
Morin [16, 39, 40]	Work is efficient and yields a useful result There is pleasure in doing the task Work affords autonomy Work is a source of satisfactory human relations Work keeps people busy Work is morally acceptable

Table 5. Research into the meaning of work, adapted from Ref. [34].

of usefulness and contribution toward an important project, (4) a feeling of importance and benefit for the next person, (5) learning and pleasure in performing work, (6) participation in the improvement of process effectiveness and working conditions, (7) a feeling of autonomy in the performance of work and (8) a feeling of responsibility and pride for the work done [38].

Under the influence of this study, since the 1990s, Morin [39, 40] has conducted investigations in different environments to determine the characteristics of meaningful work. This author identified five essential characteristics, to wit:

1. **The usefulness of work:** doing something that is useful to others or to society or that makes a contribution to society;
2. **Moral righteousness:** performing morally justifiable work;
3. **Learning and development:** performing work that corresponds to competences, which affords learning, developing one's potential and reaching objectives;
4. **Autonomy:** exercising competences and judgment to solve problems and make work-related decisions;
5. **Quality of relations:** performing work that allows interesting contacts, good relations with colleagues and influence the environment [39, 40].

In the context of Brazilian research into the meanings of work, the empirical study conducted by Morin, Tonelli and Pliopas [34] is noteworthy. This study sought to investigate the senses that young managers attribute to work. The most recurrent themes from the research were compiled in **Table 6**.

From the data gathered by Morin et al. [34], similarities become noticeable between the themes approached in Brazil and in international research endeavors concerning the meanings of work; in Brazil, however, a greater number of themes germane to the individual dimension rather than the organizational and societal themes were unveiled. Another important aspect is the investigation of the sense that men and women derive from work, suggesting that the gender dimension may be of the essence in themes such as identity, independence and personal satisfaction, for example. The respondents' age is another fundamental factor that that research findings indicate as differentiating.

Dimension	Variable	Work is meaningful when...
Individual dimension	Personal satisfaction	Whoever performs the work feels pleasure and likes what he does
		It is a challenge to be overcome
		The person perceives his contribution as unique and creative
	Independence and survival	It rewards whoever does it financially
		Allows the individual to achieve a better quality of living
Growth and learning	Provides the feeling of financial and psychological independence	
Organizational dimension	Identity	Professional growth/learning
		Provides an identity to those who work
		The company where the person works is recognized
	Usefulness	It is a status symbol
		Whoever does it understands the process from beginning to end
	Relationship	It is useful to the organization
		A person has the opportunity of relating to others
Someone in the organization provides recognition		
Social dimension	Social insertion	Affords social insertion
	Social contribution	Contributes to society
		It is considered ethical and morally acceptable

Table 6. Characteristics of meaningful work, adapted from Ref. [34].

Another study, conducted by Carvalho et al. [9], investigated the sense that “new” and “veteran” employees at an oil company manifest in relation to work, for the purpose of identifying differences and similarities between these two groups of professionals. Analysis of the findings suggests, for veteran employees, work whose “sense” is more identified with humanistic values and greater “commitment” with the company. For newer employees, the creation of sense at work is veered toward concern with professional development.

Some studies associate the meanings of work with workers’ health. Isaksen [38], for example, observed that people who provide sense to work support stress better. This research indicates that meaningful work entails preventive effects upon people’s health. Work suffering factors are clearly described by studies about stress at work: work load and pace; schedules (rotating, variable, unpredictable, night time, long); the future of employment (job security); recognition and support; and autonomy and exercise of skills. When inadequate, these factors may create health problems, affecting people’s working capabilities. Therefore, they represent the target for disease and psychological suffering prevention in the work environment.

Nelson and Simmons [41] pinpoint five sets of stress factors: job requirements, relation requirements, psychic requirements, organizational policies and working conditions. Since the stress phenomenon is complex, these factors may create, at the same time, *eustress* (positive stress) and suffering (negative stress). Consequences of the individual are mediated by individual differences (behaviors’ type A and type B), such as the person’s optimistic nature, his feeling of personal effectiveness, his style of attribution (*Locus of Control*) self-reliance and his feeling of coherence. The ensuing psychological status carries effects upon health, performance and private life, with better results appearing when the person feels pleasure with his work. In the case of suffering, people mobilize their defense systems to offset distress, in order to maintain, after all, performance at work and quality of life.

The sense that individuals provide to work and to the relations established with it also depends on individual factors or differences, such as sex, personality type, emotional traits and style of attributions. Consequently, it is also necessary to control these factors to better understand the relations among work, health and individual and organizational performance indicators [41].

Despite their relevance in studies concerning well-being and human work, research into “the meanings of work” delves shallow into the articulation between work and suffering, a perspective to be discussed in the following section.

3. Work and human suffering

The objective of this section is to discuss the articulations between work and human suffering. There are currently more systematic and deeper studies in this area because of the emergence of a field of studies called “Work Psychopathology,” which positions suffering at the center of the psychic relation between man and work [1].

The first research pursuits in the 1950s were dedicated to the investigation of psychic disturbances caused by work. Unquestionably, this is the reason why studies relating to

stress theory emerged at the same time. An important issue that beacons investigations into the psychopathology of work was as follows: How can employees, despite the embarrassments found in the work situation, preserve their psychic equilibrium and maintain normalcy? Thus, the focus was less into the investigation of mental illnesses and more into the strategies crafted by employees to deal with suffering and mentally cope with the work situation [1].

