

## Spirituality and Subjective Well-Being: Evidences for a New Domain in the Personal Well-Being Index

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Published online: 28 June 2007  
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**Abstract** Subjective well-being explores the evaluations, both positive and negative, of how people experience their lives. Research in the field inquires how people perceive their well-being in different settings, including different cultures, regions and cities. A large number of different measures have been designed to capture subjective well-being. One of the most used SWB measure is the Personal Well-being Index (PWI), an evaluation of life developed by Cummins et al [(2003). *Social Indicators Research*, 64, 159–190] which proposes that satisfaction with life consists of seven different life-domains. Theoretical considerations of the contribution of spirituality and religiosity to life satisfaction, from a eudaimonic (from the Greek, it consists of the word “eu” (good or well-being) and the word “daemon” (spirit)) point of view, led to test the contribution of this new domain in the prediction of the Personal Well-being Index (PWI) in Bogotá, Colombia. Empirical results confirm the construct validity and reliability of the scale. The contribution of the new domain—satisfaction with spirituality and religiosity—to PWI was found significant. Based on these results the paper explores conceptually the role of spirituality contributing to satisfaction with life. The finding stresses the importance of interpreting satisfaction with life as a whole from the Aristotelian concept of eudaimonia. New questions for research in this important area are proposed

**Keywords** Subjective well-being · Personal well-being index · Spirituality · Eudaimonia

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## 1 Introduction

The concept of subjective well-being explores the evaluations, both positive and negative, of how people experience their lives. This subjective appraisal includes a cognitive and an affective dimension. Individuals measure their subjective well-being (SWB) in a number of different ways (Kim-Prieto et al. 2005) including both cognitive judgments and affective reactions (Diener 1984, p. 542). For instance, people can evaluate their satisfaction with their life as a whole, but they can also rate their satisfaction with specific life domains, including marriage (Lucas et al. 2003), family life, goal pursuit (Emmons 1986), social relationships (Helliwell and Putnam 2004), health, achievements in life, security and many other factors (Cummins 1996a). The first approach, known as the top-down approach, maintains that individuals are predisposed to experience and react to events and circumstances in positive or negative ways with global measures (Brief et al. 1993). Global measures assess SWB with single questions such as those included in the satisfaction with life as a whole scale (SWLS).

Research on SWB (Cummins 1996a, b; Cummins et al. 2004) has attempted to break-down the global measure of SWB into its constituent components into the Personal Well-being Index PWI. In this bottom-up approach, the possible number of domains that may appear is very large. Cummins and colleagues have proposed the Personal Well-being Index (PWI) (Cummins et al. 2003) as a new scale to assess the minimal set of domains of the construct of personal well-being in order to provide a parsimonious approach of the measure. Once a minimal set of variables is established, a researcher that intends to include a new domain in the PWI should prove empirically that this new domain makes a unique and significant contribution to the prediction of the global measure (SWLS).

In this paper, a new domain—satisfaction with spirituality and religiosity—is proposed and proved empirically in Bogotá, Colombia for its unique contribution to the prediction of satisfaction with life as a whole scale (SWLS, Diener et al. 1985) as the dependent variable. This new domain is tested because previous studies (Cohen 2002; Clark and Leikes 2005) have proposed that religiosity and spirituality are important considerations for satisfaction with life and that the link between spirituality and life satisfaction should be furthered researched particularly among Christians (Protestants and Catholics). Due to the insufficient research available in relation to the separation of satisfaction with spirituality and religiosity as two different domains, I decided to include one question: how satisfied are you with your religiosity and spirituality. I made the assumption that participants will assume the most relevant meaning that comes to their mind in relation to spirituality and religiosity and answer accordingly. This is important from a parsimonious point of view of research.

The remainder of this paper unfolds as follows. First, the importance of spirituality and religiosity for well-being, seen from a eudaimonic point of view, is discussed. In order to clarify this statement, two overarching perspectives on SWB, differentiating the hedonic and eudaimonic approach to happiness are presented and discussed. This discussion is important for proposing the new domain of satisfaction with spirituality as part of the eudaimonic concept of happiness. This paper also discusses the global or top-down approach in contrast to the approach of life satisfaction from different life domains, or bottom-up approach. Criteria for the acceptance of a new domain are proposed. Third, the study empirically applies the Personal Well-being Index (PWI) and the National Well-being Index (NWI) developed by Cummins and colleagues (Cummins et al. 2003; Cummins 2006), in a different cultural setting distinct from Australia where it first originated, namely in Bogotá, the capital city of Colombia. The study proposes an eighth

domain, satisfaction with spirituality and religiosity based on conceptual and empirical basis as a possible new domain for the prediction of satisfaction with life as a whole. Results show the significant contribution of this domain to the prediction of satisfaction with life as a whole scale (SLWS) in Bogotá. Finally, I discuss how future research can benefit from the inclusion of this new domain to measure PWI and the possible venues for future research on this important topic.

## 2 Satisfaction with Spirituality and Religiosity and its Relationship with Subjective Well-being

Cohen (2002) suggests that although there is a well-known association between religion and spirituality and happiness in Christian (Protestant and Catholic) countries, it is not well known which particular facets of religiosity correlate with life satisfaction (Cohen 2002). For instance, it is necessary to know if this potential association is moderated by age or gender. According to Lewis and Cruise (2005, p. 214) “with respect to the empirical examination of the relationship between religion and happiness, traditionally the results of these studies have been mixed, with some providing consistent support for a positive association (e.g., Veenhoven 1994)”. Spirituality has mostly been neglected in the subjective well-being research since it has been argued that it cannot be studied scientifically (Miller and Thorensen 2003 cited in Van Dierendonck and Mohan 2006). According to van Dierendonck and Mohan (2006, p. 227) “since time immemorial it is believed that spiritual experiences and practices are significant in life and play an important part in establishing an integrated personality”. Recently, some researchers have found that life satisfaction correlates positively with spiritual experiences and these experiences were further found to relate positively to one’s life purpose (Kas et al. 1991). There are a few studies that have investigated the correlation between well-being measures and spirituality. These studies have found that people who have spiritual experiences “are in the normal range of well-being and they have a tendency to report more positive feelings than others” (Kennedy and Kanthamani 1995 cited in Van Dierendonck and Mohan 2006, p. 229).

