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The Questionnaire for Eudaimonic Well-Being: Psychometric properties, demographic comparisons, and evidence of validity

Alan S. Waterman[a,*], **Seth J. Schwartz**[b], **Byron L. Zamboanga**[c], **Russell D. Ravert**[d], **Michelle K. Williams**[e], **V. Bede Agocha**[e], **Su Yeong Kim**[f], **M. Brent Donnellan**[g]

[a]Department of Psychology, The College of New Jersey, Ewing, USA

[b]Department of Psychiatry and Behavioral Sciences, Center for Family Studies, Leonard M. Miller School of Medicine, University of Miami, USA

[c]Department of Psychology, Clark Science Center, Smith College, Northampton, USA

[d]Human Development and Family Studies, University of Missouri, Columbia, USA

[e]Department of Psychology, University of Connecticut, Storrs, USA

[f]Department of Human Development and Family Sciences, University of Texas–Austin, USA

[g]Department of Psychology, Michigan State University, East Lansing, USA

Abstract

The Questionnaire for Eudaimonic Well-Being (QEWB) was developed to measure well-being in a manner consistent with how it is conceptualized in eudaimonist philosophy. Aspects of eudaimonic well-being assessed by the QEWB include self-discovery, perceived development of one's best potentials, a sense of purpose and meaning in life, intense involvement in activities, investment of significant effort, and enjoyment of activities as personally expressive. The QEWB was administered to two large, ethnically diverse samples of college students drawn from multiple sites across the United States. A three-part evaluation of the instrument was conducted: (1) evaluating psychometric properties, (2) comparing QEWB scores across gender, age, ethnicity, family income, and family structure, and (3) assessing the convergent, discriminant, construct, and incremental validity of the QEWB. Six hypotheses relating QEWB scores to identity formation, personality traits, and positive and negative psychological functioning were evaluated. The internal consistency of the scale was high and results of independent CFAs indicated that the QEWB items patterned onto a common factor. The distribution of scores approximated a normal curve. Demographic variables were found to predict only small proportions of QEWB score variability. Support for the hypotheses tested provides evidence for the validity of the QEWB as an instrument for assessing eudaimonic well-being. Implications for theory and future research directions are discussed.

Keywords

eudaimonism; psychosocial identity; scale validity; well-being

*Corresponding author. water@tcnj.edu.

Introduction

Eudaimonic Well-Being (EWB) refers to quality of life derived from the development of a person's best potentials and their application in the fulfillment of personally expressive, self-concordant goals (Sheldon, 2002; Waterman, 1990a, 2008). It has emerged as both a complement and contrast to *subjective well-being* (SWB) for understanding and studying quality of life (Kashdan, Biswas-Diener, & King, 2008; Ryan & Deci, 2001; Ryan, Huta, &, Deci, 2008; Waterman, 2008). The origins of EWB as a construct can be traced to classic Hellenic philosophy, most notably to the writings of Aristotle, where happiness in the form of eudaimonia was contrasted with the more traditional understanding of happiness as hedonia or pleasure. However, in a recent exchange of views in the *Journal of Positive Psychology* (2008) on the merits of the EWB construct, questions were raised regarding the fidelity with which efforts to employ eudaimonic constructs in psychology reflect the meaning of the term as understood either in classical or contemporary eudaimonist philosophy. Kashan et al. (2008), critics of EWB, referred to 'bracket-creep', the extension of EWB to an ever-widening circle of psychological variables differing from Aristotelian thought to varying degrees and called into question the value of continued attempts to ground research efforts on well-being in philosophical insights. Waterman (1990, 1993b, 2008), a contributor to eudaimonic theory and research, expressed a similar caution that such expanded application of the construct could result in EWB becoming a virtual synonym for positive psychological functioning (cf. Seligman & Csikszentmihalyi, 1999) and thus only marginally related to eudaimonist philosophy. While making a case for the continued application of eudaimonic philosophical concepts to developing psychological theory and research on well-being, Waterman concluded that the value of such endeavors will depend on the development of instruments that accurately reflect philosophical understandings of eudaimonia and that can be demonstrated to add to our understanding of quality of life beyond what can be explained by well-being constructs already widely studied. As such, the principal purposes of the research reported here were to (1) develop and evaluate a new instrument for assessing EWB closely grounded in underlying contemporary philosophical understandings of eudaimonic functioning and (2) demonstrate the incremental value of the instrument to account for behavior beyond the contributions made by other conceptions of well-being.

Conceptual definitions of well-being

SWB was the first conception of well-being to receive extensive and systematic empirical and theoretical treatment. SWB is defined as the quality of an individual's life with regard to both the presence and relative frequency of positive and negative emotions over time, and one's overall level of life-satisfaction (Diener, 2000; Diener, Sapyta, & Suh, 1998; Diener, Suh, Lucas, & Smith, 1999). Within the SWB paradigm, distinctions are not made with respect to sources of well-being. As a consequence, measures of SWB assess the overall level of happiness or satisfaction present and therefore include, but do not distinguish between, hedonic and eudaimonic forms of happiness. Research on SWB has established a wide nomological net of associated variables indicative of successful functioning, including positive relationships with self-esteem, locus of control, authenticity, and effective decision-making styles as well as negative associations with worry, anxiety, and depression

(Arrindell, Heesink, & Feij, 1999; Ayyash-Abdo & Alamuddin, 2007; Cummins, 2002; Engin, 2006; Ito & Kodama, 2005; Neto, 1993, 1995; Paolini, Yanez, & Kelly, 2006).

Ryan and Deci (2001) employed the distinction between hedonia and eudaimonia, two philosophical conceptions of happiness, to generate the terms *hedonic well-being* (HWB) and EWB reflecting alternative conceptions of overall quality of life. Hedonia refers to the subjective experiences of pleasure irrespective of the sources from which that pleasure is derived. Kraut (1979), a philosopher, defines hedonia as 'the belief that one is getting the important things one wants, as well as certain pleasant affects that normally go along with this belief' (p. 178). In classical philosophy, hedonia, as the basis for living 'A Good Life', is associated with the work of Aristippus of Cyrene, who held that 'pleasure is the *sole* good, but also that only one's own physical, positive, momentary pleasure is a good, and is so regardless of its cause' (Tatarkiewicz, 1976, p. 317). When reviewing the psychological literature pertaining to theory and empirical research on HWB, Ryan and Deci (2001) cite almost exclusively work on SWB. Because SWB is the more traditional term, it is the term we will employ here.

In contrast to hedonia, eudaimonia, as discussed by Aristotle (4th Century BCE) in *Nicomachean Ethics*, living A Good Life was not based on the level of subjective pleasure experienced but on enacting a number of specific qualities reflecting how one 'ought' to live. Such qualities included the pursuit of excellence, virtue, and self-realization (Ackrill, 1973; Annas, 2004; McDowell, 1980). Central to this perspective on eudaimonia is living in a manner consistent with one's daimon (or 'true self'). To live 'in truth to one's daimon' (Norton, 1976) is an expression of personal integrity through identifying one's potential strengths and limitations and choosing those goals that provide personal meaning and purpose in life.

Contemporary eudaimonist philosophers, including Kraut (1979) and Norton (1976), have observed that there is a characteristic set of subjective experiences present when living in a manner consistent with the qualities described by Aristotle. Norton (1976) described this as the feeling of 'being where one wants to be, doing what one wants to do' (p. 216), where what is wanted is to be taken as being something worth doing. Waterman and colleagues (1990a, 1993b, 2005; Waterman et al., 2003; Waterman, Schwartz, & Conti, 2008) labeled the subjective experiences of eudaimonia as *feelings of personal expressiveness* and demonstrated that they are characteristically present when acting in ways perceived to involve the development of one's best potentials and the use of these potentials in pursuit of one's purpose in living. They also found eudaimonia to be associated with an array of variables indexing intrinsic motivation, including self-determination, a balance of challenges and skills, and the investment of considerable effort.

When conceptualizing eudaimonia in terms of its subjective qualities, it is important to recognize the distinction made within the SWB and EWB frameworks with regard to value place on those subjective experiences. With respect to SWB, happiness (hedonia) is viewed as an end in itself, that is, the outcome goal being sought. In contrast, for those employing an EWB perspective, the subjective experiences of feelings of expressiveness (eudaimonia) are a byproduct of engaging in actions consistent with the development and expression of one's

best potentials and the pursuit of intrinsic goals. Such subjective experiences serve as a valuable indicator for when those potentials are being furthered, but they are not being sought as a goal in itself. The motive for eudaimonic activity is the value of the activity itself, not the subjective experiences that accompany it. As Nozick (1974) demonstrated in his classic challenge to philosophical hedonism, people care to experience happiness only when it is a consequence of actual accomplishments or other events in reality, not when the equivalent happiness is the result of an illusion of the same events produced by an 'experience machine', no matter how perfect the illusion. If happiness under the latter condition is rejected, then it cannot be the ultimate goal being sought. The source of happiness is essential to the value placed upon it.

Just as eudaimonia as discussed in philosophy has both subjective and objective elements, so too EWB, as a construct at a level comparable to SWB concerning quality of life, can have two types of referents: (1) subjective elements pertaining to what individuals experience when dedicated to excellence in the fulfillment of personal potentials, and (2) objective elements pertaining to those behaviors that promote or are otherwise associated with the individual's pursuit of eudaimonic goals. Contemporary philosophers and psychologists employing a subjective approach have continued the longstanding tradition of translating eudaimonia as *happiness*, whereas those adopting an objective understanding of eudaimonia have advocated translating the term from the Greek as *flourishing* (Keyes & Haidt, 2002). It should be recognized that these approaches to defining EWB are compatible rather than being mutually exclusive alternatives.