Therefore, the “psychopathology of work” emphasis resides in suffering management, defined as follows:

(...) the struggle space covering the field found between, on the one hand, “well-being” (resuming the expression established by the WHO definition of health) and, on the other side mental illness or madness. [1, p. 153]

As far as origin is concerned, suffering can be classified as singular suffering (diachronic dimension)—that inherited from each individual’s own psychic history and current suffering (synchronic dimension), emerging from the relationship that the individual establishes in work situations. Considering the responses (strategies) that workers devise to cope with working situations, suffering can be creative or pathogenic. The first occurs when the subject, struggling against suffering, crafts original solutions, which are generally simultaneously favorable to production and health. On the other hand, the individual may propose unfavorable solutions to his own health as well, creating pathogenic suffering [1].

As of the early 1980s, the psychopathology of work was especially concerned with the establishment of a clinic for this suffering found in the psychic relation with work. Studies disclosed that pressures from work that jeopardize equilibrium and mental health do not ensue from physical conditions (noise, temperature, vibrations, etc.), nor chemical (dust, vapors, etc.) or biological (viruses, bacteria, fungi), whose main target is the body; they are caused, above all, by the division of tasks (the organization of work), which affects the worker’s mind [1].

Another issue highlighted by the psychopathology of work is that there is no deriving satisfaction from work *absent* suffering, since “(...) pleasure from work is a product *derived* from suffering” [1, p. 160]. Eliminating suffering from work situations is a mistake, as noted in the text below:

Concerned with workers’ health or with company’s effectiveness, many specialists would like to orientate actions towards making suffering disappear. This objective is vain, if not absurd. Firstly because as soon as driven away, suffering reappears and crystallizes in other forms as offered by reality. [1, p. 160]

Therefore, instead of suppressing situations that cause suffering, managers should provide conditions under which individuals can themselves manage their anguish. The challenge is then to reconcile mental health and work.

In convergence with this line, psychoanalysis itself recognizes that there is no way to eliminate the symptom, which has two aspects: suffering and dysfunction [42]:

For psychoanalysis, there is no symptom elimination but a transmutation of symptoms. When one disappears, the other steps in, in greater or lesser tune with the subject. In this sense, it is true that psychoanalysis does not heal. [42, p. 31]

Thus, psychoanalysis proposes to reconcile the subject with the symptom, treating *by* the symptom instead of treating *the* symptom, implying a change in the relationship between the individual and his enjoyment (his fantasy). According to Barreto [42], the “dream” of suffering disappearance is associated with the capitalist discourse:

Well-being is the dream of the capitalist discourse, and scientific discourse contributes to reinforce that intent: the end of unnecessary human suffering and a hitherto inexperienced level of happiness. Well-being ethics is something so present that it impregnates trade and industry, arts and sports, the media and political projects. Being happy, more than an individual pursuit, is part of government plans. [42, p.38]

Therefore, a field like psychoanalysis—which understands each individual as being different than the next, each treatment distinct from the next, which does not advocate the elimination of symptoms as a satisfactory solution and considers happiness to be a hard-to-solve problem—definitely clashes against the ideals of globalization.

Indeed, throughout his elaborations on social phenomena, Fred continuously highlighted the importance of cultural material available and active in society for the psychic operation of subjectivities. Following such indication, much has been discussed in the psychoanalytic *milieu* about the dynamics of contemporary society, seeking to make explicit the extent to which the cultural context favors the production of subjectivation modes distinct from those emerging in the beginnings of the twentieth century.

The theoretical framework of psychoanalysis is based on Freud's clinic, with hysterics. Since *The Interpretation of Dreams* [43], however, the world underwent significant changes and current modes of psychic suffering are not the same that characterize the late nineteenth and early twentieth centuries. Scientific and technological advances, the globalization of the economy and markets and the new outlines of the capitalist production and consumption system arouse issues and impasse different than those that characterized the time when psychoanalysis was conceived.

Ensuing from the ensemble of changes that highlight contemporary management systems of subject-work-organization relations, notably, and among other aspects, is the fact that the worker experiences the insecurity of obtaining a job opportunity and sufficient gains for his own maintenance and is prompted to self-manage himself as owner of his own career. Issues related to fidelity and trust are therefore frontally affected, especially in countries such as Brazil where emotional relationships, camaraderie and informality are strongly connected to protectionism and employment and authority ties [44].

If there is a relationship between the subject and one's subjective experience, then one could say that there equally is a relationship between types of illness and the appearance of new manners of subjectivation. One could also expand these assumptions proposing new issues,

such as Why does a specific manner of suffering impose itself at specific times? To what extent are the modes of illness disclosers of individuality changes in specific periods?

From such framework, one could consider the contemporary subjectivation experience articulates with specific forms of illness, while the subjective experience of modernity articulated or had others prevail. If this is the case, What about psychoanalysis and its extent in the organizational context?

Thus, What about the changes experiences in the work environment? What has been cast regarding the production of new subjectivities? As concerns the effects of new management models upon workers, domestic bibliography in the management field has suggested an absence of consensus and radical critics to more optimistic authors regarding the possibilities of these new models that can be identified. Underlining trends that seem to be quickly disseminating among more innovative companies, among which are labor training and stabilization policies, leaner wages and jobs structures and delayering companies, more optimistic authors have remarked that these policies have been implying significant changes in workplaces, including the abatement of the conflictive nature that was characteristic of labor relations in the country from their very beginnings [45].

Studies also exist that convey to the analysis of the implications ensuing from new organizational setups about *subjectivity* and mental health of workers, indicating the emergence of new forms of suffering and occupational illnesses [1, 2, 5, 46–48].

From the illnesses whose focus was the body, in its physical dimension—muscular fatigue, back pain, injuries and illnesses ensuing from physical conditions at the workplace—typical of the *industrial era*, the counterpoise are new symptoms and illnesses which now have the *psy* dimension as their primary target: anxiety, depression, stress, burnout syndromes and a broad array of new maladies.

