Psychological Bulletin
1998, Vol. 124, No. 2, 197–229

0033-2909/98/$3.00

The Happy Personality: A Meta-Analysis of 137 Personality Traits and Subjective Well-Being

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This meta-analysis used 9 literature search strategies to examine 137 distinct personality constructs as correlates of subjective well-being (SWB). Personality was found to be equally predictive of life satisfaction, happiness, and positive affect, but significantly less predictive of negative affect. The traits most closely associated with SWB were repressive-defensiveness, trust, emotional stability, locus of control–chance, desire for control, hardiness, positive affectivity, private collective self-esteem, and tension. When personality traits were grouped according to the Big Five factors, Neuroticism was the strongest predictor of life satisfaction, happiness, and negative affect. Positive affect was predicted equally well by Extraversion and Agreeableness. The relative importance of personality for predicting SWB, how personality might influence SWB, and limitations of the present review are discussed.

Subjective well-being (SWB) research focuses on how and why people experience their lives in positive ways (Diener, 1984). The majority of studies of SWB have focused on biosocial indicators, such as sex and age. Although a few biosocial indicators show strong relations with SWB, most of these variables account for only a small portion of SWB variance (e.g., Haring, Stock, & Okun, 1984; Stock, Okun, Haring, & Witter, 1983; Wood, Rhodes, & Whelan, 1989).

Given these disappointing results, researchers have increasingly turned to the examination of personality variables as predictors of well-being. Several narrative reviews of the subjective well-being literature have suggested that personality may be one of the strongest influences, if not the major determinant of SWB (e.g., Costa & McCrae, 1980; Diener, 1984; Diener & Larsen, 1993; McCrae & Costa, 1991; Myers, 1992; Myers & Diener, 1995).

This meta-analysis attempted to summarize and integrate studies examining personality variables as correlates of SWB. Specifically, the purpose of this meta-analysis was to address five substantive questions: (a) How important is personality in comparison with other biosocial indicators of SWB? (b) Does personality relate differently to SWB depending on the conceptualization of SWB? (c) If the specific personality traits are clustered into homogeneous groups, which groups of personality traits relate most strongly with which SWB conceptualizations? (d) Which specific personality traits are most closely linked with SWB? (e) Are methodological difference among studies associated with differences in the correlations found between SWB and personality?

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This research was conducted as part of Kristina M. DeNeve's doctoral dissertation and was supported by funding from the Center for Research in Social Behavior, Columbia, Missouri. Thanks go to Ann Bettencourt, Melissa Castille, John Ewing, Russell Geen, Michael Frisch, Donald Granberg, Lisa Hensley, George Jurek, Donald Pierce, and Timothy Trull for their insightful comments regarding this project. Additional thanks go to Jen Bray, Ursula Moore, Rebecca Ryan, Edi Tintorri, Jason Werner, and Robin Zyk for their invaluable assistance in obtaining relevant research reports and helping to create the various tables.

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The Importance of Personality for SWB

Several distinct SWB theories propose that personality is closely tied to SWB. Among SWB theories, top-down models of SWB stress the direct importance of personality. Top-down theories of SWB assume a global tendency (derived from stable personality traits) to experience life in a positive or negative manner (Diener, 1984). This global tendency in turn consistently influences the interpretation of momentary events. Evidence supporting top-down models is provided by large scale studies that consistently show little change in SWB on the basis of different combinations of reactions to specific life domains (e.g., Andrews & Withey, 1976; Campbell, Converse, & Rodgers, 1976). Likewise, structural equation modeling allows researchers to examine the implications of top-down causal models by looking at whether SWB predicts experience within particular life domains. These tests are consistent with top-down models in that they find SWB leads to satisfaction with work, leisure, and standard of living, as well as to reports of physical health, world assumptions, and constructive thinking (Feist, Bodner, Jacobs, Miles, & Tan, 1995; Headey, Veenhoven, & Wearing, 1991).