In introducing the term EWB, Ryan and Deci (2001) focused primarily on objective elements of psychological functioning. Ryan, Huta, and Deci (2008) demonstrated theoretical linkages of eudaimonic thought to self-determination theory (Deci & Ryan, 1985, 2002) focusing attention on the processes involved in quality of living and emphasizing among other elements autonomy and the pursuit of intrinsic goals. In the contrast of hedonic/subjective with eudaimonic approaches to well-being, Ryan and Deci (2001) drew heavily on the work of Ryff and her colleagues on *psychological well-being* (PWB) (Ryff, 1989; Ryff & Keyes, 1995; Ryff & Singer, 2008) when describing the functioning of individuals high on EWB. Ryff (1989) identified six core dimensions deemed essential for quality of life: (1) autonomy, (2) environmental mastery, (3) personal growth, (4) positive relations with others, (5) purpose in life, and (6) self-acceptance. Using this definition of EWB, Ryan and Deci (2001) cited findings indicating a wide nomological net of associated variables consistent with living A Good Life. Such variables include life satisfaction, overall happiness levels, self-esteem, internal locus of control, adaptive coping strategies, conscientiousness, extraversion, authenticity, and low neuroticism (Keyes, Shmotkin, & Ryff, 2002; Kling, Sletzer, & Ryff, 1997; Ryff, 1989; Schmutte & Ryff, 1997; Wood, Linley, Maltby, Baliousis, & Joseph, 2008).

Waterman (2008), writing in support of eudaimonic theory and research, expressed reservations regarding whether the conflation of EWB with PWB was appropriate at the present time. Ryff and Singer (2008) place their work on PWB firmly within an Aristotelian framework, emphasizing the importance of the pursuit of goals other than subjective experiences of hedonia. The psychological qualities characterizing PWB are undoubtedly

aspects of mental health and successful functioning and constitute a viable conceptualization of flourishing. It does not follow, however, that the particular qualities they describe correspond to flourishing as that concept might have been recognized by Aristotle or as it is employed by contemporary philosophers working within the eudaimonic tradition. It is beyond the scope of this report to analyze the extent of correspondence among conceptions of flourishing (see Waterman, 2008, for a discussion of the issues involved here). For present purposes, it may be sufficient to consider PWB as an objective approach to understanding well-being in terms of the presence of an array of psychological qualities indicative of mental health.

In the presentation that follows, the term EWB will be used to refer to well-being incorporating both subjective and objective elements. The subjective elements are experiences of eudaimonia/feelings of personal expressiveness. The objective elements include those behaviors involved in the pursuit of eudaimonic goals such as self-realization entailing the identification and development of personal potentials and their utilization in ways that give purpose and meaning to life.

Waterman (2008), in his analysis of the strengths and limitations of the use of eudaimonic concepts within psychology, raised the question of the interrelationships among SWB, PWB, and EWB. He argued that whether SWB, PWB, and EWB represent three distinguishable conceptions of well-being or are essentially three facets of the same underlying construct is still an open question. This is also an empirical question, and addressing it will depend upon the availability of valid instruments for assessing each construct. There are established measures for assessing SWB and PWB that have received extensive validation. The research reported here provides information on the properties of a new instrument, the Questionnaire for Eudaimonic Well-Being (QEWB) designed to assess EWB in terms of elements associated with eudaimonia as portrayed within contemporary eudaimonist philosophical analyses. The QEWB will then be compared with measures of SWB and PWB with respect to its ability to predict variables associated with quality of life.

The Questionnaire for Eudaimonic Well-Being

Consistent with the standards for scale construction recommended by Simms (2008), development of the QEWB was strongly theory driven with item selection and revision guided by the multiple aspects used to define the construct under study. In developing the QEWB as an operational definition of EWB, priority was placed on the creation of items closely grounded in philosophical understandings of eudaimonic functioning. Included were items reflecting specific qualities descriptive of eudaimonic functioning in the philosophical literature (e.g., the pursuit of excellence and self-realization) as well as items covering the subjective experiences of eudaimonia (e.g., feelings that activities engaged in are personally expressive). To be consistent with instruments assessing other well-being related constructs as person-level variables, items on the new instrument were worded to refer to a respondent’s general level of eudaimonic functioning instead of experiences associated with specific activities, as was done in earlier research on eudaimonia (Waterman et al., 2003, 2008).

If abstract philosophical constructs are to play a useful role in empirical psychological research, they must be translated into elements of psychological theory sufficiently specific to be measured empirically. In the present instance, eudaimonic identity theory (Waterman, 1992, 1993a, 2004, 2007a) served as the bridging framework for the development of potential items for inclusion in the QEWB. The theory links eudaimonist philosophy with the study of psychological functioning, and it emerged from consideration of two questions. (1) In the task of identity formation, do some potential identity elements represent 'better' resolutions to an identity crisis than others? (2) If so, how are the 'better' choices to be recognized? Eudaimonic identity theory draws upon eudaimonist philosophical constructs, including the daimon or 'true self', self-realization, the pursuit of excellence, and eudaimonia (as a form of subjective experience) (Aristotle, 4th century BCE; Norton, 1976) to integrate aspects of the psychosocial perspective on identity formation (Erikson, 1963, 1968; Marcia, 1966, 1980; Waterman, 1982) with the self-determination theory of intrinsic motivation (Deci & Ryan, 1985). Briefly stated, eudaimonic identity theory holds that the most successful resolutions to identity questions are those through which individuals can identify and develop those talents and skills that represent their best potentials and that further those goals seen as giving purpose and meaning to life. A way to recognize 'better' identity choices, those that can serve as the basis for personally meaningful commitments, is by identifying those activities giving rise to feelings of personal expressiveness (eudaimonia). Because feelings of personal expressiveness, experiences closely linked with intrinsic motivation, are viewed as arising in connection with the development of one's best potentials and their use when pursuing personally concordant life goals, basing identity decisions on these potentials has a strong likelihood of proving a sustainable source of well-being (Waterman, 1992, 1993a; Waterman et al., 2008). The initial item pool for the QEWB was composed of items in six inter-related categories with strong philosophical—psychological linkages: (1) self-discovery, (2) perceived development of one's best potentials, (3) a sense of purpose and meaning in life, (4) investment of significant effort in pursuit of excellence, (5) intense involvement in activities, and (6) enjoyment of activities as personally expressive.

Self-discovery—Norton (1976) identified two great Hellenic imperatives as expressing central elements in eudaimonist philosophy: (1) 'know thyself' (the inscription on the temple of Apollo at Delphi) and (2) 'choose yourself', or in the words of Pindar, 'become what you are'. Eudaimonism, as an ethical theory, calls upon each person to recognize and live in accordance with his/her daimon, that is, to strive toward self-realization. However, before it is possible to make any notable progress toward self-realization, it is necessary to have recognized and decided what type of person one already is. This makes the process of self-discovery central to eudaimonic functioning. It also serves to link eudaimonic well-being to success in the process of identity formation (Waterman, 1992, 1993a, 2004). An example of an item on the QEWB tapping self-discovery is 'I believe I have discovered who I really am'.

Perceived development one's best potentials—From a eudaimonist perspective, one of the most important elements to learn about oneself concerns those unique potentials that represent the best a person is able to become (Norton, 1976). It is not only necessary to

identify those potentials, one must also actively strive to act upon them so that they can become fully developed. A QEWB item tapping this aspect of EWB is 'I believe I know what my best potentials are and I try to develop them whenever possible'.

A sense of purpose and meaning in life—It is one thing to have identified one's talents and skills, but it is another to have decided toward what life goals those talents and skills are to be directed. In order to experience EWB, individuals must find ways for putting their skills and talents to use in the pursuit of personally meaningful objectives. A QEWB item designed to assess this component of EWB is 'I can say that I have found my purpose in life'.

Investment of significant effort in pursuit of excellence—The philosopher De Spinoza (1677/1951) concluded *The Ethics* with the observation that 'all things excellent are as difficult as they are rare'. This quote implies the need for exceptional effort in the pursuit of excellence. Because experiences of EWB are predicated on self-realization through the full use of one's skills and talents in personally meaningful activities, it follows that the level of effort invested in such activities will be considerably greater than in other activities in which a person engages. Accordingly, Waterman (2005) found a strong positive association between eudaimonia and the level of effort invested in activities. Items on the QEWB tapping investment of significant effort include 'I feel best when I am doing something worth investing a great deal of effort in'.

Intense involvement in activities—When individuals are engaged in personally meaningful activities that make full use of their skills and talents, the intensity of their involvement in these activities should be considerably higher than when engaging in other, more routine activities. Csikszentmihalyi (1990) has labeled such intense involvement 'flow' and has demonstrated that it is associated both with the balance of challenges and skills during the performance of activities and with a distinctive set of subjective experiences. Waterman and colleagues (1993b; Waterman et al., 2003, 2008) found that feelings of personal expressiveness (eudaimonia) were positively correlated both with a balance of challenges and skills and with subjective experiences of flow. Therefore, an index of the extent of EWB experienced should be the frequency of intense involvement in the activities in which a person engages. A QEWB item assessing this aspect of EWB is 'I find I get intensely involved in many of the things I do each day'.