From the analysis of this ensemble of authors, verifiably, at the same time that organizational innovations can signify the possibility of more enriched, autonomous and creative work for some, they may also represent poorer work, devoid of content and more precarious for others, and even their simple exclusion from the formal work market. In a work, they bring along new challenges, paradoxes and contradictions whose effects upon workers and especially upon their mental health and modes of subjectivation deserve better understanding.

The human suffering perspective in organizations, therefore, could bring original contributions to the debate about the relationship between individuals and work.

4. Final remarks

As indicated elsewhere, we reiterate that in the face of the scenario outlined above, the need for new manners of grasping the organizational phenomenon becomes evident, concentrating greater attention upon the potential of the psychoanalytic framework into reflections, notably as concerns aspects such as (1) addressing discomfort in the context of work and

contemporary organizations; (2) the new form of control introjection in the context of these organizations and their implications upon the workers' psychic dimension; (3) new organizational arrangements vis-à-vis the polemic, however, instigating, notion of *declining paternal function*; (4) the new modalities of emerging social ties within the scope of today's organizations, branded by virtuality and new technologies, which significantly change time, distance and space notions; (5) the subjective implications of the discontinuance of the traditional psychological contract between employer and employee, resting upon the safety-fidelity binomial, to emphasize the freedom-result dyad; (6) the *perverse setups* in the current organizational environment; (7) the ambiguities, contradictions and diasporas typical of a risk society; and (8) the emergence of new symptoms and pathology stemming from the current work context [6].

In summary, resorting once more to Sant'Anna (2011), the author highlights the relevance of longer *conversations* [49] between management and other fields of knowledge, among which psychoanalysis shows significant potential to be deeply explored as concerns *new perspectives* and theoretical-methodological-conceptual approaches capable of providing more comprehensive views of the multiple facets that characterize the complexity of subject-work-organization relations in contemporaneity [1, 50, 51].

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Professional Pride and Dignity? A Classic Grounded Theory Study among Social Workers

Heidi Branta, Tina Jacobson and Aida Alvinus

Additional information is available at the end of the chapter

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Abstract

Social workers working with individuals, who are vulnerable and in need of help in different situations, face great demands. They need to be able to respond to people with different kind of needs, yet at the same time handle organizational requirements. The purpose of this study, therefore, is to contribute to an increased understanding of the phenomenon of job satisfaction, its meaning for professionals in the field of social work, and what affects job satisfaction. The study was performed in accordance with classic grounded theory, and all data were collected through three semistructural interviews. The results of the study generated a theoretical model that illustrates how the phenomenon of “work satisfaction” can be understood and reached through a process of balancing, maintaining, and recreating professional pride and dignity in the field of social work. The discussion ends with suggestions for further studies, methodological discussion, and proposals for practical implications.

Keywords: social work, grounded theory, work satisfaction, professional pride, dignity

1. Introduction

Choosing social work as a profession is an active choice that means representing or working with vulnerable people within a change process. This is true of whatever organization or activity one operates in. Börjesson [1] states that social work occurs on several levels at the same time: partly at individual and family level but also at group, organizational, and structural level. This means, in our view, that the social work professional must be able to operate on several levels at the same time, sometimes under contradictory conditions. For many social workers, this means representing and supporting clients while having to fulfill the imposed

organizational demands. All of these perceived demands influence social workers' job satisfaction, i.e., how they feel about their work. Social workers must be able to shelter their own feelings and those of others. According to researchers Fineman [2]; Hareli & Rafaeli [3]; and Hochschild [4], the fact that people manage their emotions, both in daily life and in working life, means emotions are objects, not only for psychological but also sociological research. Further, researchers highlight that the ability to manage one's own emotions and those of others is especially important in professions where interpersonal contact occurs between people, in that the professional must be able to manage his or her own emotions as well as those of the client, Fineman [2]; Hareli & Rafaeli [3]; Hochschild [4]; and Weibull [5].

Grandey et al. [6] are of the view that working under these conditions may mean professionals find themselves dealing with an inner conflict as to their personal feelings and the emotions advocated by the organization. Further, Grandey [7] discusses the emotional imbalance, also called emotional dissonance, which can, in the long run lead to professionals suffering from purely health-related problems, such as physical pain, emotional exhaustion, and depersonalization.

Pooler et al. [8] are of the view that previous research has focused on burnout and depression, but that there is a lack of research on social workers from a salutogenic perspective. In their study, Söderfeldt et al. [9] also discuss work-related ill health in terms of burnout, the risk of which is high for professionally active social workers. This is due to the work often involving both difficult and burdensome client-related circumstances that the social worker must be able to manage (Söderfeldt et al. [9]). Shier and Graham [10] highlight another aspect of importance for social workers' wellbeing in terms of creating a good rapport with clients, as well as positive interaction with them. However, previous research has found an increased risk of burnout in social workers who become too involved with their clients. Another factor highlighted by the authors as important for social workers' wellbeing is "interactions with supervisors." This means the relationship between managers and their staff is good, thus having a positive effect on the social workers' wellbeing (Shier & Graham [10]).

Shier and Graham [10] also highlight that simply blaming social workers' high work load for burnout will not suffice, as the picture is more complicated. They go on to highlight previous research that acknowledges a link between the degree of job satisfaction a social worker experiences and their perception of the quality of work done in relation to their clients. The authors claim that social workers who enjoy a great level of job satisfaction deliver better quality work with clients (Shier & Graham [10]). It is also of great importance that the professionals have job satisfaction in order to deliver the best conceivable help to the client. In following theoretical outline above, we may state that social work can continue to be studied from an organizational and emotional perspective on a number of levels.