The link between spirituality and life satisfaction has also been previously researched by the use of the WHOQOL (Spirituality, Religiousness and Personal Beliefs SRPB) instrument used by the World Health Organization (WHO 2002). The objective of this scale was to develop a valid measure that would tap into the spiritual, religious, and personal beliefs of persons holding different world views across a variety of cultures. High values for the reliability of this scale were found. The SRPB scale was applied in a pilot test in 18 countries including two Latin American countries with similar cultural values as Colombia: Argentina and Brazil. Results show that facets of the SRPB scale, such as meaning of life, spiritual strength and inner peace, show good psychometric properties and provide evidence for the importance of these aspects for people’s quality of life and well-being (Saxena et al. 2002).

Spirituality refers to the experience of a personal relationship with the transcendent (Mora 1994). Transcendence refers to an individual’s need to feel what he or she is in a timeless context, i.e., beyond what he or she experiences right now at a particular place (Sarason 1974). Spirituality implies that the individual is part of a greater whole, which in turn influences how the individual acts. It has to do with the belief that each individual has a need to contribute to the world in which he or she lives and that such contribution will have a meaning once the person has passed away (Ericsson 1982). It is possible to interpret spiritual well-being as a lifelong pursuit and an affirmation of living life in direct

connection with self, the community, the environment and the sacred (Van Dierendonck and Mohan 2006). To experience a personal relationship with the transcendent, an individual must be guided by a virtuous life. A virtuous life implies giving the best an individual has to offer. Therefore and in line with Van Dierendonck and Mohan (2006), it is possible to understand spirituality from a eudaimonic approach to well-being as a domain that contributes and can significantly explain satisfaction with life as a whole. However, according to Emmons and Paloutzian (2003, p. 381) “conceptions of spirituality do not always have a transcendent reference point, a fact that has led to much confusion over its meaning in research contexts”. There is a need for future research to clarify this issue.

Spirituality as an inner resource produces awareness of one’s inner self and a sense of being part of a deeper spiritual dimension and community. Spirituality can help people to relate better with others. In summary, spiritual resources give a feeling of strength and they are a guide to find significance in life.

The contribution of satisfaction with spirituality to satisfaction with life as a whole can be explained by the eudaimonic philosophical approach (Waterman, 1993) to well-being. Eudaimonism considers well-being to be more than hedonic happiness. It has to do with the actualization of human potentials. Eudaimonism conveys the belief that well-being consists of fulfilling or realizing one’s own true nature. According to Waterman (1993) eudaimonia embodies the idea not that one is pleased with one’s life but that one has what is worth having and worth desiring in life.

Spirituality may be linked to SWB from a eudaimonic point of view, since it implies a double complementary feeling: that of being intensely alive and a that of being intensely complete. In a eudaimonic approach to happiness, satisfaction with spirituality is understood as the transcendent dimension that deals with the ultimate goal in life and gives meaning to existence (Giacalone and Jurkiewicz 2003) seems to be a plausible dimension to be included as a domain that contributes significantly to the prediction of satisfaction with life as a whole. Van Dierendonck and Mohan (2006) has suggested that spiritual well-being should be seen as a component of eudaimonic well-being, which in turns strengthens the self-actualization aspect.

Although no consistent empirical research exists, most of Colombia’s inhabitants have been characterized as people with deep religious and spiritual beliefs, influenced by the Catholic Church and by popular beliefs, particularly those stemming from rural origins. Bogotá, the capital city of the country, received a huge migration from rural areas, where deep religiousness roots existed. At the same time, spirituality and religiosity are important resources to defeat adversity. Colombia and its capital city have suffered a prolonged political conflict for more than 50 years. Therefore, it is expected that most individuals living in the capital city of the country have developed a spiritual or religious life as a way to overcome adversity.

Therefore, I hypothesize that results for satisfaction with spirituality and religiosity may be very high for the present city’s inhabitants. This particular domain may also contribute to explain the overall high results for happiness that have been found before in the country (See, World Happiness Database 2005).

Spirituality and religiosity are similar but different concepts. Their particular definition can only be developed in a particular cultural context. In this exploratory research, I decided to include satisfaction with spirituality and religiosity in the same question: “how satisfied are you with your spirituality or religiosity”. Although spirituality and religion are different concepts, I decided to include a global item as has been done with the other domains. Both terms have different meanings for the majority of people, at least in Colombia. When one speaks of spirituality one does not need to be affiliated to a specific church or faith or credo or believe in a particular God. When one speaks of spirituality, one

is referring to matters of the spirit in particular people's sense of life, to find one's path. By formulating the question in this way, each subject may interpret freely how he or she interprets spirituality and religiosity and which dimension is most important to him or her. For further research, both concepts should be clearly delineated and defined. Future research will need to explore the huge diversity of religious and spiritual movements in the city, particularly those related to popular forms and beliefs of religiosity.

In order to test the association between satisfaction with spirituality and religiosity and satisfaction with life as a whole, a statistical test was performed in a particular cultural context, namely in Bogotá, the capital city of Colombia. In order to test the contribution of the new domain to PWI, first the empirical validity and reliability of the PWI and NWI scales were tested and compared with international results. For this purpose, the study required the translation and back translation of the scale which was originally developed in English for the Australian context (Cummins 1996a). The original English scale of PWI and NWI was translated by the author and compared with similar translations done for Spain (Casas 2002). Stylistic corrections were introduced for the different use of Spanish in Spain and Colombia. The new Spanish version was piloted with a small number of questionnaires with academic colleagues. The items of the scale were subsequently back translated in order to check its face validity.