The dynamic equilibrium model of SWB also suggests that personality is critical for SWB (Headey & Wearing, 1989). This model was developed to explain why individuals give stable reports for their experience of positive events, adverse events, and SWB across a period of 2 years. Headey and Wearing (1989) proposed that each person has a normal equilibrium level of SWB. This equilibrium level is predicted by personality characteristics, especially extraversion, neuroticism, and open-

ness to experience. Although SWB levels will change when recent life events (either positive or adverse) deviate from their normal pattern, personality characteristics will serve to return SWB to its normal equilibrium level. The work of Ormel and colleagues extended the dynamic equilibrium model to show that personality is more powerful for predicting psychological distress than are external events (Ormel & Schaufeli, 1991; Ormel & Wohlfarth, 1991).

In addition to SWB theorists, personality theorists using either the trait perspective or the psychobiological perspective have also suggested that personality is critical for SWB. McCrae and Costa (1991) distinguished a temperamental and instrumental view of the relation between personality traits and SWB. The temperamental view suggests that certain personality traits, such as extraversion and neuroticism, represent enduring dispositions that directly lead to SWB. Other personality traits, such as agreeableness and conscientiousness, have an indirect or instrumental role in SWB. These instrumental traits lead people to encounter specific life situations that in turn affect SWB. This temperamental–instrumental distinction has been supported by both correlational and experimental evidence (see Diener, Sandvik, Pavot, & Fujita, 1992; Larsen & Ketelaar, 1989, 1991; McCrae & Costa, 1991).

Gray (1971, 1981, 1987) offered a psychobiological explanation for the role of personality on distinct emotional states. Gray proposed that there are two neurologically based motivational systems, the behavioral activation system (BAS) and the behavioral inhibition system (BIS), which respectively regulate behavior in the presence of reward or punishment signals. The BAS and BIS have been operationalized in trait-like terms, such as extraversion or positive emotionality being linked to BAS, whereas the BIS has usually been linked to neuroticism or negative emotionality (Larsen & Ketelaar, 1991; Tellegen, 1985). Larsen and Ketelaar (1991) further hypothesized and subsequently found that BAS–extraversion is experientially manifest by increased positive affect whereas BIS–neuroticism is manifest by increased negative affect.

Taking the psychobiological perspective one step further, the heritability of levels of positive and negative emotions, as well as of general well-being has been examined in twin studies (Buss & Plomin, 1984; Tellegen et al., 1988). Recent research comparing monozygotic (MZ) and dizygotic (DZ) twins at the ages of 14 and 20 months indicated that genetics substantially influenced parental ratings of the expression of negative emotions, whereas a shared environment substantially influenced parental ratings of the expression of positive emotions (Emde et al., 1992; Plomin et al., 1993). Comparisons between MZ and DZ twins at the ages of 20 and 30 years revealed that between 44% and 52% of the variance in the experience of general well-being is due to genetic influences (Lykken & Tellegen, 1996). Ultimately, Lykken and Tellegen implied that happiness is an emergenic trait that is differentially influenced throughout the lifespan by genetics, shared environment, and experiences unique to the individual.

These diverse theoretical formulations point to a single conclusion: Personality should be among the most influential factors for predicting SWB. To test this hypothesis, we calculated the overall weighted correlation between personality and SWB and compared this result with other individual difference correlates of SWB (e.g., age, health, income, occupation).

Distinctions Among SWB Conceptualizations

SWB has four common conceptualizations that differ along affective, temporal, and cognitive dimensions (Okun, Stock, & Covey, 1982). Happiness is the preponderance of positive affect over negative affect with a focus on the affective evaluation of one's life situation (Diener, 1984). For example, the Memorial University of Newfoundland Scale of Happiness asks respondents to indicate over the past few months whether they have felt experiences such as "I am just as happy as when I was younger" and "Life is hard for me most of the time" (Kozma & Stones, 1980). Whereas happiness involves an overall affective appraisal, positive affect and negative affect are generally focused on the recent occurrence of specific positive and negative emotions. Like happiness, positive and negative affect do not involve cognitive judgments. On the Positive and Negative Affect Scale, sample items include asking respondents whether they have experienced emotions such as "joyful" for positive affect and "frustrated" for negative affect within the past day (Emmons & Diener, 1985). Life satisfaction, on the other hand, is primarily a cognitive evaluation of the quality of one's experiences, spanning an individual's entire life. For example, the Satisfaction With Life Scale asks respondents to rate their agreement with items such as, "In most ways, my life is close to ideal" and "So far, I have gotten the important things I want in life" (Diener, Emmons, Larson, & Griffin, 1985).