Enjoyment of activities as personally expressive—One of the clearest and most essential defining aspects of EWB is direct experiences of happiness in the form of eudaimonia. Persons characterized as high on EWB should report that what they are doing in their lives is personally expressive of who they are, and they should do so far more often than those with lower EWB. An item on the QEWB designed to assess this aspect of EWB is 'It is more important that I really enjoy what I do than that others are impressed by it'.

Pilot research on the QEWB

An initial pool of 25 items was created for the QEWB. Those items were administered to a sizable sample of college undergraduates in a pilot study. Items were eliminated if they

served to markedly reduce the value of Cronbach's alpha for the scale as a whole. Comments offered by these pilot participants regarding the clarity of various items resulted in the rewording of several items. In addition, based on the feedback received, several new items were created for inclusion in the 21-item scale used in the research reported here.

Overview of the current study

The current study involved a three-part evaluation of the QEWB with two large, geographically and demographically diverse samples of college students. The study included (1) an evaluation of the psychometric properties of scores generated by the instrument, (2) a series of comparisons of QEWB scores across demographic groups, and (3) an assessment of convergent, discriminant, construct, and incremental validity of the questionnaire involving tests of six theory-based hypotheses. Here too, the evaluative approach adopted is consistent with the guidelines advocated by Simms (2008) with regard to both the use of a range of validity strategies and the assessment of a relatively broad nomological net of variables whose degree of association with the construct under study was expected to vary based upon theoretical considerations.

Psychometric properties

In addition to calculating measures of observed range, central tendency, and variability, the degree of kurtosis and skewness were ascertained. Confirmatory factor analyses (CFA) were conducted to determine whether the items on the QEWB formed a single common factor, and Cronbach's alphas were calculated as an indicator of internal consistency.

Demographic comparisons

Possible differences in QEWB scores between groups based upon five demographic variables were investigated. These variables were gender, age, ethnicity, family income, and family structure. Conducting demographic comparisons was undertaken for exploratory purposes. With the possible exception of age, there is no basis within eudaimonic identity theory for expecting demographic variables to be related to the level of EWB reported. Given that identity formation, including commitment and exploration, has been shown to function as a developmental variable (Luyckx, Goossens, & Soenens, 2006; Meeus, 1996; Waterman, 1982), there is the possibility that age-related changes may occur with respect to EWB, although whether this will occur during the college years is uncertain. If substantial demographic differences with respect to EWB are observed, these could provide a basis for identifying social conditions that may serve to facilitate or hinder eudaimonic functioning. Alternatively, if demographic variables are found to play little or no role with respect to EWB, it would suggest relatively comparable opportunities for such functioning within the population studied.

Scale validation

Before specifying the various hypotheses used to evaluate the validity of the QEWB, it should be helpful to provide a general overview of how EWB is expected to function with respect to the categories of outcome variables selected for use here. As stated above, the conceptual description of EWB provided draws extensively on eudaimonic identity theory.

Given the central role posited for self-realization in eudaimonic functioning, it is essential that individuals have a clear understanding of who they are, what they value, and what they want to do in their lives. In other words, strong commitments to particular identity elements should be evident. Strong identity commitments may be formed either through a process of exploration of a number of alternative possibilities, or through identification with model figures in their lives. It is not guaranteed, however, that either exploration or identification will necessarily result in the adoption of suitable identity alternatives. For this reason, EWB is viewed as a consequence of having adopted meaningful commitments and not as a function of the processes by which such commitments become established.

EWB, as a conception of well-being, would be expected to be positively related to other conceptions of well-being, specifically SWB and PWB. Individuals making progress toward self-realization should feel in control of what they are doing in their lives, exhibit competence, and perceive their social relationships as satisfying and fulfilling. In sum, they should feel reasonably good about how their lives are unfolding.

Just as EWB should be related to other conceptions of well-being, it would be expected that it will also be related to the variables previously identified as related to SWB and PWB, particularly variables associated with positive and negative psychological functioning such as self-esteem, an internal locus of control, anxiety, and depression. Moreover, having postulated that EWB, SWB, and PWB are expected to operate in parallel fashion with respect to an array of outcome variables, it will also be important to determine whether there is any incremental utility to distinguishing among these three constructs. That is, do any of these well-being constructs contribute unique variability in psychosocial indices that this not shared with the other indices of well-being?

As important as it is to identify those variables that should be included in the nomological net of EWB, it is also necessary to determine the types of variables that are relatively independent of EWB. We anticipate that most demographic variables will fall into the latter category. Personality variables such as the Big Five personality traits are also expected to be modestly related to eudaimonic functioning. It is true that people with different personalities may seek self-realization in widely differing ways, but the extent to which they are successful or not in making progress toward their specific eudaimonic goals is not seen as strongly determined by which particular personality traits they express. Considerations such as these led to development of six hypotheses covering four approaches to the evaluation of the QEWB's validity.

Convergent validity—Hypotheses 1 and 2 were evaluated with respect to demonstrating convergent validity of the QEWB with measures of successful identity formation and with measures of SWB and PWB.

Hypothesis 1. *Scores on the QEWB should be positively associated with indicators of success with respect to the development of identity commitments* (Erikson, 1968; Marcia, 1966).

The construct of eudaimonic well-being embodies the idea that individuals have identified with some accuracy their skills and talents, are engaged in activities to further their development, and are endeavoring to put those skills and talents into practice toward goals and purposes deemed to be personally meaningful. All of these imply that persons with high QEWB scores have a clear and expressive sense of personal identity to which they are committed.

Given that the items on the QEWB were based upon constructs drawn from eudaimonic identity theory, it should be expected that QEWB scores would be correlated positively with traditional identity measures involving the dimension of commitment. Whereas items on typical identity instruments are generic with respect to the content of potential identity elements, the QEWB items are specific with reference to identifying and developing one's best potentials and establishing commitments to goals that involve using such skills and talents to give purpose and meaning to life. In other words, QEWB items make reference to identity elements associated with self-discovery and self-realization. In addition to identity-related items, the QEWB includes items (1) pertaining to the levels of involvement and effort invested in activities and (2) tapping feelings of personal expressiveness (eudaimonia), content not included in other instruments for assessing psychosocial identity. Thus, there is only partial overlap of QEWB items with traditional identity instruments.

Hypothesis 2. *Scores on the QEWB should be positively associated with indicators of other forms of well-being, specifically measures of SWB and PWB.*

It is expected on the basis of theory that the various forms of well-being should converge (Telfer, 1990). Individuals who are engaged in personally expressive activities and who are self-realizing should report high levels of satisfaction with their lives (SWB). In turn, being happy in life should facilitate engaging in eudaimonic pursuits. Similarly, the positive psychological functioning indicative of PWB should facilitate the discovery of one's personal potentials, whereas low PWB should interfere with such undertakings. In addition, success with respect to eudaimonic functioning should result in still further increases in PWB. Given the expected relatively strong correlations among measures of the three conceptualizations of well-being, it will be important to determine whether each makes a distinctive contribution to various outcome variables associated with quality of life (that is, the incremental validity of EWB, SWB, and PWB measures).

Discriminant validity—The discriminant validity of the QEWB was assessed with respect to the strength of the relationships of EWB with measures of identity exploration (Hypothesis 3) and personality traits (Hypothesis 4).

Hypothesis 3. *Whereas QEWB scores should be strongly related to measures of identity commitment, it is predicted that the correlations with measures of identity exploration, while generally positive, will be more modest.*

On the basis of eudaimonic identity theory, it is expected that identity exploration in breadth (consideration of various alternatives) should increase the probability of successfully identifying personal potentials. There are, however, two sets circumstances under which

engaging in exploration of identity alternatives would contraindicate EWB. One pertains to individuals who are currently involved in active exploration and who, therefore, have not as yet formed personally meaningful identity commitments. Because there can be no assurance that exploration will result in a successful outcome, there will be another group who have a history of past exploration but who lack current commitments. Both of these instances should have the effect of limiting the strength of the association of QEWB scores with measures of identity exploration. Further, it is possible that individuals will develop strong, personally meaningful identity commitments early in life on the basis of identification with significant others (for example, parents, teachers, or leaders within the community). This process does not entail the active exploration of alternative possibilities. It should also be noted that, whereas the QEWB does contain items tapping identity commitments, it does not contain items bearing on identity exploration.

Luyckx and colleagues (Luyckx et al., 2005, 2006) have delineated two types of identity exploration that can be considered normative. The first is *exploration in breadth*, that is, consideration of a wide range of differing possibilities, corresponding to what has been termed *moratorium* in the identity status paradigm (Marcia, 1966). The second is *exploration in depth*, entailing extensive consideration of commitments that one has already enacted. Whereas modest positive correlations of QEWB scores with measures of such normative identity exploration are anticipated, a negative correlation is expected for what Luyckx et al. (2008a) have termed *ruminative exploration*. Exploration of this type involves feeling trapped in approach-avoidance conflicts and may become obsessive and anxiety provoking, ultimately leading to a paralysis of action.