### 3 Objective or Subjective Measures of Life Satisfaction

Wealth or economic performances have been the most important indicators used to measure how good a society is either at the national, local or urban levels (Kuznets 1930). The attribute of a society's goodness should include not only measures about the performance of contextual variables but also perception of the people's sense of well-being. Objective indicators of wealth as well as monetary outputs such as income fail to measure what people feel about their inherent life or quality of life. Empirical research has proven that in industrialized countries, well-being appears to rise as the national income does, to a certain level. Above such a level, increases in well-being are so small as to be almost undetectable (Eckersley 2000). Once people exceed some subsistence level, it seems that increases in income are not matched by increases in life satisfaction, particularly in developed countries (Helliwell 2005). This is partly a result due to adaptation which enables people to adjust quickly to different adverse life events as proposed by Brickman et al. (1978). Adaptation enables people to adjust to positive and negative life events, as is illustrated by the metaphor of the hedonic treadmill used by Parducci (1995).

The failures of objective measures of development to fully explain a society's quality of life have led researchers (Diener and Biswas-Diener 2002) to focus people's subjective reactions to their world as well as to the domains that compose it. Authors such as Sen (1985, 1999, 2000), Sen and Sudir (1997) and Nussbaum and Sen (1993) have argued that increasing economic productivity or performance per se as the ultimate goal of a society can eventually destroy traditional cultural values; thereby disrupting social networks of interpersonal contacts and solidarity and by that way diminish the sense of well-being of people. Interestingly, economists have become interested in the subjective approach to well-being since the seventies (Easterlin 1974). A second wave of economist such as Clark and Oswald (2002) as well as Layard (2005) and Easterlin (2001, 2003) have recently conducted empirical work in this field.

The failures of objective measures of development to fully explain a society's quality of life have led researchers (Veenhoven 2000, 2002, 2007) to focus in people's subjective reactions to their world as well as to the domains that compose it. Understanding how people feel and think about their own lives is essential to understanding the well-being of a society. SWB, as a subjective measure of life satisfaction is fairly stable over time and it has been proposed that a homeostatic mechanism regulates the level it takes at the individual level (Cummins et al. 2003). Subjective well-being scales show high construct validity and reliability results so that these findings enable comparisons across individuals and societies (Cummins et al. 2003).

#### 4 Global or Domain Evaluation of Life Satisfaction

From a methodological point of view it is possible to identify considerable debate about the degree to which different measures of SWB capture psychological wellness. Because researchers have addressed SWB from multiple perspectives, measures have also varied. Measures of subjective well-being are based on the idea of how each person feels and thinks about his or her life. It comprises an evaluation, both affective (I feel good about my life) and cognitive (I think that the various aspects of my life, i.e., family, job, spirituality, education, etc., are satisfactory) of people's lives. It is not just the opinion of the elite or intellectuals but rather the subjective perceptions of their citizens.

Within SWB measures two main approaches can be identified (Kim-Prieto and Diener et al. 2005): (i) a top-down approach mainly developed by Diener (1984) or (ii) a bottom-up approach which measures facets or dimensions of the good life (Campbell 1976, Campbell et al. 1976). The first stream of research considers SWB as a global evaluation of life and its domains. It generally uses large surveys and self-reports. This scale developed by Diener (1984) is composed of a short 5-item instrument designed to measure global cognitive judgments of one's lives. The scale is analogous to the single-item life satisfaction scale. SWLS is useful for stressing the role of personality in well-being. However, there are other related factors such as affect which influences the evaluations of SWB (Diener 2000). I note that SWLS cannot provide information about the particular domains of life satisfaction that contributes to the individual's sense of well-being, due to its level of aggregation and abstraction. Diener has proposed a general measure of overall satisfaction with life in general which has shown good psychometrics qualities and a high validity and reliability.

The second stream or bottom-up approach may be considered as the first deconstruction measure of life satisfaction. In this view, each domain should contribute unique variance when the domains are collectively regressed against the satisfaction with life as a whole scale (SWLS). For instance, Cummins et al. (1996b) have provided both empirical and theoretical arguments for the use of seven domains including satisfaction with the individual's standard of living, health, achievements in life, personal relationships, security, and connectedness with community and future security (Cummins et al. 2003) comprised by the Personal Well-being Index (PWI). A National Well-being Index (NWI) has also been proposed (Cummins et al. 2003; Cummins 2006) to measure satisfaction with life at the national level. This index can also be used at the regional, local or city level. Domain's scores are averaged to produce a measure of SWB, the Personal Well-being Index (PWI). The National Well-being Index (NWI), on the other hand, is a more distal measure composed of six domains (Satisfaction with the Economic Situation, the State of the Environment, Social Conditions, the Government, Business and Local Security).

## 5 Hedonic or Eudaimonic Happiness

Should well-being deal of questions of life satisfaction rather than questions dealing with hedonic happiness? In my understanding, measures of life satisfaction stress the evaluative component of its different domains over a complete life, as well as eudaimonia, the practice of rational activity in accordance with excellence over a complete life. Measures of hedonic happiness stress the affective, momentary feeling of hedonic pleasure. Various philosophers from Aristotle on (Adler 1978; Kenny 1978), as well as well-being researchers have thought that a reflexive rather than a momentary view is more likely to give a balanced assessment of what constitutes the good life (Helliwell 2005).

Measures of subjective well-being include an self-evaluation and a self-judgment of whether people are living a good life or not (Tiberius 2004; Diener and Seligman 2004). The term good applied to a good life is not aprioristically defined but depends on the individual's own perception and evaluative judgment. SWB includes cognitive evaluations about achieving important values and goals in the life span of the individual as well as an affective measure of how well that person feels, whereas hedonic happiness comprises only the affective elements of pleasure and avoiding pain. Measures of happiness from a hedonic point of view are not sufficient to fully evaluate the quality of life of societies because people have final values and ends that they will try to fulfill in addition to simply feeling pleasure or avoiding pain in particular events.

From a conceptual point of view, I discuss if SWB can be explained from a hedonic or eudaimonic point of view about happiness. Two schools can be recognized: (i) hedonic well-being and (ii) eudaimonic well-being (Ryan and Deci 2001). These are two distinct but overlapping paradigms for conducting empirical research and they point out to two different philosophical traditions. The former—hedonism—(Kahnemann et al. 1999) reflects the view that well-being consists of pleasure and avoiding pain (Ryan and Deci 2001). The second, based on Aristotle's work suggests that well-being lies in the actualization of human potentials. This concept of happiness focuses on meaning and self-realization and defines well-being in terms of the degree to which a person is fully functioning (Ryan and Deci 2001). Therefore, eudaimonism comprises more than instant happiness. In this tradition, some authors see happiness in the development of virtues or human potentials or in contemplation, which implies the exercise of the proper reason (Helliwell 2005).