Although no general theories exist on how personality overall should relate to distinct SWB conceptualizations, McCrae and Costa (1991) reported that distinct personality traits exhibited different patterns of association with happiness, positive affect, negative affect, and life satisfaction. Theoretically speaking, one could argue that measures that focus on enduring aspects of SWB, such as happiness and life satisfaction, should relate more strongly with personality than transient measures, such as positive and negative affect. This prediction follows from the fact that personality itself consists of enduring predispositions. However, McCrae (1983) suggested that personality trait measures correspond with state measures of SWB, namely positive and negative affect. This argument suggests that personality and positive and negative affect essentially tap the same underlying construct but measures of these constructs focus on different time frames. (Personality measures typically focus on one's overall life, whereas positive and negative affect measures typically focus on experiences within the last day, week, or month.)

If positive and negative affect tap the same underlying stable disposition as personality traits, then positive and negative affect should correlate more strongly with personality than happiness and life satisfaction. However, enduring SWB measures (i.e., life satisfaction and happiness) should correlate more strongly with personality characteristics if positive and negative affect do not tap stable dispositions. This meta-analysis tested which proposition is more tenable.

The Big Five and SWB

Although 137 specific personality traits have been correlated with SWB, these personality traits probably do not reflect 137

independent constructs in personality. For this reason, we clustered the specific personality traits into larger, homogenous groups of personality variables, allowing us to examine the pattern of association between SWB and theoretically distinct personality dimensions. The homogenous groups of variables were designed to represent the Big Five dimensions of personality. A number of independent investigators have examined natural language dictionaries to identify personality attributes. These personality attributes were then subjected to a factor analysis, which converged on a five-factor solution, commonly known as the Big Five (e.g., Botwin & Buss, 1989; Conley, 1985; Digman & Takemoto-Chock, 1981; Goldberg, 1992; McCrae & Costa, 1985; Norman, 1963; Tupes & Christal, 1961). The current investigation used the five factors as proposed by Costa and McCrae (1992), Goldberg (1992), and John (1990).

Factor I is best known as the Extraversion or Surgency factor. (The labels for Big Five factors are capitalized but individual personality traits are not capitalized.) Agreeableness is Factor II, referring to the quality of one's interpersonal relations. In contrast to Extraversion, which focuses primarily on the quantity and intensity of relationships, Agreeableness focuses on specific behaviors undertaken during interpersonal interactions, such as cooperating and trusting others. Factor III, labeled Conscientiousness or Constraint, primarily describes task behavior and socially accepted impulse control. Factor IV is most frequently labeled as either Neuroticism or Emotional Stability. For normal populations, the Neuroticism factor identifies aspects related to adjustment or lack of adjustment. Finally, John (1990) indicated that the best label for Factor V may be Openness to Experience. Factor V contains components of intelligence, culture, creativity, broad interests, and cognitive complexity. However, of the five factors, the fifth factor is the most controversial, as it is not entirely clear which personality variables should be included in it and which should not.

One problem with utilizing the Big Five is that researchers do not agree on the precise definitions of the five factors. For example, Costa and McCrae (1992) suggested that warmth is a facet of Extraversion. However, both Goldberg (1992) and John (1990) have proposed warmth as a facet of Agreeableness. Ultimately, we resolved such discrepancies by applying our own a priori judgment to the theoretical descriptions of the five factors provided in the following paragraph.