Hypothesis 4. *The correlations of QEWB scores with measures of personality traits are expected to be of relatively modest strength.*

In the present research, we studied sensation seeking and the Big-Five personality factors (extraversion, agreeableness, conscientiousness, neuroticism, and intellect/imagination) as personality traits. Whereas some personality traits may facilitate and others hinder (recognition of an individual's best potentials and subsequent efforts directed to self-realization), success with respect to eudaimonic functioning is viewed as more a function of the choices a person makes rather than of personality traits, per se. It is likely that the nature of the unique potentials a person may pursue will vary based on personality characteristics. For example, those high on extraversion may be more likely to pursue potentials involving social activities whereas those low on this personality factor would be more likely to develop potentials in other domains. However, whether or not the person chooses to pursue eudaimonic potentials in *some* domain should be largely independent of their standing on any particular trait.

Construct validity—Hypothesis 5 represents an initial effort to build a theory-based nomological network of concepts predicted to be related to EWB, specifically with respect to variables representing positive and negative psychological functioning. The variables chosen for study can be considered indicators of quality of life.

Hypothesis 5. *Scores on the QEWB should be associated with indicators of positive and negative psychological functioning. Specifically, positive correlations should be expected with measures of self-esteem and internal locus of control, whereas negative correlations should be found for measures of general anxiety, social anxiety, and depression*.

If individuals are having success in identifying and developing their skills and talents and in establishing purposes in living consistent with those potentials, it follows that they should have a positive sense as to how they are doing in life (positive self-esteem) and believe that they are the locus for determining what they do, and not do, in their lives (internal locus of control; Coôté, 1996). Correspondingly, their effective psychological functioning should be inversely associated with symptoms of general and social anxiety and depression. Because there is no content overlap between items on the QEWB and the measures employed to test this hypothesis, confirmation of the expected relationships would constitute evidence of construct validity.

Incremental validity—Hypothesis 6 was developed as a vehicle for addressing the question as to whether EWB, SWB, and PWB constitute empirically distinguishable conceptions of well-being or, alternatively, are three ways of assessing a common core construct.

Hypothesis 6. *Whereas it is anticipated that there will be a high level of interrelationships among measures of the three conceptions of well-being (and therefore a high level of common variance accounted for when predicting outcome variables), it is predicted that each will account for unique portions of variance. Further, which well-being variable accounts for the most variability uniquely will vary depending, in part, on the domain within which the outcome variable falls. EWB is expected to account for a greater portion of variability uniquely for variables associated with identity functioning in comparison with variance explained by SWB and PWB*.

The determination as to whether EWB, SWB, and PWB (1) represent facets of a common underlying construct pertaining to quality of life or (2) represent overlapping but distinguishable paths to that objective depends on the extent to which each can be shown to make an independent contribution when predicting behavior. Given the focus of this research on demonstrating the validity of the QEWB, the outcome variables selected for study included those for which it was anticipated that incremental validity of QEWB scores could be demonstrated. It is expected that the greatest independent contributions of EWB to outcome variables will occur for variables associated with success in the psychosocial task of identity formation. The proportion of unique variability explained by each of the three conceptions of well-being was also evaluated for the variables pertaining to positive and negative psychological functioning though no a priori predictions were made regarding the relative contributions of EWB, SWB, and PWB. If none of the three well-being predictor variables are found to explain substantial portions of the variance in outcome variables uniquely, this would support the view that EWB, SWB, and PWB are essentially three ways of looking at a common core construct.

Method

Participants

Sample 1—Participants in Sample 1 were 1728 students enrolled at nine colleges and universities in the United States. The sample was composed of 424 (24%) males, 1334 (76%) females, and 17 unidentified with respect to gender. The percentage breakdown by year in school was freshmen (42%), sophomores (21%), juniors (19%), seniors (14%), and graduate and other students (4%). The average participant age was 20.04 years (*SD* = 3.44 years). The sample was ethnically diverse: European Americans (52%), African Americans (9%), Hispanic Americans (25%), Asian Americans (7%), and other ethnicities (7%).

Sample 2—Participants in Sample 2 were 5606 students enrolled at 14 colleges and universities in the United States. The sample was composed of 1409 (25%) males, 4162 (74%) females, and 35 unidentified with respect to gender. The percentage breakdown by year in school was freshmen (32%), sophomores (24%), juniors (21%), seniors (15%), and graduate and other students (8%). The average participant age was 20.38 years (*SD* = 3.57 years). The sample was again ethnically diverse: European Americans (62%), African Americans (11%), Hispanic Americans (18%), Asian Americans (8%), and other ethnicities (1%).

In both samples, sites were identified for participation in a research collaborative based in part on achieving an ethnically diverse sample with a geographic distribution across the United States. In Sample 1, two of the sites were located in the Northeast, two in the Southeast, one in the Midwest, one in the Southwest, and three in the West. Sample 2 added one additional site in the Northeast, two sites in the Southeast, one site in the Midwest, and one site in the Southwest. One Northeast site from the first data collection did not participate in the second. For both samples, sites included major state universities, smaller state universities, and private colleges.

Participants were recruited from courses in several disciplines including psychology, family studies, sociology, and education. All were asked to complete an online survey. Students recruited from psychology courses received credit toward the completion of a research participation requirement. Students from courses in other disciplines received credit toward course grades in exchange for their participation.

Instruments

Questionnaire for Eudaimonic Well-Being (QEWB; Samples 1 and 2)—The QEWB consists of 21 items covering the range of elements associated with eudaimonic well-being. These items are presented in Table 1.

The item statements are responded to on a 5-point Likert-type scale, with possible choices ranging from 0 (*Strongly Disagree*) to 4 (*Strongly Agree*). Fourteen of the items are written in an affirmative direction with high scores indicative of EWB; and 7 items are written in the negative direction, implying the absence of EWB, and are reverse scored. Information on the scale's psychometric properties is presented in the Results section.

Demographics (Samples 1 and 2)—Five demographic variables were analyzed in connection with the QEWB: *gender, age, ethnicity, family income, and family structure*. In order to create groups of sufficient size for purposes of statistical analysis at the upper end of the age distribution, nine age categories were created: 17, 18, 19, 20, 21, 22, 23–25, 26–30, and 31 and above. Participants were also asked which of the following ethnic groups they identify with: White/European American, Black/African American, Hispanic/Latino, Asian, Middle Eastern, South African, or Other. The last three categories were characterized by small cell sizes and were not used in comparisons across ethnicity. Four response alternatives were provided in the item regarding family income: (1) below US$30,000, (2) US$30,000 to US$50,000, (3) US$50,000 to US$100,000, and (4) above US$100,000. Several items were used to determine the respondent's family structure. For the purposes of this project, the following five possible structures were determined: (1) intact families, (2) stepfamilies in which a stepparent was identified as one of the most important parent figures in the participant's life, (3) families in which the parents had separated or divorced but where both biological parents were identified as the most important parent figures in the participant's life, (4) families in which the participant's parents had never been married, and (5) other family arrangements.

Measures of identity functioning (Samples 1 and 2)—The item statements for all three instruments described below were responded to using a 5-point Likert-type scale ranging from 0 (*Strongly Disagree*) to 4 (*Strongly Agree*). Detailed information on the psychometric properties of these and other measures are provided in the references cited for the respective instruments.

The Erikson Psychosocail Stage Inventory: (EPSI; Rosenthal, Gurney, & Moore, 1981) assesses the respondent's current functioning with respect to each of Erikson's (1968) first six stages of psychosocial development. Only the Stage 5 subscale, assessing identity vs. role confusion, was included in the current data collection. The subscale is composed of 12 items, six worded in a positive direction indicative of identity synthesis, and six worded in the negative direction, indicative of role confusion. The six negatively worded were reverse scored and summed with the positively worded items to yield a single index of *personal identity synthesis*, with higher scores reflecting more success with respect to identity formation. Cronbach's alpha was 0.84 in both samples.

Four 5-item subscales from the *Identity Issues Inventory* (III;Côté, 2006) were selected for inclusion in this research. These were (1) *syntonic subjective expression*, (2) *syntonic behavioral expression*, (3) *dystonic subjective expression*, and (4) *dystonic behavioral expression*. Successful (syntonic) identity integration entails a sense of temporal-spatial continuity over time and situational context. At the subjective level, integration refers to a unified sense of self, feeling like a 'whole person'. On a behavioral level, the person shows a stable pattern of self-presentation across contexts and a stable pattern of interests, habits, and activity choices. Less successful (dystonic) identity integration is experienced on a subjective level as feelings of being fragmented and confused. On a behavioral level, such dystonic experiences are reflected in varied and inconsistent self-expression in social interactions with others and a belief that one cannot be relied upon by others. In Samples 1

and 2, respectively, Cronbach's alpha estimates were as follows: subjective syntonic, 0.81 and 0.82; subjective dystonic, 0.89 and 0.90; behavioral syntonic, 0.62 and 0.70; and behavioral dystonic, 0.67 and 0.74.