The hedonic view states that life is about achieving pleasure. Hedonism states that well-being comes from experiencing as much pleasure as possible and avoiding pain. The hedonic tradition maintains that happiness basically consists about the feeling of pleasures. On the other hand, the Aristotelian vision, called eudaimonia, states that happiness forms part of a virtuous or ethical understanding of life. Eudaimonism conveys the belief that well-being consists of fulfilling or realizing one's daemon or true nature. For Aristotle, the final end that guides human action is the quest for happiness. Aristotle does not refer to momentary happiness or happiness that is only structured on affects. For Aristotle, to find out what truly happiness means, it is necessary to understand first human nature in all its complexity. That is to say to establish those activities that only man can perform. Those are the activities related to the soul or intellect based on reason. To exercise human faculties in all their excellence will lead to happiness. This quest is a life commitment. In this way the pursuit of happiness will have practical implications in terms of living a virtuous life. To act virtuously does not mean to follow pre-established rules or norms. It is to act with excellence in the right moment with the right persons in the right form. It is a disposition to

act well; eudaimonia, then, is the flourishing of human life. As Aristotle stated, ‘the Good of man [and, by extension, the definition of happiness] is the active exercise of his soul’s faculties in conformity with excellence or virtue, or if there be several human excellences or virtues, in conformity with the best and most perfect among them.’

Virtues are acquired by free election of the person not under coercion. The search for wealth or honors becomes means toward the ultimate end of happiness. Virtuous acts do not depend on external or cultural conditions but are a function of a proper and excellent understanding of the exercise of human nature. Eudaimonia encompasses more than happiness in the hedonic sense. So, it is necessary to distinguish between positive feelings that come out of activities humans do just because they give them pleasure and activities that are an expression of the best within each person. Every man has unique, individual talents and it is in realizing these talents that true happiness can be found. Similar ideas have been formulated by Maslow’s (1979) concept of self-actualization and Ryff’s (1989) concept of maturity. Aristotle argued that there must be an end desired only for its own sake. This he identified as happiness, well-being or flourishing. Happiness thus understood is not a mood or temporary state, but a state that is achieved “through a lifetime of virtuous action, accompanied by some measure of good fortune” (Aristotle, *Nicomachean Ethics*, Ch. 4). Satisfaction with spirituality will contribute to experience higher levels of life satisfaction as part of a eudaimonic view of happiness.

## 6 International Well-being Index (IWI) and Personal Well-being Index (PWI)

The International Well-being Index (IWI) is the result of the international application of the Personal and National Well-being Index (PWI; NWI) which include only subjective measures of well-being (Lau et al. 2005). PWI, an overall measure of life satisfaction consists of seven domains representing the first level deconstruction of Satisfaction with Life as a whole (Lau et al. 2005; Cummins et al. 2004) a measure developed by Diener (1984) and that has been used in many studies cross-culturally. The index consists of seven domains of the overall measure of life-satisfaction. Each domain describes a broad aspect of life and it is concerned with the subjective dimensions of the criterion and it excludes affective adjectives. It is a parsimonious approach which results in the minimum domains. The domains are: (i) satisfaction of standard of living (SOL), (ii) health, (iii) achieving in life, (iv) personal relationships, (v) safety, (vi) community connectedness and (vii) future security (Cummins et al. 2004). The domain of safety is intended to be inclusive of such constructs as security, personal control, privacy, independency, autonomy, competence. Community connectedness is intended to be inclusive of the constructs of social class, education, community integration, involvement, self-esteem and empowerment.

If these seven domains are too numerous or too few is an empirical question.

PWI uses the theoretical principle of deconstruction to establish the minimum set of domains which represent the first level deconstruction of satisfaction with life as a whole. Questions at the domain’s level are directed to identifiable aspects of life so that the satisfaction response will vary according to personal and contextual factors. Satisfaction measures will vary according to distance from the self (distal/proximal) (Cummins et al. 2003). As evaluations of satisfaction move from proximal or personal domains to distal or societal domains, the result of the level of satisfaction will vary becoming increasingly influenced by contextual factors. These results should be seen with the use of the national Well-being index applied in this case at the urban level.



NWI originally consisted of three domains (Cummins et al. 2003) but has been expanded to the following six domains (Tilouine et al. 2006): (i) satisfaction with economic situation of the country, (ii) state of the environment, (iii) social conditions, (iv) satisfaction with national or local government, (v) satisfaction with business and (vi) security. Government includes the terms democratic standards, local council and police and courts.

## 7 An Application of PWI in Bogotá-Colombia: Data Collection and Sample Characteristics

### 7.1 Data Collection

The study was conducted by a Household Telephonic Survey and it was performed in April 2006. Respondents were randomly chosen from the total population of the city which is of 7,056,219 inhabitants to have a representative sample by neighborhoods with an error margin of  $\pm 4\%$ . The survey was responded in an entirely private manner and assured respondents that their response will remain confidential and anonymous. The tests were broadly worded to allow respondents to form their personal interpretation and judgment about them. Respondents were asked to freely participate. Data were collected by telephone collection with randomization at both the household level (random selection into the sampling frame) and at the individual level (selecting the individual who has had the most recent birthday if the respondent was 18 years or older). A minimum of 4 attempts were made to each number. The sample size was of 830 subjects which is representative for neighborhoods of the city (local parishes' level). The sample consists of 55, 9% of women and 44.1% of male respondents as can be seen in Table 1. Table 1 summarizes the main demographic characteristics: (age, education, employment situation, and marital status) of the sample. The median range of respondents is in the 36–45 years and most of them are

**Table 1** SWB in Bogotá. Demographic data

Gender	Men		Women			
	44.1%		55.9%			
Age (years)	18–25	26–35	36–45 years	46–55	>55 years	
	20.4%	19.7%	21.2%	16.0%	22.8%	
Civil Status	Married	Single	Living with a partner	Divorced	Widowed	
	36.9%	29.1%	24.4%	5.8%	3.9%	
Number of children	1–2	3–4	5–6	> 6	Without	
	37.8%	27.5%	7.8%	4.1%	22.8%	
Occupation Level	Student	Worker	Home	Works and studies	Unemployed	Pensioned
	6.9%	37.9%	34.7%	2.3%	12.7%	5.5%
Educational level	Elementary	Secondary	University	Technical	Without Studies	
	29.7%	46.8%	15.8%	6.9%	0.8%	
Socio-economical Level	1	2	3	4	5	
	9.40%	47.50%	39.20%	2.70%	1.20%	

married (37%) or living with a partner (24, 4%). Most of them have one or two children living with them in the household. 16% of respondents report some form of University education and almost 39% are full or part-time employed. Another 35 % are either self-employed or work at their home. In terms of socioeconomic level, 57% of the respondents are part of the poorest group of the population. This population is representative of the city of the total population.