Job satisfaction among social workers is a well-researched subject from a number of perspectives according to Barber [11]; Cole et al. [12]; Farmer [13]. Most national as well as international studies focus on how job satisfaction among social workers can be raised as discussed by Farmer [13], and the relationship between leadership and social workers' job satisfaction as in the works of Fisher [14] and Holosko [15]. Other researchers have studied burnout, stress, and job satisfaction (e.g., Siefert et al. [16]). However, according to most of the abovementioned

studies, there is more to probe. Fisher [14] especially points out the need for more explorative research focusing on job satisfaction among social workers. Despite the quality research available, we have identified a need for inductive, explorative studies in the Swedish context that can bring to light further dimensions. *The purpose of this study*, therefore, is to contribute to increased understanding of the phenomenon of job satisfaction, its meaning for professionals in the field of social work, and what affects job satisfaction.

2. Method

2.1. Design and choice of method

The methodological approach of this study is qualitative, explorative, and inductive. This means we follow guidelines in generating theory, namely grounded theory, as we aim to achieve a deeper understanding of the phenomenon of job satisfaction in a qualitative, multifaceted way. The method of grounded theory (hereinafter GT) was developed in 1967 by Glaser and Strauss. Today, there are three main branches of GT, and it can no longer be seen as a uniform method. The three main branches of GT that differ from each other are represented by Glaser's classic grounded theory method—Strauss and Corbin's [17] version and Charmaz' [18] constructivist version. We will follow the classic version and have been inspired by Glaser's previous and more recent [19–23] works. Thus, we have chosen informants, performed interviews, and analyzed them on the basis of Glaser's empirically close classical version. More concretely, we have maintained an open mind in coding, categorizing, and abstracting theory by extracting a core variable without a prior literature study. Instead, the literature study was performed in tandem with the development of the theoretical model, which is completely in accordance with Glaser's [19] recommendations. Thus, we have not given consideration to other varieties of GT.

2.2. Selection of informants

In order to find interview participants, we employed two different selection processes: the Snowball principle and theoretical sampling. Through our contacts in the field of social work, we gained access to the first interviewee, corresponding to "snowball selection," as detailed by Esaiasson et al. [24], also known as a Convenience sample Morse [25]. Consequently, the selection was not random, as one contact led us to the next. In line with GT, the selection process then switched to what Glaser calls theoretical sampling. This type of selection means switching to looking for informants who can reinforce or develop a theory as given in Morse [25].

We interviewed three people representing widely different arenas (a school welfare officer, a habilitation officer, and a probation inspector) within the field of social work. The informants who participated in the study were all men, two of whom held degrees in behavioral science and one in social studies. All the informants work in different places in the public sector and perform different tasks. One of the informants has 25 years of work experience in the field, whereas the other two are relatively newly qualified, with 3 years' and 7 months' professional experience,

respectively. Three interviews may seem inadequate, but the performed interviews have followed all the principles of GT and a full analysis has been conducted, so a small number of interviews are desirable. According to *The Sage Handbook of Grounded Theory* by Bryant & Charmaz [26], the authors state, “the better data quality, the fewer number of interviews.” As the developed model also follows the principle of theoretical saturation, as highlighted by Glaser & Strauss [27]; Glaser [19]; and Glaser [20], demands of trustworthiness, and generalizability, we argue that three interviews are sufficient to achieve the aim and formulate problems. Glaser himself warns, according to Holton and Walsh [28], about data overwhelming when collecting too much data. It is more important to make a meaningful analysis than to collate too many interviews.

2.3. Data collection

Data were collected from the interviews, each of which lasted 45–60 minutes. The interviews were based on a semistructured interview guide, with themes that concern job satisfaction in general. The themes contained in the interview guide were the following:

- Background questions
- Definition of job satisfaction
- Positive factors that influence job satisfaction
- Negative factors influencing job satisfaction
- Areas for improvement
- The context’s influence on perceived job satisfaction
- Other

We have also made use of situationally adapted follow-up questions such as “tell us or describe more,” “what is meant by that?” Glaser and Strauss [27] maintain that the informants should be given the opportunity to formulate their own reasoning and answers with as little regulation from the interviewer as possible. Consequently, we devised inductive and open interview questions. The interviews were conducted either at the respondents’ place of work or in other, more neutral locations, such as libraries. All the interviews were recorded with dictaphones and mobile phones and then transcribed verbatim prior to analysis. Meaningful nonverbal communications such as laughter or deep sighs were also transcribed for a holistic understanding of the data.

2.4. Data analysis

Hartman [29] and Glaser [19] maintain that there are three phases of generating theory in GT: the open phase, the selective phase, and the theoretical phase. In the first phase (open phase), the aim is to find and identify different codes and categories in the empirical material. This is done by coding the already transcribed empirical data. Coding is done for each separate interview by identifying units of meaning. Each new thought or feeling is delimited and

noted in the margin Hartman [29]. Such initial coding of raw data has been performed and presented as examples, such as below:

... I've spoken to my bosses about it and they support my point of view, and they think it's good...

This quote was coded in a first step and labeled “support from managers.” In the second step, the code “support from managers” was sorted with several similar ones under one umbrella category labeled “Support—give and take,” meaning support can be both given and received from different parts of the organization. The category “support—give and take” was sorted under an overarching category, “Meaningfulness and task focus” in a third step. In Hartman’s view [29], the open phase ends when one can no longer identify new categories in the collated data, and “theoretical saturation” has been achieved. In the selective phase, the researcher makes a selection with a view to finding a core category—Hartman [29]. The core category is unveiled in the process of the researcher reflecting over the essence of the interviews, i.e., what the respondents highlight as being most central (Glaser & Strauss [27]; Hartman [29]). After sorting codes, categories, and overarching categories, we discovered, in the fourth and final step, the following core category: “job satisfaction can be understood as a process in which the individual balances, establishes and recreates professional pride and dignity.” The core variable, with its foundation of overarching categories, categories, and codes, forms the basis of the GT upon which job satisfaction as perceived by our informants is understood. The analysis phase concludes with an illustration of the theory in a theoretical graphic model presented in the results.