The Dimensions of Identity Development Scale: (DIDS; Luyckx et al., 2008) includes scales for five dimensions of identity functioning related to forming identity commitments and exploring identity alternatives. Each of the five scales on the DIDS is composed of five items. The dimension of *commitment making*, similar to Marcia's conception of commitment, refers to having made clear identity choices regarding important areas of life. *Identification with commitment* refers to the extent to which respondents feel certain about their choices, and internalize and identify with the content of identity elements that they have selected. *Exploration in breadth* is a dimension reflecting the consideration of a relatively broad array of potential identity choices in the process of forming a personal sense of identity. Such exploration in breadth may be ongoing or may have occurred in the past. *Exploration in depth* refers to ongoing efforts to think about the implications of the identity choices one has made and to find the most appropriate ways to implement them. *Ruminative exploration* is a counterproductive identity process associated with doubt, worry, and potentially obsessive concern about deciding upon a direction in life. Unlike other indices of exploration, ruminative exploration should be negatively related to QEWB scores. In the present samples, Cronbach's alpha coefficients were as follows: commitment making, 0.92 and 0.92; identification with commitment, 0.93 and 0.93; exploration in breadth, 0.83 and 0.84; exploration in depth, 0.81 and 0.81; and ruminative exploration, 0.86 and 0.86.

Measures of subjective and psychological well-being (Sample 2 only)—SWB was assessed using the *Satisfaction with Life Scale* (SWLS; Pavot & Diener, 1993). The SWLS consists of five statements reflecting contentment and being pleased about how one's life has turned out. Items are responded to on a 6-point Likert-type scale ranging from 1 (*Strongly Disagree*) to 6 (*Strongly Agree*). The SWLS has been used in research around the world (Kuppens, Realo, & Diener, 2008). In Sample 2, Cronbach's alpha for SWLS scores was 0.86.

PWB was assessed using the 18-item version of the *Scales of Psychological Well-Being* (SPWB; Ryff & Keyes, 1995). This instrument is composed of six 3-item subscales used to assess the dimensions of PWB identified by Ryff (1989): autonomy, environmental mastery, personal growth, positive relations with others, purpose in life, and self-acceptance. The response scale was a 6-point Likert-type scale ranging from 1 (*Strongly Disagree*) to 6 (*Strongly Agree*). Ten items are worded in a positive direction indicating well-being and eight in a negative direction, the latter being reverse scored. A composite score for PWB is created by summing across the 18 items. In Sample 2, Cronbach's alpha for the composite score was 0.81.

Measures of personality traits—Two instruments were employed to assess respondents' standing with respect to personality traits.

The Arnett Sensation Seeking Scale: (ASSS; Arnett, 1994) (Samples 1 and 2) was used to assess *sensation seeking*, a personality disposition that has been associated with increased

propensity toward risk taking (Zuckerman, 1994, 2007). The ASSS consists of 20 items assessing the extent to which individuals seek out novel and intense experiences. The response scale employed was a 5-point Likert-type scale ranging from 1 (*Strongly Disagree*) to 5 (*Strongly Agree*). Cronbach's alpha estimates were 0.64 in both samples.

The Big-Five personality factors were assessed using the *Mini-International Personality Item Pool—Five-Factor Model* (Mini-IPIP; Donnellan, Oswald, Baird, & Lucas, 2006) (Sample 2 only). The Mini-IPIP is a 20-item measure assessing the Big Five personality traits, with imagination used in place of openness to experience. Four items are used to assess each of the Big Five traits. It consists of a series of statements that respondents rate on a 5-point scale ranging from 1 (*Very Inaccurate*) to 5 (*Very Accurate*). Cronbach's alphas (from the Study 2 dataset) for these subscales are as follows: *extraversion*, 0.77; *agreeableness*, 0.64; *conscientiousness*, 0.66; *neuroticism*, 0.64; and *imagination*, 0.68.

Measures of positive and negative psychosocial functioning (Samples 1 and 2)—All the measures described below were responded to using a 5-point Likert-type scale ranging from 0 (*Strongly Disagree*) to 4 (*Strongly Agree*).

The Rosenberg Self-Esteem Scale: (RSES; Rosenberg, 1986) consists of 10 items tapping an overall evaluative assessment of how respondents think of themselves. Five of the items are worded in a positive direction and five in a negative direction. Negatively worded items were reverse coded, and the 10 items were summed to create a total scale score. In Samples 1 and 2, Cronbach's alpha was 0.89 and 0.88, respectively.

An *internal locus of control* was assessed using Coôté's (1997) adaptation of Rotter's (1966) *Locus of Control Scale* (LOCS). This adaptation consists of five items and uses the Likert-type scale format in place of the ipsative format used in the original version. All items were worded in a positive direction. In Sample 1, Cronbach's alpha was 0.62 and in Sample 2 it was 0.63.

Symptoms of *general anxiety* were assessed using the *Beck Anxiety Inventory* (BAI; Beck, Steer, & Garbin, 1988). It is comprised of 18 items referring to whether various symptoms of anxiety were experienced during the week prior to assessment. In Sample 1 Cronbach's alpha was 0.94, and in Sample 2 it was 0.95.

The measure of *social anxiety* symptoms was composed of 19 items from the *Social Interaction Anxiety Scale* (SIAS; Hable, Hewitt, Norton, & Asmundson, 1997). These items assess feelings of fear, hesitation, and self-criticism experienced in social situations. In Samples 1 and 2, Cronbach's alpha was 0.94 and 0.94, respectively.

Depressive symptoms were assessed using the *Center for Epidemiologic Studies Depression Scale* (CES-D; Radloff,1977). It is composed of 20 items designed to tap the occurrence of these symptoms during the week prior to assessment. In Samples 1 and 2, Cronbach's alpha was 0.94 and 0.87, respectively.

Procedures

The data for this research were collected as part of the work of the multi-site research collaborative. All data were collected on-line at a website maintained by the collaborative. After logging onto to the website, participants were directed to a webpage containing a brief description of the research being conducted and to an informed consent form. After checking a box to indicate their informed consent, participants could then begin completion of a series of questionnaires. After completing each section of the research protocol, respondents were asked to save their responses before proceeding to the next section. In Sample 1, 93% of students logging onto the study website completed all sections of the protocol. In Sample 2, 85% of students logging onto the study website completed all sections of the protocol.

Results

Psychometric properties and descriptive statistics

The possible range of scores on the QEWB was from 0 to 84 (85 points), and the observed range was from 16 to 84 (69 points) for Sample 1 and 7 to 84 (78 points) for Sample 2. With the observed range representing approximately 92% of the possible range, there appears to be quite a substantial dispersion of scores. Measures of central tendency for Sample 1 were mean = 56.83, median = 57, and mode = 60. The corresponding values for Sample 2 were mean = 54.63, median = 54, and mode = 42. These values all fall at or somewhat above the midpoint of the scale. Thus, the levels of eudaimonic well-being being reported are typically in the moderate range. Given that scores were not concentrated at the upper part of the range, it appears that the wording of the items did not create a strong social desirability response set.

For Sample 1, the standard deviation of QEWB scores was 10.78, with approximately 67.4% of the sample scoring between 46 and 67. The QEWB scale showed a kurtosis estimate of −0.29, and a skewness estimate of −0.02. For Sample 2, the corresponding values were as follows: The standard deviation was 10.26, with 64.0% of the sample scoring between 46 and 67. The kurtosis estimate was 0.24, and the skewness estimate was −0.34. These values indicate that the distribution of QEWB scores approximates a normal distribution.

The unifactorial structure of QEWB scores was examined using confirmatory factor analyses (CFA). Following Kline (2006), who recommends that no more than 5–6 indicators should be used to define a latent variable, we created parceled indicators to represent the QEWB items. Five parcels were created by summing responses to adjacent items, where the first four parcels were created using 4 items apiece and the fifth parcel was created using the remaining 5 adjacent items (see Little, Cunningham, Shahar, & Widaman, 2002, for further discussion of parceling techniques). These parcels were then entered into a CFA model.

Using standard structural equation modeling fit criteria, we evaluated the acceptability of the CFA model as follows. The comparative fit index (CFI) and the non-normed fit index (NNFI) should be 0.95 or greater, and the root mean square error of approximation (RMSEA) and the standardized root mean square residual (SRMR) should be 0.06 or below (Hancock & Freeman, 2001; Tomarken & Waller, 2005). The chi-square statistic is reported

but is not used in interpretation, because it tests the null hypothesis of perfect fit to the data, which is implausible and almost certain to be rejected in models with large samples.

For Sample 1, the CFA model for a unifactorial structure fit the data well, χ^2 (5) = 22.59, p < 0.001; CFI = 0.99; NNFI = 0.98; RMSEA = 0.065; SRMR = 0.018. Factor pattern coefficients (loadings) ranged from 0.63 to 0.87. The Cronbach's alpha coefficient for QEWB scores was 0.86. Results for Sample 2 were similar. The CFA model fit well, χ^2 (5) = 165.51, p < 0.001; CFI = 0.98; NNFI = 0.97; RMSEA = 0.084; SRMR = 0.022. The factor pattern loadings ranged from 0.60 to 0.85. Cronbach's alpha was 0.85. The larger chi-square value for Sample 2 is due to the much larger sample size. The effect sizes for the chi-square test indicate that deviations from a perfect fit to the data were small. Using Cohen's (1988) w as an index of effect size, w values for Samples 1 and 2 were 0.16 and 0.19, respectively.

Demographic comparisons

Comparisons were conducted for groups differing along five demographic dimensions: gender, age, ethnicity, family income, and family structure.

Gender—For Sample 1, the mean QEWB scores for females (M = 57.60, SD = 10.90) was significantly larger than the mean for males (M = 54.38, SD = 10.67), t(1665) = −5.25, p < 0.001, Cohen's d = 0.30. For Sample 2, the mean for females (M = 55.24, SD = 10.19) was again significantly larger than the mean for males (M = 52.76, SD = 10.24), t(4425) = −7.00, p < 0.001, Cohen's d = 0.24. The effect sizes are small according to conventions for interpreting d metric effect sizes.