## 8 Results

In the application of the PWI and NWI indexes in Australia done by the research group led by Cummins in 15 consecutive applications it has been found that: (i) Personal well-being generally increases with income. According to Cummins (2006) “this is due to the ability of discretionary income to act as a flexible resource to defend well-being against potential sources of distress”. People in low income households lack the resources to defend against negative life events and thus poor people experience more negative and fewer positive life events. This fact is corroborated by results in the survey in Bogotá. It has been found that the higher the level of income of the respondent the higher her PWI. Females have higher personal well-being than males but the gender difference was found not significant. In this study no significant gender differences were found, (ii) Personal well-being appears to increase with age. Results in this study suggest an inversed U shape for the relationship of PWI with age. The youngest population (between 18 years and 25 years) showed in average a PWI index of 81, the lowest result of PWI was found in middle age and finally those older than 55 years show a PWI index of 73. These results suggest interesting future research about the younger population and their expected PWI results particularly with relation to the domain of future security where young population shows a considerable higher index than the older population, suggesting a more optimistic view about the future in the city. (iii) People who are married have a 2.5 percentage point advantage in personal well-being over people who are living in a de facto relationship. In Bogotá, singles show the higher PWI results (77.5) whereas widow population shows the lower results due to the loss of partnership. These results suggest an interesting venue of research about single population’s PWI as compared with married couples with higher number of children who show the lowest indexes in PWI, (iv) People who are unemployed have lower than normal well-being for all domains except safety.

## 9 Personal Well-being, National Well-being Index and Satisfaction with Life as a whole Indexes

For the application of PWI, all data were standardized to a 0–100 range. Thus, the magnitude of group differences is referred to in terms of percentage points. Table 2 shows the mean value and standard deviation and Pearson inter-item correlations for the variables included in PWI and NWI as well as satisfaction with life as a whole. Satisfaction with spirituality and religiosity was also included.

As can be seen from Table 2, the mean for satisfaction with spirituality and religiosity is the highest (86.5) with a standard deviation of 16.92 in a scale of 0–100 of the different domains. This is a first indicator of the plausibility to include satisfaction with spirituality and religiosity (SS) as a new domain in the PWI Index.

**Table 2** Mean and standard deviation for the different PWI domains

	Mean	Standard deviation
PWI	75.9	11.67
NWI	51.9	18.28
1. Satisfaction with Standard of Living	75.3	20.03
2. Health	76.4	18.02
3. Life Achievement	74.6	16.34
4. Personal Relations	80.5	15.72
5. Safety	79.9	19.57
6. Community	75.9	19.82
7. Future Security	68.8	14.96
8. Environment	45.5	19.19
9. Economic Conditions	53.0	19.47
10. Social Conditions	53.5	18.47
11. Government	54.9	25.04
12. Business	58.4	21.79
13. Security	44.3	22.05
14. Spirituality and religiosity	86.5	16.92

**Table 3** Mean, standard deviations and pearson inter-item correlations for PWI, NWI and satisfaction with life as a whole

	SWLS	PWI	NWI	1	2	3	4	5	6	7	8	9	10	11	12	13	14
SWLS		.53	.30	.38	.28	.38	.38	.38	.24	.35	.31	.31	.18	.16	.15	.20	.18
PWI			.50	.71	.61	.65	.64	.60	.57	.70	.46	.46	.35	.35	.22	.32	.31
NWI				.35	.29	.32	.24	.30	.27	.46	.67	.74	.75	.76	.63	.69	.57
1					.36	.46	.35	.27	.29	.43	.33	.35	.24	.25	.09	.24	.25
2						.32	.24	.25	.19	.29	.28	.30	.22	.21	.06	.19	.21
3							.39	.27	.16	.36	.24	.31	.26	.23	.14	.21	.25
4								.41	.25	.33	.24	.2	.14	.16	.12	.18	.17
5									.25	.33	.36	.29	.13	.13	.18	.18	.09
6										.34	.18	.21	.23	.22	.17	.11	.13
7											.41	.36	.32	.31	.22	.31	.32
8												.52	.39	.40	.21	.39	.31
9													.58	.45	.26	.39	.39
10														.59	.32	.37	.44
11															.41	.43	.45
12																.33	.37
13																	.43

\*\* All inter-item correlations significant at  $p < 0.01$

The PWI in Australia as well as in other Western countries is set consistently around 75%. The results of the Australian surveys conducted since 2001 vary by only 2.7% (Lau et al. 2005). This value has shown high consistency through the 15 surveys performed in Australia which has led Cummins and colleagues to explain this phenomenon with the

Theory of Subjective Well-Being Homeostasis (Cummins 1996a) which proposes that SWB under normal circumstances is actively controlled and maintained within a limited positive range by a set of psychological devices and personality (Lau et al. 2005).

Results for Bogotá show the same consistency. The mean value for PWI is of 75.9 with a standard deviation of 11.67, a result that is 1.2 points above results for the mean found for Sydney, Australia, that in turn suggests that homeostasis theory applies as well in a different cultural setting. This stability of the index has been explained with the theory of subjective well-being homeostasis (Lau et al. 2005) which proposes that “SWB under normal circumstances is actively controlled and maintained within a limited positive range by a set of psychological devices and personality” (Lau et al. 2005, p. 406).