3. Results

Social workers are constantly faced with having to make tough decisions while dealing with limitations in their ability to act. The informants spoke about the joy and opportunities arising in the field as much as the difficulties and challenges that social work confronts them with. The interview analysis reveals that job satisfaction can be understood and achieved through a process of balancing, establishing, and recreating professional pride and dignity. In this context, we maintain that professional pride is the individual’s personal sense of pride in his/her work, the profession he or she is active in, and the efforts he or she makes within the professional framework. In other words, balancing, establishing, and recreating pride in daily work is a process, whether one is content with one’s job or not. Both positive and negative aspects influencing professional pride and dignity also influence job satisfaction. In our view, there is also a responsibility at organizational level to create the conditions necessary to conduct work tasks in a dignified way so that the professional can work and have a sense of professional pride.

Dignity at work is thus created via the organization through the conditions given to the individual, while professional pride is a feeling that is created by the individual or individuals within a particular professional group. The core category “job satisfaction can be understood and achieved through a process of balancing, establishing, and recreating professional pride” contains two overarching categories: creation of meaning and task focus on the one hand and

organizational dissatisfaction and demands on the other. Between both of these overarching categories, we find the individual taking a position toward organizational dissatisfaction and demands while at the same time aiming for the creation of meaning and task focus. The process of achieving job satisfaction occurs when the individual is able to maintain balance between the two extremes. The individual runs the risk of demolishing his or her sense of job satisfaction if organizational dissatisfaction and demands tip the balance. In contrast, a sense of job satisfaction is built up in that the individual senses the creation of meaning and task focus. When he or she balances the positive and negative sides, a process arises in which the individual tries to establish, balance, and recreate professional pride and dignity. The overarching categories and subcategories will be described in more detail in the text that follows. The entire model is presented below (Figure 1).

3.1. Creation of meaning and task focus

The overarching category “Creation of meaning and task focus” concerns the individual’s method of finding meaning in his or her profession, the profession’s usefulness in society, and focusing on the task that involves helping other individuals. Creation of meaning and task focus is characterized by the actions, strategies, and innate strengths of the individual who builds up and/or maintains a sense of job satisfaction. There are six subcategories for the overarching category Creation of meaning and task focus: Usefulness, Support, Responsibility/initiative, Acceptance, Favourable environment, and Need to grow and develop. A general description of these follows below and the codes are named in the definition of each category. All the categories have been illustrated with carefully selected quotes.

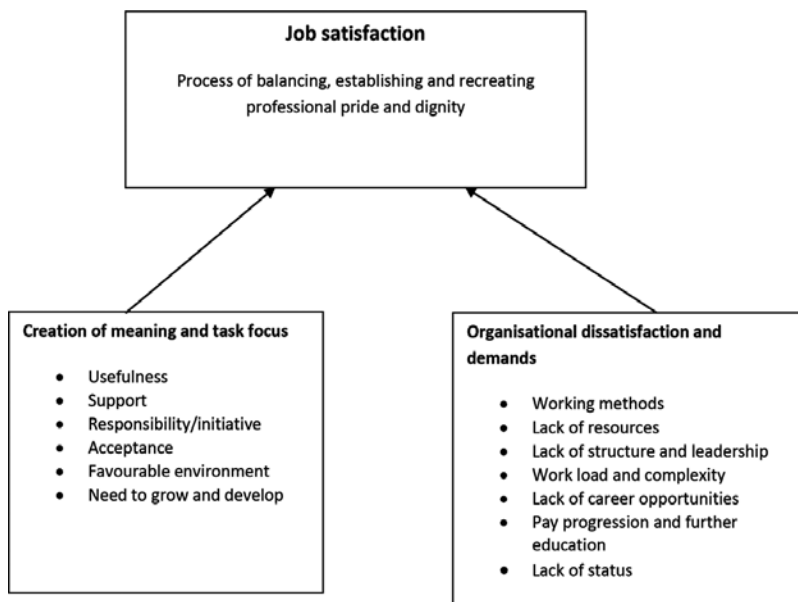


Figure 1. Model of job satisfaction as a process of establishing, balancing, and recreating professional pride and dignity.

3.1.1. Usefulness

During the interviews, all the participants raised the importance of feeling “useful” to others, feeling needed, and being conscious of doing good. This has been highlighted in various ways, for example, one informant describes the positive changes he has seen and contributed to in clients:

... So I've contributed to something positive in their lives, that they've become stronger individuals who can manage without me and I've done something good—I've contributed something good, I've strengthened them and it, when it happens [...] I get a sense of meaning—then I feel I've contributed to a positive change in the client's life and I feel I want to go to work and I'm happy doing what I do. (Informant 2)

3.1.2. Support

This means both giving and receiving support, either on an individual or a collegial level, or equally, receiving it on an organizational level, for example, through managers or a change in guidelines. All support in this context includes emotional support, which includes sheltering your feelings and those of others. The interviews reveal that support was of central importance to all the participants.

... so it becomes my roll to give feedback to the teachers, of course [...] A sounding board [...] I'm responsible for giving them someone to bounce ideas off in terms of their roles as teachers and how to handle their mentorship... [...] The teachers come and vent their despair at times... So even the counsellor's in the line of fire on occasion... (Informant 1)

3.1.3. Responsibility/initiative

This may mean taking responsibility/initiative formally or informally, for example, by fulfilling the formal responsibilities of the job not only from an organizational perspective but also by taking the initiative to attain work goals that create job satisfaction for the individual in the long run. All our informants highlighted the importance not only of shouldering responsibility and fulfilling their job remits but also of delivering more than what is formally required, in terms of taking personal initiative.