Age—The comparison for age involved 9 groups ranging in age from 17 to 31 and older. For Sample 1, a curvilinear distribution of means was observed with the highest means found for the groups aged 17 (M = 61.37, SD = 10.51) and 31 and above (M = 67.50, SD = 9.77). The lowest means were found for groups aged 19 (M = 55.66, SD = 10.27) and 20 (M = 55.20, SD = 10.87). A one-way ANOVA indicated a significant effect for age, F(8, 1669) = 6.49, p < 0.001, η^2 = 0.03. For Sample 2, the highest means were found for ages 31 or above (M = 60.90, SD = 9.49) and lowest means for ages 18 (M = 53.53, SD = 10.15) and 19 (M = 53.82, SD = 10.13). A one-way ANOVA again indicated a significant effect for age, F(9, 4421) = 8.77, p < 0.001, η^2 = 0.02. Again, the sample effect sizes indicate that, although age differences were statistically significant, minimal variance in QEWB scores was accounted for by age.

Ethnicity—The four ethnic groups with the largest sample sizes (Whites, Blacks, Hispanics, and Asians) were compared with respect to QEWB scores. For Sample 1, the highest mean scores were obtained by Blacks (M = 59.05, SD = 10.74), followed by Hispanics (M = 58.94, SD = 10.62), Whites (M = 55.92, SD = 10.53), and Asians (M = 53.11, SD = 10.70). A one-way ANOVA yielded a significant effect for ethnicity, F(3, 1560) = 14.69, p < 0.001, η^2 was again quite small (.03). For Sample 2, the means in order of magnitude ran as follows: Hispanics (M = 55.73, SD = 10.18), Whites (M = 54.81, SD = 10.30), Blacks (M = 53.91, SD = 10.27), and Asians (M = 51.45, SD = 9.52). The

corresponding analysis revealed very small differences by ethnicity, $F(3, 4346) = 15.60$, $p < 0.001$, $\eta^2 = 0.01$.

Family income—For Sample 1, groups based on family income yielded findings indicating the highest QEWB scores for respondents whose family income was between US $30 K to US$50 K ($M = 58.20$, $SD = 10.58$) and the lowest scores for those whose family income was above US$100 K ($M = 56.06$, $SD = 10.44$). Differences based on family income were not statistically significant, $F(3, 1432) = 2.34$, *ns*. For Sample 2, the corresponding analysis produced a small but significant effect, $F(3, 4299) = 3.03$, $p < 0.05$, $\eta^2 < 0.01$. The highest QEWB scores were found for participants reporting family incomes below US$30 K ($M = 55.16$, $SD = 10.64$), and the lowest scores were found for participants reporting family incomes between US$50 K and US$100 K ($M = 53.94$, $SD = 9.93$).

Family structure—Groups were created based upon five family structures: (1) intact families, (2) stepfamilies, (3) parents who were separated or divorced, (4) parents who had never married, and (5) other family arrangements. For Sample 1, the group with 'other' family arrangements had the highest mean QEWB scores ($M = 58.17$, $SD = 11.50$), whereas those in stepfamilies had the lowest ($M = 55.91$, $SD = 11.09$). However, a one-way ANOVA revealed that these differences were not statistically significant, $F(4, 1522) = 1.99$, *ns*. For Sample 2, QEWB scores differed significantly across family forms, but this difference was extremely small, $F(4, 4052) = 4.76$, $p < 0.02$, $\eta^2 = 0.01$. Scores were highest for those from 'other' family arrangements ($M = 57.36$, $SD = 10.47$) and lowest for those from separated or divorced families ($M = 53.15$, $SD = 11.36$).

Scale validation-convergent validity

Hypothesis 1-The relationship of QEWB scores to measures of identity commitment—Table 2 displays the correlations of QEWB scores with 7 subscales from three instruments assessing constructs related to identity commitment. To account for the use of multiple sites for each sample, we estimated each of these correlations as regression models, with site as an additional predictor. In each analysis, the site that provided the largest number of participants was used as the reference group, and dummy-coded variables were created for each of the other sites. This is the preferred solution when there are not enough sites (at least 15–20) to estimate a multilevel model (Bengt Muthén, Mplus workshop, August 21, 2007). Correlations were estimated using the standardized regression coefficients obtained from Mplus (Muthén & Muthén, 2007).

Based on the correlations obtained from Samples 1 and 2, Hypothesis 1 appears to have been very strongly supported. With respect to variables indicative of identity commitments, significant positive correlations ranging from 0.50 to 0.69 ($p < 0.001$) were found for the EPSI—Stage 5, III—Subjective Syntonic and III—Behavioral Syntonic scales, and the DIDS—Commitment Making and DIDS—Identification with Commitment scales. Significant negative correlations ranging from − 0.41 to − 0.53 ($p < 0.001$) were found for the III—Subjective Dystonic and III—Behavioral Dystonic scales.

Hypothesis 2-The relationship of QEWB scores to measures of subjective and psychological well-being—Table 3 contains the correlations of QEWB scores with scores on measures of SWB and PWB. The correlation of QEWB scores with those for SWB and PWB (composite) were 0.47 and 0.63, respectively ($p < 0.001$). With respect to the subscales of the Scales for Psychological Well-Being, the strongest correlation was with Self-Acceptance (0.56) whereas the lowest correlation was obtained for Positive Relations with Others (0.23).

Scale validation—discriminant validity

Hypothesis 3—The relationship of QEWB scores to measures of identity exploration—The correlations of QEWB scores with the three measures of identity exploration are reported in Table 4. As expected, the correlations of QEWB scores with measures of identity exploration were significant but substantially smaller than those with scales of identity commitment. Modest positive correlations were found for the measures of exploration in breadth and exploration in depth. The strongest correlations with the exploration measures were the negative correlations with ruminative exploration, the type of identity exploration that is most problematic.

Hypothesis 4—The relationship of QEWB scores with measures of personality traits—Data pertaining to sensation-seeking were collected from both Samples 1 and 2 whereas the Big Five personality traits were assessed using the Mini-IPIP only with Sample 2. The correlations for QEWB scores with the various personality trait measures are reported in Table 5. Again, as expected, the strength of the correlations of QEWB scores with personality traits was substantially smaller than those for the QEWB with either measures of identity commitment or SWB and PWB.

Scale validation—construct validity

Hypothesis 5—The relationship of QEWB scores with measures of positive and negative psychological functioning—Table 6 contains the correlations of QEWB scores with the various measures of positive and negative psychological functioning. As predicted, for both Samples 1 and 2, scores for EWB were positively correlated with self-esteem and an internal locus of control, and negatively correlated with symptoms related to general anxiety, social anxiety, and depression. Overall, those reporting high levels of EWB are most likely to view themselves positively, to feel in control of their lives, and to report low levels of distress.

Scale validation—incremental validity

Hypothesis 6—Comparisons of the unique contributions measures measures of EWB, SWB, and PWB make in explaining the variance in measures of identity commitment and positive and negative psychological functioning—The unique variability explained by a given predictor variable, over and above the variance the predictor variable array explains jointly, serves as an indicator of the increased value associated with use of that measure as well as providing information with respect to whether that array is assessing essentially the same versus distinguishable constructs. Table 7 presents the associations for the three measures of well-being (EWB, SWB, and PWB) with

scores on identity commitment and positive and negative psychological functioning. The total variability explained by the measures of EWB, SWB, and PWB jointly along with estimates of the unique variability explained by each with respect to the various outcome measures are presented in Table 8. The estimates for the unique variability explained by each well-being predictor were obtained through a set of three hierarchical regression analyses conducted for each outcome variable. In the first step of each analysis, two of the three well-being measures were entered, with the third well-being measure entered in the second step. Each predictor measure was entered last in one of those three regression analyses. The increase in R^2 for the predictor entered in the second step represents the unique variance explained by that predictor. Hypothesis 6 was evaluated only with Sample 2.

As previously noted, EWB correlated 0.47 with SWB and 0.63 with PWB (composite). In addition SWB correlated with PWB at $r = 0.59$ (all correlations significant at 0.001). The pattern of results for the zero-order correlations of the three measures of well-being with identity commitment variables were all in the moderate to strong range and were typically somewhat stronger for EWB than for either SWB or PWB. Similarly, the correlations for all three well-being variables were all significant and positive with respect to self-esteem and an internal locus of control. The strength of the correlations were more similar with respect to self-esteem than for locus of control, where a stronger association was observed for EWB. For the variables associated with negative psychological functioning (general anxiety, social anxiety, and depression), the correlations with the well-being variables were all negative and statistically significant and were of generally comparable strength for the three measures of well-being. At the level of zero-order correlations, the three approaches for defining well-being appear to be acting in parallel.

It was predicted that with respect to measures of identity commitment, EWB would be found to make the greatest unique contributions to the explained variance. The findings support this prediction for five of the seven measures of identity commitment (EPSI—Stage 5, III—Subjective Syntonic, III—Behavioral Syntonic, DIDS—Commitment Making, and DIDS—Identification with Commitment). In each of these instances, the measure of EWB uniquely explained 9 and 13% of the variance, whereas the measures of SWB and PWB uniquely explained no more than 3% of variability. The two exceptions to this pattern occurred for the measures of dystonic identity functioning (III—Subjective Dystonic and III—Behavioral Dystonic). For these outcome measures, SWB uniquely explained 4 and 8% of the variability whereas EWB accounted uniquely for only 4 and 1%, respectively, of the explained variance.