While satisfaction with life as a whole is proposed to approximate the homeostatic set-point, this is not so for domains. Questions at this level are directed at broad but identifiable aspects of life so that more specific information processing can be brought to bear on the evaluation of different domains. According to Cummins et al. (2003) the influence on the satisfaction response will be diluted and the level of satisfaction will be allowed to vary either above or below the set-point.

In relation to domains, satisfaction with security showed the lowest result, which is the same trend followed by results in Sydney Australia. Results for Bogotá are a logic finding since objective security is low, with higher rates of homicides per capita if it is compared with European countries and Australia. The highest mean for one domain was found for satisfaction with spirituality and religiosity (86.5) followed by satisfaction with personal relationships. These results suggest that quality of social relationships, manifested in what is known as social capital as well as the strengthening of social networks are crucial domains to explain the high levels of satisfaction with life as a whole that were found in Bogotá. These results suggest the potential emergence of a third factor which includes the domains of: ‘satisfaction with spirituality and religiosity’ and ‘satisfaction with personal relationships’. Results suggest a potential contribution of satisfaction with spirituality and religiosity in the formation of social capital. In comparison to the mean of the PWI index, the mean for the NWI index was relatively low, 51.9. It is a lower result if it is compared with the results for Australia. This is a plausible result due to the high objective standards in quality of life for Australia. The predictive power of the six domains included in the NWI is small, the six domains predict only around 15% of SWLS.

The seven domains of PWI plus satisfaction with spirituality and religiosity were regressed onto satisfaction with life as a whole (SWLS) (Diener 1984). All domains with the exception of satisfaction with safety and community connectedness contributed significantly to this regression as can be seen in Table 4. The adjusted  $R^2$  for the model was found around 50% with satisfaction with standard of living, achieving in life and personal relationships as the domains that consistently contributed as best predictors of SWLS. Satisfaction with safety and with community connectedness did not make any statistical contribution. The result for the domain of satisfaction with safety replicates the result found for Australia, suggesting that this domain fails to meet the criterion for inclusion in the PWI scale. The same procedure was followed for the six domains of NWI plus satisfaction with spirituality and religiosity. All domains contributed significantly with the exception of security. The dependent variable used was satisfaction with Life as a whole (SWLS).

The resulting  $R^2$  of the model is of .47. Satisfaction with the domains of standard of living, health, achieving in life, and spirituality and religiosity were statistically significant at the  $p \leq 0.00$  and  $p \leq 0.05$  levels.

**Table 4** Regression for PWI and NWI domains with life as a whole and domain inter-item correlations

PWI	Life as A whole	1	2	3	4	5	6	7	B	t
Constant										2.47*
1. Standard	.70								.55	18.01**
2. Health	.60	.35							.070	2.55*
3. Achive	.65	.462	.318						.090	3.02**
4. Relations	.64	.345	.242	.387					.061	2.08**
5. Safe	.59	.274	.248	.268	.413				.018	0.64
6. Community	.232	.294	.188	.158	.251	.250			-0.10	-0.36
7. Future Security	.362	.427	.294	.357	.327	.330	.343		.032	1.07
8. Spirituality		.135	.071	.113	.194	.140	.183	.154	.128	4.24**
Sample size = 830, Adjusted $R^2 = .298$ , $F = 49.75^{**}$										
NWI	Life	1	2	3	4	5	6	B	t	
Constant										7.42**
1. Economic Situation	.52							.37		10.35**
2. Environment	.39	.58						.018		0.44
3. Social	.40	.45	.59					.14		3.76**
4. Government	.21	.26	.32	.427				-0.29		-0.89
5. Business	.40	.39	.369	.448	.330			.169		5.02**
6.Security	.32	.39	.444	.448	.371	.434		.030		.87
7. Spirituality/religiosity	.09	-0.03	.04	.097	.120		(.08)	0.69		2.41*
Sample size = 830 subjects. Adjusted $R^2 = .34$ , $F = 60.78^{**}$										

\* Significance at 0.01, \*\*significance at 0.00, all inter-item correlations significant at  $p < 0.01$ , except figures in ( )

Domain inter-correlations are presented in Table 3. The item total correlations of the different domains to the summated NWI value correlations show a range between 0.57 for satisfaction with security to .77 for satisfaction with social conditions, an interesting result which shows again the importance of social capital for PWI and NWI. Results found are in the range found for Australia. PWI and NWI correlate between them with a value of 0.50, a value which is higher for the result found in Australia (0.44) (Cummins et al. 2003).

### 10 Internal Reliability and Validity

A factor analysis and reliability check was conducted in order to see if dimensions of PWI and NWI charge in one factor. The reliability of the index was checked with Cronbach’s  $\alpha$  (Cronbach 1955) and item-domain correlations. The alpha found for PWI was of 0.76 and for NMI was of 0.83.

Internal reliability and validity of the scale were investigated. PWI had a Cronbach’s (1955) Alpha of .756 and NWI showed a Cronbach’s (1955) alpha of .802 respectively as can be seen in Table 3. These results are consistent with the values found for Australia (0.7

**Table 5** Principal component analysis for PWI with oblimin rotation

	Component	
Satisfaction with	1.00	2.00
1. Standard of Living	.607	.384
2. Health	.496	.292
3. Achieving in Life	.573	.349
4. Personal relationships	.493	.501
5. Safety	.472	.44
6. Feeling part of community	.446	.235
7. Future security	.661	.209
8. Economic Situation	.707	-.172
9. State of environment	.676	-.399
10. Social Conditions	.671	-.424
11. Government	.481	-.388
12. Business	.598	-.306
13. National Security	.619	-.372

and 0.85) (Lau et al. 2005). A significant correlation of .58 was identified for PWI and satisfaction with Life as a whole which indicates convergent validity of the scale. Item-total correlations (Pearson Correlation Coefficients) of the PWI single domains and the summated score for PWI items range between .57 for feeling part of the community to .71 for satisfaction with standard of living as can be seen in Table 3. Item correlation between satisfaction with spirituality and religiosity to the overall PWI, although significant at  $p \leq .001$ , shows a lower value of .219 as can be seen in Table 3.