“but that won't work”, we say to our manager then—then we're kind of the ones keeping an eye on it and sometimes we take on the boss's role perhaps, saying, “that has to be sorted out, and that has to be sorted out”... and so we forget that well no, it's them who's boss, not us. (Informant 1)

3.1.4. Acceptance

The circumstances in which social work takes place can sometimes hamper an individual's scope of action, and to cope with this, the informants highlighted the need to develop a strategy, namely acceptance. Thus, their approach to this limitation on their scope of action is to accept the circumstances in order to continue to feel job satisfaction nonetheless. All the participants highlighted this strategy in their interview statements.

there are always some shortcomings in a place of work. I don't think you can be 100% happy in your job and I don't think that's the point either. (Informant 3)

3.1.5. Favorable environment

A favorable environment is partly made up of not only the social environment but also the purely physical one. By social environment, we mean good atmosphere and colleagues, whereas the physical environment refers to a pleasant office space. The informants highlight the importance of feeling at ease in a social context but also that there are conditions affecting comfort in the physical environment. One illustrates the importance of the social environment for job satisfaction thus:

that all your colleagues are on track and committed and [...] there's a lot of room for and ability to discuss everything, that all the cards can be laid on the table, so to speak [...] but also having fun. (Informant 1)

3.1.6. Need to grow and develop

Working with people in the context of social work is about creating change—something that is also of central importance to those working in the field. Here we refer to the need for personal growth and development, a need that manifests itself in working life, and highlighted as key by all our informants.

further education in, that's a positive [...] if we got any other work assignments [...] or if we wanted to do something else in the probation service then, then further education is good. Personally, I think the correctional services are quite generous with their training programmes, in my experience. There's quite a lot on offer. (Informant 3)

3.2. Organizational dissatisfaction and demands

The overarching category “Organizational dissatisfaction and demands” refers to negative aspects and different types of failings characterized by limitations in, for example, scope of action on an organizational level, which in turn affects job satisfaction. There are six subcategories in the overarching category Organizational dissatisfaction and demands: Working methods, Lack of resources, Lack of structure and leadership, Work load and complexity, Lack of career opportunities, Pay progression and further education, and Lack of status. Each of these is described below.

3.2.1. Working methods

The demands made on an organizational level do not always align with the actual working methods of those in the field. This was highlighted by our informants in different ways, for example, two felt that the given directives were not compatible with the practical work. A third informant described how different interpretations of the directives led to different working methods among practitioners because they utilized their scope of action in different ways.

We're supposed to mainly work in a preventative and health-promoting way [...] and not interventions as much [...] we're not quite there yet, even if it's difficult to know exactly what's preventative and health-promoting. (Informant 1)

3.2.2. Lack of resources

Budget has a big impact on all areas of social work. Having to deal with limited resources can generate frustration as the resources might not stretch to meet the actual needs. All the informants highlight and relate to this.

There's nothing to say that a four-cornered room with 30 pupils and a teacher is a particularly good learning environment, but that's the situation now. And we don't have money for anything else in particular either, so that's why we have to work on that basis and see what we can do in that environment. (Informant 1)

3.2.3. Lack of structure and leadership

Structure and fixed directives are very important in social work, as the job can in many ways involve encroaching on an individual's integrity. A lack of such directives may mean the professionals apply their own interpretations of laws, rules, and directives, which in the long term may lead to endangering the legal rights of the individual. All the informants expressed a strong desire for clarity on a structural and leadership level. One clearly stated that a lack of leadership had such great consequences for him, he chose to quit.

Things are quite turbulent at the leadership level. New bosses come in, existing bosses quit, colleagues quit and new ones come in. I would have preferred a more decisive leadership—although not a dictatorship—but a more decisive leadership. Some don't do their jobs like they should, they would have been told to do their job. At the moment, the managers have a tendency to want to be liked by everybody while being in charge at the same time. That's my experience. (Informant 3)

3.2.4. Work load and complexity

Social work is a multifaceted activity that requires flexibility and adaptability, as the work is much more complex than it can appear to be at first. The professional must be able to operate on an individual level in the meeting with clients, but even on a structural level, according to organizational circumstances. At the same time, they must frequently manage heavy workloads. All our informants described this aspect, as well other complexities of their work.

there are hoards of pupils with problems in some classes and it's a tough job for the mentors [...] it can be anything from honor-related violence [...] to criminal acts involving the students in things that can be really dangerous. And there they're in contact with the police and have to go to trial and stuff. And when there's conflict in class when they've reported one another [...] and the police are involved in the investigation and at the same time we're supposed to have some kind of functional lesson. (Informant 1)

3.2.5. Lack of career opportunities, pay progression, and further education

Financially pressured organizations have less scope for personal development in terms of career opportunities, pay progression, and further education through work. All our informants express this in some way, with two highlighting a lack of all three aspects as relevant, whereas one described shortfall in only career opportunities and pay progression.

And we don't get any further training... [...] and if there is, as a new employee I won't be first in line—it's the ones who've worked a long time who get to go ...[...] so if I stay here I won't get any new knowledge in the next few years and that also contributes to lack of personal development—not taking in new knowledge—then you're not satisfied either and then you might want to go somewhere else to progress [...]”... I've been to university for three and a half years and earn 24,500 kronor—my brothers haven't spent a day at uni and earn up to 30,000 kronor. (Informant 2)

3.2.6. Lack of status

This category encompasses loss of legitimacy on a structural and professional level. All our informants agreed that their work is not valued highly enough in terms of pay or in relation to the work's complexity and scope. Moreover, they said that working with vulnerable people in society is not held in high enough esteem.

We've got a school psychologist who I suppose has a fairly similar job to mine, but has a different position then. [...] They value him differently. But then he has a different education, doesn't he? (Informant 1)

4. Discussion

The purpose of this study was to contribute to an increased understanding of the phenomenon of job satisfaction, what it means for professionals in the field of social work, and what influences job satisfaction.