No predictions were advanced with respect to the relative levels of unique variability the various well-being measures would explain for the measures of positive and negative psychological functioning. The findings indicated that for self-esteem and locus of control, the two measures of positive psychological functioning, EWB made the largest unique contributions, between 9 and 12%, whereas the levels of unique variability explained by SWB and PWB were substantially smaller. This parallels the findings with respect to the five positive measures of identity commitment. With respect to the measures of problem-related variables (general anxiety, social anxiety, and depression), the findings were similar to those obtained for dystonic identity functioning. The measure of SWB explained the largest

proportion of variance uniquely, between 4 and 6%, with less variance uniquely explained by either EWB or PWB.

Discussion

A principal purpose of the research reported here was to evaluate the potential utility of the 21-item QEWB. The psychometric properties identified for the QEWB in two large, geographically and demographically diverse samples of college students indicate an approximately normal distribution of scores, with measures of central tendency only slightly above the mid-point in the observed range. Additionally, CFAs indicated that items loaded on a single factor, and Cronbach's alpha, as an index of internal consistency, was high. This suggests that items with content tapping various aspects of eudaimonic functioning drawn from the philosophy of eudaimonism fit together in the hypothesized fashion. Taken together, the psychometric properties of the QEWB can be considered acceptable.

Demographic comparisons were conducted on QEWB scores with respect to gender, age, ethnicity, family income, and family structure. With the possible exception of age, eudaimonic identity theory does not provide a basis for expecting differences across demographic groups. The demographic comparisons were undertaken to explore whether or not these demographic variables play any substantial role in eudaimonic functioning. For both samples, the very large numbers of participants involved in the research virtually assured obtaining statistically significant outcomes. For Sample 1, significant effects were observed for gender, age, and ethnicity, though in no instance did the effect size exceed 3% of variability explained. For Sample 2, significant effects were observed for all five demographic variables, though again the effect sizes were quite modest. The relatively modest effect sizes for both samples warrant concluding that demographic variables do not play a substantial role with respect to differences in eudaimonic functioning.

Evaluations of the validity of the QEWB were conducted with respect to convergent, discriminant, construct, and incremental validity. In total, six hypotheses were tested. With regard to convergent validity, because the QEWB contains items directly assessing the extent to which respondents have established personally expressive identity elements, a strong positive correlation was expected with more general measures of identity commitment (Hypothesis 1). Because the QEWB is purported to measure a eudaimonic form of well-being, it was also expected that scores for the instruments would be strongly positively correlated with SWB and PWB (Hypothesis 2). Results were consistent with both hypotheses. The observed correlations for the two hypotheses fell between 0.40 and 0.70. These correlations, while substantial, are not of a magnitude to suggest that EWB is reducible to the variables with which it converges. For general measures of identity commitment, high scores can be obtained when a person has committed to identity choices not experienced as personally expressive, thus limiting the strength of the potential correlation with the QEWB scores. With respect to the correlation with SWB, it is clearly possible to derive subjective happiness from sources other than engagement in personally expressive activities. With respect to the correlation of EWB and PWB, the two constructs are strongly related with the highest correlations obtained for the subscales tapping self-acceptance and personal growth. The weakest association was found for the subscale

measuring positive relations with others. Individuals high on EWB clearly are functioning more effectively, on average, than those low on EWB, though it is also apparent that high levels of PWB are not inevitably associated with eudaimonic functioning.

Whereas strong associations of EWB with identity commitment were expected, the correlations with identity exploration were expected to be substantially weaker (Hypothesis 3), thus providing evidence for discriminant validity. Hypothesis 3 was supported with respect to both exploration in breadth and exploration in depth. The correlations with ruminative exploration were negative and somewhat stronger than those for the other forms of identity exploration, reflecting the problematic nature of ruminative exploration. Discriminant validity was also demonstrated through the relatively modest correlations of QEWB scores with measures of sensation seeking and the Big-Five personality traits (Hypothesis 4). This is consistent with the view that, although personality traits may play a contributing role with respect to the nature of the personal potentials through which self-realization may be achieved, they are not a major factor in determining whether eudaimonic possibilities are pursued.

Evaluation of the construct validity of the QEWB was undertaken through initial steps in the creation of a nomological net of variables associated with EWB. It was anticipated that, similar to SWB and PWB, EWB would be related to variables indicative of positive and negative psychological functioning (Hypothesis 5). This expectation was supported with respect to positive correlations with self-esteem and an internal locus of control, and negative correlations with general anxiety, social anxiety, and depression.

Having established that EWB was moderately to strongly correlated with measures of SWB and PWB, and correlated with other variables in a pattern similar to SWB and PWB, a second purpose of this research was to address whether these three forms of well-being should be considered as three ways of assessing the same core construct or are empirically distinguishable. The incremental validity of the QEWB was investigated through analyses of the unique variability explained by each of three forms of well-being in outcome variables pertaining to identity commitment and positive and negative psychological functioning. It was predicted that EWB would make the largest unique contribution for variables associated with identity commitment (Hypothesis 6), given that it is the form of well-being most clearly dependent upon having identified activities in one’s life experienced as personally expressive. No prediction was advanced with respect to the relative unique contributions of EWB, SWB, and PWB to explaining variance in measures of positive and negative psychological functioning.

A clear pattern of results emerged and was generally consistent with expectations. EWB was found to make the greatest unique contribution to explaining variance in five of the seven measures of identity commitment, those reflecting success in identity formation, and both aspects of positive psychological functioning (self-esteem and an internal locus of control). The other forms of well-being made minimal unique contributions to explaining variability in these indices. SWB was found to make the largest unique contributions to explaining variance in the two measures reflecting unsuccessful identity formation and the measures of general anxiety, social anxiety, and depression. EWB made considerably smaller unique

contributions to explaining these variables. SWB appears to be a prerequisite for avoiding negative psychosocial functioning, whereas EWB appears to contribute, over and above SWB, to positive psychosocial functioning.

In sum, the pattern of results obtained here provides substantial support for the incremental utility of the QEWB. These findings suggest that EWB is of particular relevance to the study of aspects of successful functioning. In contrast, for the panel of outcome variables investigated in the present study, SWB, or rather its absence, appears to have its greatest explanatory value for the understanding of variables associated with problematic functioning. It is notable that, overall, the measure of PWB made the smallest unique contribution to explaining variance in the panel of variables analyzed here. Considering the broad range of variables included within the nomological nets of SWB and PWB in prior research, it is plausible that these conceptions of well-being may make larger unique contributions to explaining variance in other types of variables not included in this study.

With respect to the question as to whether EWB, SWB, and PWB constitute aspects of a single core construct or are empirically distinguishable, the findings obtained here suggest that they can be distinguished and, more specifically, that they appear to contribute differentially to the understanding of successful and unsuccessful functioning. However, it should also be recognized that, at the level of the zero-order correlations, all three conceptions of well-being were significantly related in parallel fashion to the measures of identity commitment and to the indices of positive and negative psychological functioning. Further, the amount of variability that the three forms of well-being explained jointly in these outcome variables was, with one exception, greater than the unique contribution made by any one of the well-being constructs. (The single exception was for an internal locus of control, where EWB accounted uniquely for two-thirds of the total variability explained.) The large proportions of shared variability explained across outcome variables reflect the extent to which the three forms of well-being are strongly interrelated, despite the differences that we have outlined here.

Limitations

Several limitations of the present study warrant discussion. First, the two large samples of college students studied here, while diverse with respect to geographical location, gender, ethnicity, and family background, were relatively narrow with respect to age and educational level. It cannot be determined the extent to which the findings obtained here would replicate in a sample drawn from the general population. Second, the data obtained were all from self-report measures. It would be desirable to generate a behavioral measure of eudaimonic functioning that could be used to validate the QEWB and, in addition, to investigate behavioral correlates of QEWB scores. Third, the findings reported here are correlational in nature, and conclusions regarding directions of influence among the variables studied cannot be established. EWB and the other forms of well-being were generally treated here as predictor variables, but it is plausible that what were employed here as outcome variables may influence the levels of well-being experienced. Indeed, the strongest possibility is that influences among the variables studied are bidirectional.

These limitations not withstanding, the findings reported here, taken together, suggest that the QEWB is appropriate for the assessment of EWB. It offers the prospect of assessing EWB from a perspective more firmly grounded in eudaimonist philosophy than is possible with currently available instruments. QEWB scores can be used as an outcome variable when studying those factors presumed to either facilitate or hinder the development of eudaimonic functioning and as a predictor variable in studies of the correlates and consequences of such functioning. Given the availability of instruments for assessing EWB, SWB, and PWB it is possible to conduct studies to better understand their points of convergence and divergence.

If, as suggested by the findings obtained here, EWB, SWB, and PWB are distinguishable conceptions of well-being, in future research the implications of each for quality in life can be studied through comparisons of their presence in various combinations. For example, SWB is considered a function of happiness irrespective of its source. That is, it may result from eudaimonic pursuits and/or from sources of hedonia. The importance of the source of SWB can be empirically investigated through evaluating differences in functioning between groups who are similarly high with respect to SWB but differ with respect to their level of EWB. Similar comparisons can be made with respect to the pairings of EWB with PWB, and SWB with PWB.