In order to check for validity, an exploratory Principal Component factor analysis (PCA) was performed to investigate whether PWI and NWI form two different factors as has been found in Australia (Cummins et al. 2003). The assumptions for PCA have been met with a Kaiser–Meyer–Oklin Measure of Sampling Adequacy (KMO) of .868 and a significant Bartlett's test of Sphericity. The majority of inter-item correlations exceeded .30. The variables are reasonably represented in the components as commonalities range from .25 to .63 with the majority of variables lying above 0. As can be seen from Table 5 a Principal Component Analysis with Oblimin Rotation reveals two clearly distinguishable factors with all PWI dimensions loading within 0.49 to 0.70 on factor 1 and 0.35 to 0.42 on factor two.

The total variance explained by these two factors is of 61%. All domains correlate significantly ( $p < 0.01$ ) with Satisfaction with Life as a whole as shown in Table 5. Finally, the unique contribution of domains to LAW is investigated using Multiple Regression Analysis. Results show that the seven PWI predicted 50% (adjusted  $R^2$ ) of satisfaction of Life as a whole with Standard of Living adding most predictive power followed by satisfaction with personal relationships.

## 11 Contribution of Spirituality to Satisfaction with Life as a Whole

The different domains in the PWI scale are all designed as semi-abstract questions, with the defining criterion representing the first-level deconstruction of 'life as a whole'.

**Table 6** Regression models with satisfaction with life as a whole

Model	<i>R</i>	<i>R</i> <sup>2</sup>	<i>R</i> <sup>2</sup> Corrected	Standard error of estimate	Change Statistics				
					$\Delta R^2$	$\Delta F$	GI1	GI2	Sig
1	.694 <sup>a</sup>	.481	.477	1.291	.481	108	7	822	.00
2	.703 <sup>b</sup>	.494	.489	1.275	.013	21.0	1	821	.00

<sup>a</sup> Predictive Variables: How satisfied are you with: your standard of living; health; what you are achieving in life; your personal relationships; how safe you feel; feeling part of the community; your future security

<sup>b</sup> Predictive variables: How satisfied are you with: your standard of living; health; what you are achieving in life; your personal relationships; how safe you feel; feeling part of the community; your future security; your spirituality or religiosity

According to Cummins (2000b) “when we ask someone how satisfied are you with your relationships? we do not ask them to specify which relationships”. We assume that they will target their response to the most salient specific relationship, and use this as the basis of their response. If I want to know their level of satisfaction with specific relationships, I can do this in the form of a separate scale which is constructed as the second level of deconstruction. This is, an additional scale would deconstruct ‘relationships’ into relationships with partner, children, and boss at work, dog, etc. Surely the same reasoning applies with spirituality and religiosity. The idea is to simply cueing the respondent into this area of their life and the aspect that is most salient to them within this area will form the basis of their response.

First, I run a factor analysis for PWI including the new domain of satisfaction with spirituality. As compared with the factor analysis that included seven domains only, the principal component analysis with satisfaction with spirituality gives two main factors that explain a 49% of variance, which is an important increase in variance explanation. Then, I run a hierarchical regression analysis with Satisfaction with Life as a whole as dependent variable, the seven PWI variables as a first block of independent variables and satisfaction with spirituality and religiosity as a second block of Independent Variables, and found that the contribution of the variable spirituality and religiosity in Bogotá is significant in the  $\Delta R^2$  (.013) change as can be seen in Table 6.

Model 1 runs with the PWI as independent variable and Model 2 runs with the PWI variables plus satisfaction with spirituality and religiosity as independent variables. Both regressions are significant. The contribution of the variable satisfaction with spirituality/religiosity was significant in the  $R^2$  (.013) change using hierarchical regression analysis.

It is important to note this significant contribution of satisfaction with spirituality/religiosity which may explain the emergence of an eight domain to the prediction of the personal well-being Index. Based on these preliminary results, an exploratory factor analysis should be conducted in order to establish if the original two-factors of the seven domain scale of PWI remain.

I run a Principal Component analysis with the eight domains and found that three factors instead of two factors emerge. Results show that factor one and factor two previously found were maintained, with the exception of the domain: “feeling part of the community”, which becomes part of a third factor with the new spirituality domain as well as with personal relationships, safety and local government. This is an interesting third factor which should be furthered researched.

**Table 7** Satisfaction with spirituality and gender

Gender	Women	Men
Mean SS	8.99	8.21
Standard Deviation	1.33	1.98

$F = 43.85$ , significant at  $p < 0.00$

**Table 8** Satisfaction with spirituality by age ranges

Age ranges	18–25	26–35	36–45	46–55	>55
Mean SS	8.06	8.60	8.89	8.97	8.76
Standard Deviation	2.15	1.71	1.46	1.41	1.46

$F = 7.72$ , significant at  $p < 0.00$

**Table 9** Satisfaction with spirituality by number of children

Number of children	None	1–2	3–4	5–6	>6
Mean SS	8.28	8.58	8.92	8.92	9.03
Standard Deviation	1.93	1.78	1.50	1.27	0.87

$F = 4.08$ , significant at  $p < 0.05$

## 12 Relationships between Satisfaction with Spirituality (SS) and Relevant Variables

Table 3 presents the bivariate correlations between SS and other domains of PWI and NWI. As can be seen, significant correlations at  $p < 0.01$  are founded for all the domains with the exception of health where significance is at 0.05 levels. This result provides an additional criterion for considering SS as part of the PWI index. A closer look to the relationship between demographic characteristics of the sample and satisfaction with spirituality (SS) show the following results:

Differences by gender with satisfaction with spirituality and religiosity are significant. Results show that women feel a higher satisfaction with spirituality as compared with men. This result may be related with the cultural costume of showing more openly spirituality feelings by part of women rather than men. This gender difference should be further researched in the future (Table 7).

Differences by age ranges with satisfaction with spirituality and religiosity are significant. Results show that satisfaction with spirituality increases with age. This tendency can be clearly seen in the age ranges of 18–25; 26–35; 36–45 years. The highest mean can be seen in the range of middle age (46–55 years). Interestingly, it decreases sharply in the next age range (Table 8).

An interesting result has been found: The higher the number of children per household the higher the satisfaction with spirituality. It is supposed that households with higher number of children are more catholic which in turn is reflected in the value of the SS mean (Table 9).