Extraversion was defined to include personality traits that focused on the quantity and intensity of relationships (such as sociability and dominance), energy level, positive emotionality, and excitement seeking (such as play and sensation seeking). Agreeableness included personality traits that focused on the quality of interpersonal relationships, such as empathy and warmth. Conscientiousiness included goal-directed behavior (such as efficacy and rule conscious) and control-related traits (such as internal locus of control and impulsivity). Neuroticism focused on adjustment variables (such as psychoticism and distress), as well as negative emotional and behavioral traits (such as ambivalence over emotional expressiveness and aggression). The controversial final factor, Openness to Experience was designed to include measures of intelligence, openness, and creativity. In addition, Openness to Experience was broadened to include any personality variable that is primarily cognitive in nature, such as belief in a just world, mental absorption, and rigidity.

Predictions regarding the pattern of association between the five factors and the four measures of SWB were guided by the theoretical work of Costa and McCrae. Costa and McCrae (1980) proposed that Extraversion leads to positive affect and Neuroticism leads to negative affect, primarily because of temperament. This temperamental perspective states that extroverts are simply more cheerful and high-spirited than introverts whereas emotionally unstable individuals are naturally more prone to negative affect. However, Extraversion and Neuroticism are not directly responsible for predicting general indices of SWB, namely happiness and life satisfaction (Costa and McCrae, 1980).

In 1991, McCrae and Costa further developed their theory to incorporate the remaining three factors. According to this theory, "open" individuals are characterized by "both a broader and deeper scope of awareness and by a need to enlarge and examine experience . . . [such that Openness to Experience is] positively correlated with both positive and negative affect" (McCrae & Costa, 1991, p. 228). In this way, Openness to Experience was predicted to serve as a "double-edged sword" that predisposes individuals to feel both the good and the bad more deeply. Agreeableness and Conscientiousness were proposed to have instrumental effects on SWB by facilitating more positive experiences in social or achievement situations, which in turn increase SWB. Because Agreeableness enhances relationship quality and Conscientiousness promotes achievement of tasks, McCrae and Costa (1991) implied these variables would be most strongly correlated with life satisfaction and happiness.

We tested the utility of this theory by calculating the average correlations between each of the five factors and each of the four conceptualizations of SWB. Then, we tested whether the five factors significantly differed in their pattern of association with each SWB conceptualization. Consistent with Costa and McCrae (1980, 1991), we hypothesized that positive affect would be most strongly correlated with Extraversion and negative affect would be most strongly correlated with Neuroticism. We also hypothesized that positive and negative affect would correlate with Openness to Experience, although the correlations would not be as strong as those found for Extraversion and Neuroticism. Finally, life satisfaction and happiness were expected to reveal the strongest associations with Agreeableness and Conscientiousness.

Individual Personality Traits and SWB

Several previous reviews have proposed which individual personality traits are most critical to SWB.[1] Wilson (1967) detailed

[1] Although these reviews often describe the importance of optimism and self-esteem for SWB, the present investigation did not include these variables. Both of these variables are often used synonymously with SWB. For example, when reviewing PsycLiT abstracts that included both self-esteem and well-being terms, we found that the vast majority of studies measured either self-esteem or SWB, often referring to one construct as a measure of the other. Likewise, optimism is often used as an outcome measure to indicate morale or purpose in life. Morale and purpose in life are quite similar conceptually to SWB. Beyond this conceptual overlap between self-esteem, optimism, and SWB, an examination of the extant literature does not clarify whether these vari-

the results of 15 personality–SWB studies. Emotional stability and extroversion were positively related to SWB, whereas neurotic tendency was negatively related. Although intelligence was the most extensively examined variable, Wilson concluded that it is only important to SWB in situations where the individuals also tended to have a lower socioeconomic status (SES).

Kozma and Stones (1978) reviewed seven personality and SWB studies that were conducted in the time after the Wilson (1967) review. These studies revealed that self-control was not related to SWB. For locus of control, they reported that an internal locus of control was positively correlated with SWB in samples of noninstitutionalized older persons, whereas one study using institutionalized elderly individuals found a negative correlation.