Another line of investigation that can be explored through the use of multiple measures of well-being concerns the hedonic treadmill (Diener, Lucas, & Scollon, 2006). It has been proposed that each person has an overall set point for well-being and that deviations from the set point occasioned by either very positive or very negative events dissipate over time. One implication of this hedonic treadmill is that there is not much that individuals can do to change their overall levels of happiness in any sustainable way. Waterman (2007b) employed eudaimonic theory to suggest that more stable changes in levels of well-being could be achieved through efforts to promote self-realization than through efforts to promote happiness derived from other sources. The availability of the QEWB, used in conjunction with other indices of well-being, provides an opportunity to evaluate this hypothesis through the comparison of various types of intervention techniques. It is proposed here that those interventions that simultaneously promote changes in both EWB and SWB will yield more durable effects than those promoting SWB but not EWB.

Still another important research direction is to examine the associations of EWB to health outcomes such as diet, exercise, substance use, sexual risk taking, and driving while intoxicated. EWB is likely to entail exploration of, and experimentation with, some behaviors such as drug and alcohol use and sexual activity. However, individuals characterized by high levels of EWB may be less likely to progress to problematic degrees of involvement in these behaviors than individuals scoring lower with respect to EWB. This is consistent with the potential for positive psychological functioning to protect against problematic outcomes (e.g., Schwartz, et al., in press; Szapocznik, 2007).

There has been a lively debate in the field regarding how well-being may best be conceptualized and studied (Diener et al., 1998; Kashdan et al., 2008; Ryff & Singer, 1998; Waterman, 2008). SWB has the longest record of supportive empirical investigation, and

PWB also has a decades-long substantial research record. The EWB construct is a relatively recent entrant into this debate and is the most extensively grounded in philosophical understandings of quality of life. However, the extent of the research employing it is still limited. The introduction of QEWB as a measure for assessing EWB can potentially serve as a stimulus for expanding this research record. The strength of research conducted with any construct is dependent upon the quality of the instrumentation available. The findings reported here serve as an initial indicator that the QEWB is an appropriate instrument for this task.

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Table 1.

The Questionnaire for Eudaimonic Well-Being.

This questionnaire contains a series of statements that refer to how you may feel things have been going in your life. Read each statement and decide the extent to which you agree or disagree with it. Try to respond to each statement according to your own feelings about how things are actually going, rather than how you might wish them to be.

Please use the following scale when responding to each statement.

Strongly Disagree 0 1 2 3 4 Strongly Agree

1. I find I get intensely involved in many of the things I do each day.
2. I believe I have discovered who I really am.
3. I think it would be ideal if things came easily to me in my life. (R)
4. My life is centered around a set of core beliefs that give meaning to my life.
5. It is more important that I really enjoy what I do than that other people are impressed by it.
6. I believe I know what my best potentials are and I try to develop them whenever possible.
7. Other people usually know better what would be good for me to do than I know myself. (R)
8. I feel best when I'm doing something worth investing a great deal of effort in.
9. I can say that I have found my purpose in life.
10. If I did not find what I was doing rewarding for me, I do not think I could continue doing it.
11. As yet, I've not figured out what to do with my life. (R)
12. I can't understand why some people want to work so hard on the things that they do. (R)
13. I believe it is important to know how what I'm doing fits with purposes worth pursuing.
14. I usually know what I should do because some actions just feel right to me.
15. When I engage in activities that involve my best potentials, I have this sense of really being alive.
16. I am confused about what my talents really are. (R)
17. I find a lot of the things I do are personally expressive for me.
18. It is important to me that I feel fulfilled by the activities that I engage in.
19. If something is really difficult, it probably isn't worth doing. (R)
20. I find it hard to get really invested in the things that I do. (R)
21. I believe I know what I was meant to do in life.

(R) Item is reverse scored.

Table 2.

Correlations of QEWB scores with measures of identity commitment (Hypothesis 1—convergent validity).

	Sample 1 (*N* = 1701)	Sample 2 (*N* = 5096)
Identity commitment related variables	***r***	***r***
EPSI—Stage 5	0.69	0.65
III—Subjective Syntonic	0.53	0.51
III—Behavioral Syntonic	0.53	0.52
III—Subjective Dystonic	−0.53	−0.51
III—Behavioral Dystonic	−0.52	−0.41
DIDS—Commitment Making	0.54	0.50
DIDS—Identification with Commitment	0.58	0.51

Note: Correlations were estimated using standardized regression coefficients, controlling for site.

All correlations significant at $p < 0.001$.

Table 3.

Correlations of QEWB scores with measures of subjective well-being and psychological well-being (Hypothesis 2—convergent validity).

	Sample 2 (N = 5096)
Well-being variables	***r***
Satisfaction with Life Scale	0.47
Scales of Psychological Well-Being	
Autonomy	0.40
Environmental Mastery	0.48
Personal Growth	0.50
Positive Relations with Others	0.23
Purpose in Life	0.43
Self-Acceptance	0.56
Composite	0.63

Note: Correlations were estimated using standardized regression coefficients.

All correlations significant at $p < 0.001$.

Table 4.

Correlations of QEWB scores with measures of identity exploration (Hypothesis 3—divergent validity).

	Sample 1(N = 1701)	Sample 2(N = 5096)
Identity exploration related variables	***r***	***R***
DIDS—Exploration in Breadth	0.14	0.21
DIDS—Exploration in Depth	0.27	0.25
DIDS—Ruminative Exploration	−0.41	−0.36

Note: Correlations were estimated using standardized regression coefficients and controlling for site.

All correlations significant at $p < 0.001$.

Table 5.

Correlations of QEWB scores with measures of personality traits (Hypothesis 4—divergent validity).

	Sample 1 (*N* = 1701)	Sample 2(*N* = 5096)
Personality trait variables	***r***	***r***
ASSS—Sensation-Seeking	0.01	0.05
Mini-IPIP—Big Five Personality Traits		
Agreeableness	N/A[a]	0.28
Conscientiousness	N/A	0.28
Extraversion	N/A	0.20
Intellect/Imagination	N/A	0.29
Neuroticism	N/A	−0.20

[a]The Big-Five personality traits were assessed only in Sample 2.

Note: Correlations were estimated using standardized regression coefficients.

All correlations significant at $p < 0.001$.

Table 6.

Correlations of QEWB scores with measures of positive and negative psychological functioning (Hypothesis 5—construct validity).

	Sample 1 (*N* = 1701)	Sample 2 (*N* = 5096)
	r	*r*
Positive Psychological Functioning		
RSES—Self-Esteem	0.63	0.65
LOCS—Internal Locus of Control	0.37	0.40
Negative Psychological Functioning		
BAI—General Anxiety	−0.35	−0.37
SIAS—Social Anxiety	−0.47	−0.43
CES-D—Depression	−0.35	−0.32

Note: Correlations were estimated using standardized regression coefficients.

All correlations significant at $p < 0.001$.

Table 7.

Correlations of eudaimonic well-being, subjective well-being, and psychological well-being with measures of identity commitment and positive and negative psychological functioning (sample 2, $N = 5096$).

	Well-being variables		
	EWB	**SWB**	**PWB**
Identity Commitment Measures			
EPSI—Stage 5	0.62	0.48	0.46
III—Subjective Syntonic	0.51	0.35	0.38
III—Behavioral Syntonic	0.53	0.44	0.35
III—Subjective Dystonic	−0.51	−0.53	−0.42
III—Behavioral Dystonic	−0.41	−0.51	−0.31
DIDS—Commitment Making	0.50	0.33	0.31
DIDS—Identification with Commitment	0.51	0.34	0.33
Positive Psychological Functioning			
RSES—Self-Esteem	0.65	0.63	0.54
LOCS—Internal Locus of Control	0.40	0.20	0.18
Negative Psychological Functioning			
BAI—General Anxiety	−0.37	−0.44	−0.34
SIAS—Social Anxiety	−0.44	−0.49	−0.32
CES-D—Depression	−0.42	−0.42	−0.29

Note: Correlations were estimated using standardized regression coefficients.

All correlations significant at $p < 0.001$.

Table 8.

Unique variability explained by eudaimonic well-being, subjective well-being, and psychological well-being (composite score) for measures of identity commitment and positive and negative psychological functioning (Hypothesis 6—incremental validity) (sample 2, $N = 5096$).

		Unique variance explained by		
	Total variance explained	**EWB**	**SWB**	**PWB**
Identity Commitment Related Variables				
EPSI—Stage 5	0.51	0.12	0.02	0.03
III—Subjective Syntonic	0.30	0.12	0.00	0.03
III—Behavioral Syntonic	0.30	0.09	0.01	0.00
III—Subjective Dystonic	0.35	0.04	0.04	0.01
III—Behavioral Dystonic	0.28	0.01	0.08	0.00
DIDS—Commitment Making	0.28	0.13	0.00	0.01
DIDS—Identification with Commitment	0.29	0.13	0.00	0.01
Positive Psychological Functioning				
RSES—Self-Esteem	0.54	0.09	0.03	0.01
LOCS—Internal Locus of Control	0.18	0.12	0.01	0.00
Negative Psychological Functioning				
BAI—General Anxiety	0.22	0.01	0.04	0.00
SIAS—Social Anxiety	0.26	0.02	0.05	0.00
CES-D—Depression	0.19	0.01	0.06	0.01