## 13 Conclusion and Future Research

In this paper I validated successfully the Personal Well-being Index (PWI) and National Well-being Index (NWI) in Bogotá, Colombia. The psychometric characteristics of the index are—as expected—similar to those found in other countries, particularly in Australia. The average results for satisfaction with life domains in Bogotá-Colombia were



considerable higher than would be expected if objective indicators of the country were considered (GDP per capita, unequal income distribution, extended poverty and social conflict). Results show the significance of the domains of security, achievements in life and satisfaction with spirituality and religion for PWI. It is important to stress that although, at the national level of the country, crime, poverty and conflict are high (objective indicators), it is possible to find at the local levels vibrant social networks which may generate higher SWB through frequent contacts with neighbors as well as satisfaction with the services they may provide such as child care, social identity and crime reduction. These hypotheses should be further researched in the future.

The average PWI found in the survey is around the 75% mark previously found by Cummins and colleagues. This mark has been suggested as the homeostatic set point for life satisfaction. In terms of demographic results, these are coincident with results found in other countries, particularly in Australia. Gender, did not contribute significantly to satisfaction with life as a whole differences.

Results show high standards, if we compare those results with results previously found in Australia. These results strengthen previous results of what is known as the “Latin American Effect”, as the majority of Latin American countries but in particular, Colombia are slightly above the level of SWB reported in Western Europe, North America and Australia, despite considerable lower GNP per capita (Veenhoven 2007).

One of the explanations for these high indexes may be the importance Latin-Americans assign to the quality of personal relationships and the satisfaction with the connectedness with community. Additionally, satisfaction with spirituality seems to play an important role as well.

In this paper I offer empirical evidence to defend the inclusion of satisfaction with spirituality and religiosity as a new domain in the Personal Well-being Index. Empirical results of the survey in Bogotá-Colombia—a traditional catholic country—suggest evidence for the emergence of a new domain—the eight—in the Personal Well-being Index PWI for the prediction of satisfaction with Life as a whole (SLWS). This new domain has been named as satisfaction with spirituality and religiosity. This result has important consequences for future research on PWI and life satisfaction in general. On the one hand, it stresses the importance to interpret PWI from a eudaimonic understanding of happiness. It suggests that well-being is not as much associated with feeling instant pleasure but more with a virtuous exercise of competences and skills of the individual. In this sense, satisfaction with spirituality as a new domain of the PWI may also help to understand how people relate better with others.

The link between living a virtuous life, spirituality and context should also be further researched. It has been stated that the study of virtue is making a comeback (Emmons and Paloutzian 2003), and that virtue can be understood as a nexus between a psychology of religion and spirituality and well-being. More research on virtue as a source of human strength and resilience in a particular cultural context such as Colombia may contribute to explaining the significance of satisfaction with spirituality to personal well-being.

Spirituality interpreted as inner resources of the individual may give to the individual a feeling of strength and become a guidance to find significance in life. More attention to spirituality within the context of understanding satisfaction with life as whole should be given in future research. It should also be considered as an important element to incorporate in the design of public policies related to well-being and psychological health. At the same time, it is necessary to validate spirituality scales in different cultural contexts. It is also important to understand the role of spirituality as a resilience factor, to provide the

strength of facing adverse events as well as to understand its role in finding significance for the individual.

However, introducing a new domain related to two conceptually different topics, spirituality and religion may generate confusion in its interpretation. Therefore, It is important to disentangle religion from spirituality. Spirituality is usually associated with the ultimate goal in life, one dimension that gives meaning to existence. Religiosity, on the other hand, has a strong institutionalized definition since it has to deal with a particular authority from the church, it is more community focused, it may provide a mechanism for gaining social support, whereas spirituality has a more experiential focus by the individual. Spirituality, on the other hand signifies the inner attitude of living life directly related by the quest of one's inner truth. Religiosity refers to set of beliefs about the institution such as the church where the particular faith is practiced. This may lead an individual to think that he is satisfied with his religion but not with his spirituality, which is conceptually different from religion. A person may be highly satisfied with his spirituality but not with his religion as well as the opposite. Seeing spirituality as inner resources differently than institutional religiosity, as belonging to a particular faith or church, will provide an acceptable for scientific study of this dimension in future research.

The role of a sense of transcendence, as a domain of the spiritual dimension at the personal and community level should be further researched. The link between sense of transcendence and a sense of community across cultures should be further understood. I propose that a new hypothesis that states that a higher sense of community connectedness, as one domain of the PWI index, should contribute to higher levels of satisfaction with spirituality, understood as a sense of transcendence, should be tested in future empirical research.

Future research should take into account the limitations of these results in order to handle two separate constructs in the future or illustrate the proper wording of the domain satisfaction with spirituality.

Based on empirical results, I propose to extend PWI to include this new domain and proceed to research their empirical findings in other countries. For instance, previous research in Australia has shown that there is no significant contribution of satisfaction with spirituality to satisfaction with life as a whole (Cummins et al. 2004). Therefore, this domain should be furthered research in other cultural settings to validate or not its use. While in this survey most people have both a sense of spirituality and one of religion, in Australia about one third of people have neither, according to previous research done by (Cummins et al. 2004). For instance, in the experience of religion by a researcher living in Mauritius (Smitsman 2006) people will not likely disclose how satisfied they feel about their religion because this is sacred for them and there is already an implicit assumption for themselves that their religion should always be of the highest satisfaction—otherwise it may indicate for them that they do not have enough faith in God.

When I factor analyzed PWI with the new domain, factor one and two previously found in past research were maintained with the exception of the item: “feeling part of the community”. The correlation between satisfaction with community connectedness and satisfaction with life as a whole was less than expected and needs further research in order to know better what do people understand when they are asked about ‘relationships’. It is believed that frequent contacts with family, friends and neighbors may contribute significantly to life satisfaction. However, when asked about satisfaction with relationships in this abstract form, people may respond to another set of attributes related to community connectedness.

When I factor analyzed results of the domains, a third factor comprising spirituality, personal relationships, safety and local government appears. This is an interesting third factor which should be furthered researched.

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