Our main analysis demonstrates that job satisfaction can be understood theoretically as a process in which social workers try to establish, balance, and recreate professional pride and dignity in their profession. This is an important inductive theoretical contribution to this study and also constitutes our core category. In many ways, social workers are a vulnerable group who must handle various types of risk associated with their individual tasks and that of operations per se—Parton [30]; Fraser et al. [31]. In order to manage these everyday risks, professional pride and dignity are important in preserving psychosocial health—Aronsson & Lindh [32]; Björkman & Carlsson [33]. From our research we maintain that professional pride and dignity deepen the dimension of job satisfaction within social work. Moreover, our study contributes to the existing knowledge on emotional labor, working environment research, and other organizational studies concerned with social work. Professional pride and dignity thus appear to be a prerequisite for social workers to fulfill both the demands of the organization and the client's needs, while maintaining job satisfaction.

Our main conclusion fulfils the aim of the study and responds to our first question in general. Subsequent conclusions are further concretized as answers to our two last questions, i.e., what influences job satisfaction positively or negatively and how do these answers relate to professional pride and dignity. Here follows a summary of the model's foundation stones.

The factors positively influencing job satisfaction are when the professional feels he or she is being useful, giving and receiving support, is allowed to take responsibility/initiative, is

working in a favorable environment, and feels a need to grow and develop. These positive aspects correspond to subcategories in the positive overarching category called creation of meaning and task focus in our theoretical graphic model. Factors negatively influencing job satisfaction are when the professional feels working methods are an obstacle; there is a lack of resources, structure, and leadership; work load and complexity are a hindrance; the professional feels there is a lack of career opportunities; pay progression and further education; and lack of status. These negative aspects correspond to subcategories of the overarching category called organizational dissatisfaction and demands. The analysis reveals that the individual must be able to maintain balance between the extremes of creation of meaning and task focus and organizational dissatisfaction and demands. From our analysis, we find the informants highlight both favorable and unfavorable aspects associated with job satisfaction. Both of these overarching categories (Creation of meaning and task focus and Organizational dissatisfaction and demands) correspond to extremes in our theoretical graphic model. Job satisfaction increases when the individual feels that the positive aspects outweigh the negative ones. In contrast, the individual risks losing his or her sense of job satisfaction if the negative aspects tip the balance. This is also confirmed by previous research in which a number of studies point to individuals achieving great job satisfaction, but still being dissatisfied with some aspects of their work tasks—Månsson [34].

4.1. Positive aspects

The factors that have a positive impact on professional pride, and consequently job satisfaction, include various forms of support (although primarily emotional support) and personal influence over work (control). Personal influence over work is labeled in our results as Responsibility/initiative, as these are the terms used by our informants. These concepts of support and control correspond with dimensions found in the “Demands-control-support model”—Karasek & Theorell [35]. The more influence and social support the employee perceives, the easier it is to manage stress. The informants perceived that they did good things for people and that their work was meaningful. This can be explained on the basis of Antonovsky’s theory KASAM, namely, “a sense of context,” which consists of three components: comprehensibility, manageability, and meaningfulness—Antonovsky [36]. The positive factors identified in the study can be seen in the light of Antonovsky’s concepts as “breath of fresh air factors,” which in turn contribute to recreating and establishing professional pride and job satisfaction in the long term.

Social support was particularly important in contributing to increased job satisfaction, but primarily in terms of emotional support from colleagues. Theorell [35, 37] maintains that emotional support is especially important for achieving job satisfaction, and it can compensate for other shortcomings in the workplace. Several studies on the public sector have highlighted that leaders at a higher organizational level greatly impact on employees’ perceptions of job satisfaction—Barber [11]; Cole et al. [12]; Farmer [13]. Bitektine [38] is of the view that if managers exercise positive leadership and support their employees, this contributes to the perception of the workplace as attractive. The employees are then more likely to stay with the organization and support it. Legitimacy for the organization in the long run—Bitektine

[38]. On the other hand, if managers convey a negative feel or exercise destructive leadership, this is reflected in employees having greater intention to change their place of work or actually change it—Rydstedt & Österberg [39]; Bogler [40]; Siegel [41]; Fors Brandebo et al. [42, 43]. This brings us to our topic for discussion, namely the negative factors that negatively impact on job satisfaction.

4.2. Negative aspects

Factors negatively impacting on job satisfaction and professional pride include lack of resources, lack of status, lack of organizational control (lack of leadership), etc. According to Karasek [35] and Theorell [35, 37], abovementioned can be explained as a lack of instrumental support. All the informants in our study spoke of the importance of having good managers and a good organizational leadership. One informant highlighted the lack of positive leadership in terms of unclear direction at an organizational level, and has consequently chosen to leave his place of work. This action can be seen as a sanction from the employee toward the organization. Choosing to change their place of work can be seen as an indication that the individual does not have confidence in the organization, which in turn may affect the organization's legitimacy. Bitektine [38] discusses this in terms of "legitimacy judgement." Such judgement of legitimacy evolves from a three-step process, the first step being that the evaluator (in our case, the informant) forms a perception of the organization or a group of organizations. The next step is for the evaluator to form a judgement or evaluation based on his or her perception. In the third and final step, this prior evaluation leads to a response that expresses itself through actions, for example, in terms of acceptance, support, avoidance of or sanctions against the organization. When the evaluator's response toward the organization is positive, he or she can instead provide support to the organization, thus contributing to increased legitimacy through his or her commitment—Bitektine [38].

Bitektine [38] discusses the fact that the evaluator may be a coworker, or even someone directly or indirectly coming into contact with the organization or the professional. Further, Bitektine [38] states that the evaluator not only judges legitimacy but also status and the social rank of the actors, either generating privileges or discrimination. All our informants pointed out that social work is not valued highly enough in society. According to our theoretical model, a lack of status leads to the risk of plummeting levels of job satisfaction, which in the long run negatively impacts on the social worker's professional pride and dignity. In our view, the link between professional pride and dignity can be discussed in relation to the degree of legitimacy. Thus, if professionals feel a high level of legitimacy in their work, their sense of professional pride and dignity increases, which in the long term can result in an increased sense of job satisfaction. Conversely, a low level of legitimacy brings with it a risk of declining job satisfaction. Beddoe [44] has studied the problem of professional identity and the link between continued training and status in "health social work" in New Zealand. Here it became apparent that the professionals were concerned that a lack of continued education in social work would negatively impact on the identity and status of the profession—Beddoe [44].

4.3. Discussion of methodology

In accordance with GT, we have taken an open-minded approach to this study and tried to be free from preconceived ideas. We have not gone in with any preunderstandings of the concept of job satisfaction as a phenomenon. At the outset, we did not anchor ourselves in theory but approached the study inductively and exploratively, in accordance with Glaser and Strauss [27]. As several researchers describe it, GT revolves around “an open mind, not an empty head” – Alvinus [45]; Alvinus et al. [46]; Pole & Lampard [47].

Our first informant had many years’ work experience in different areas of social work and was chosen in the hope that he (or she) could contribute relevant information to the study. Theoretical saturation of data could be seen as early as the second interview, in that we could see different facets of the studied phenomenon. This led us from snowball selection to theoretical sampling, meaning the interview questions were supplemented with follow-up questions concerning aspects that arose from the first interview. After analyzing the data from the first interview, our theoretical graphical model was developed. The data from the two last interviews were then used to confirm the developed model. Glaser and Strauss [27] maintain that data collection should cease when new data no longer influences or changes the core variable. On the one hand, Glaser [19, 20, 48] states that the researcher should not collect too much data, otherwise theoretical saturation may be achieved after only one interview. On the other hand, Glaser [20, 23] maintains that saturation can never be achieved as we live in a constantly changing world. Furthermore, Glaser [19, 20, 48] states that if the researcher wishes to come one step closer to “the truth,” the phenomenon must be studied over time.

The Classic GT method suits us as we are motivated by a curiosity and desire to understand our fellow humans and their different subjective experiences. Hartman [29] maintains that GT is most suitable for use by researchers who are driven by curiosity in the area under investigation and who are open to seeing what really happens in people’s experience and environment. It is our belief and hope that this approach marries well with our philosophy. We also consider our use of GT to follow the Glaserian version of GT, as supported by our supervisor. This is important to mention in regard to the risks highlighted by Glaser and Holton [49], namely that many qualitative researchers are said to employ GT, but in fact employ qualitative data analysis (QDA).

Glaser [20] states that it is common that inexperienced users of GT struggle with abstracting data and “establishing theory.” Thus, according to Glaser [20], the researcher must be able to manage a large amount of data with a view to creating meaningful interpretations. As inexperienced users of GT, we gained assistance in managing this amount of data from our supervisor. The theoretical graphic model was also developed with her support, thus enabling us to sort the data and establish theory. Performing the process together in this way can be seen as strength of this study. The core category of the study could, therefore, be applied to similar professions within the field of social work. In practical terms, it means a number of active social workers would be able to “recognize themselves” in the process of establishing, balancing, and recreating job satisfaction, even if the subcategories or codes were exchanged for similar ones. On this basis, the theory has lasting value and generalizability.

Nevertheless, more studies over time are needed in order to validate the conclusions. For example, the model can be operationalized and transformed into a survey and thus reach a larger selection group.

4.4. Conclusion, suggestions for further research, and practical implications

The main theoretical contribution of our study is the relationship between job satisfaction and the process of balancing, establishing, and recreating professional pride and dignity. There is already a great deal of research on job satisfaction among social workers, focusing on issues such as leadership, stress, and burnout (Barber [11]; Siefert et al. [16]; Cole et al. [12]; Fisher [14]; Holosko [15]; Farmer [13]). Despite the existing knowledge, this study has filled a gap in understanding the phenomenon of job satisfaction among social workers in general and in relation to professional pride. Fisher [14] maintains that a knowledge gap exists and calls for more explorative research with a focus on job satisfaction among social workers. Forsgren [50] also calls for knowledge and understanding of the phenomenon of job satisfaction among social workers in general and particularly in relation to professional pride.

Suggestions for future studies may include operationalizing the study model in a survey and validating the model. Other methods, such as discourse analysis or phenomenology, could also be used to further close the methodological knowledge gaps. Our study investigates the phenomenon of job satisfaction on the basis of the informants' narratives, which has been our chief aim. Another suggestion for further research could be to study the phenomenon of job satisfaction from a genus perspective. From a practical point of view, this study could be used as an educational and discussion resource to highlight the dilemma surrounding the relationship between professional pride and dignity and job satisfaction in the field of social work.

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In this book, we can read about the well-being, quality of life, and quality of working life. The authors come from different countries, and their ideas, studies, findings, and experiences offer beneficial contributions to enhance our knowledge in the field of well-being and quality of life, as well as quality of working life. The book is divided into two sections, and their respective chapters refer to two major areas. The first section covers “Different Perspectives of Quality of Life,” considering the antecedents of happiness, quality of life and sports, quality of life indexes for the United States, well-being in the context of family policies in European countries, cultural well-being and income in Italy, and the right to life in South Africa. The second section deals with “Well-Being and Quality of Working Life,” emphasizing these topics for university professors in Brazil, as well as work-related well-being, psychological well-being of individuals as employees, physical and psychical well-being and stress, human work in organizations considering the discomfort perspective, and professional pride and dignity among social workers. Thus, we consider this book will be of interest for readers with a diverse group of audience in different areas of specialty such as psychology, industrial and social psychology, management, medicine, education, law, and sociology.

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