Diener (1984) limited his consideration to personality variables that had been extensively studied and would therefore presumably yield the most reliable results. Diener indicated that internal locus of control, perceived control, and extraversion (especially the sociability component) were positively correlated with SWB. Neuroticism obtained positive relations with negative affect, but negative relations with other SWB indices. Like Wilson (1967), Diener reported conflicting evidence for the role of intelligence.

These reviews led to the following hypotheses: (a) extraversion and sociability were expected to be strong positive correlates of SWB; (b) neuroticism was hypothesized to reveal a strong negative relation with SWB; (c) control variables (i.e., locus of control, desire for control, and perceived control) were hypothesized to correlate positively with SWB, although not as strongly as extraversion and sociability; and (d) intelligence was expected to correlate positively but modestly with SWB. In addition, this investigation examined the correlations between SWB and the other 131 personality variables identified in the extant literature.

The Role of Methodology

Although personality and SWB can both be assessed in a variety of ways (such as having someone close to you rate your personality or by recording the frequency of happy and sad facial expressions), both personality and SWB are generally measured by self-report inventories. Therefore, we examined how measurement issues realized through self-reports versus sampling procedures could affect the associations between personality and SWB.

The research literature on the validity and reliability of personality measures is extensive, and the discussion of the psychometric properties of specific scales is beyond the scope of the present meta-analysis.[2] Although psychologists continue to strive to improve personality assessment (e.g., Panter, Tanaka, & Hoyle, 1994), self-report personality measures consistently maintain favorable comparisons with personality measures using other methodologies, such as projective tests (Aiken, 1994; Friedenberg, 1995; Kaplan & Saccuzzo, 1993).

The literature on the psychometric properties of SWB scales is much smaller, but nevertheless suggests these scales have acceptable construct validity. In a review of several multiple-item scales of SWB, Andrews and Robinson (1991) reported that internal consistency (measured by coefficient alphas) for SWB scales ranged from .7 to .9. Stability estimates ranged from .5 to .7, with longer intervals corresponding with lower estimates. When construct validity was assessed using latent variable causal modeling analysis for 35 measures of SWB, Andrews and Crandall (1976) reported that many multi-item measures obtained construct validity estimates between .7 and .8. Using multitrait–multimethod matrix analyses, Lucas, Diener, and Suh (1996) recently reported convergent validity estimates for well-being scales ranging from .26 to .77, with smaller estimates generally associated with longer time intervals between measurement. These authors also reported life satisfaction, positive affect, and negative affect to be discriminable from one another. Although social desirability scales tend to correlate with well-being scales, Diener, Sandvik, Pavot, and Gallagher (1991) reported evidence that social desirability taps substantive personality characteristics rather than response artifacts. These authors recommended against controlling for social desirability as this may decrease the validity of SWB scales.

Despite the strong psychometric properties of most personality and SWB measures, the literature reviewed here included studies with measures of varied psychometric properties. For this reason, we examined whether differences between the reported associations between personality and SWB might be due to differences in the quality of the measures. We hypothesized that studies that used scales with better psychometric properties (i.e., higher reliability estimates, a larger number of items, and scale development prior to the investigation) would also report stronger associations between personality and SWB.

Another methodological issue focused on how the sample was obtained and how the questionnaires were distributed. Diener (1984) suggested that because of range restriction, results obtained from representative samples were a better indication of the relationship between personality and SWB than results obtained from convenience samples. Therefore, we hypothesized that results from studies with representative samples (i.e., using some type of randomization procedure to identify respondents) would reveal more reliable estimates than results from studies using convenience samples (which do not use any type of randomization procedure). Likewise, we hypothesized that studies that reported a delay between the measurement of personality and SWB would also report lower correlations than studies that did not have a delay. This was based on psychological research that consistently found that associations between variables tend to decay over time. Final tests compared differences in obtained correlations based on the year of publication, publication status (published vs. unpublished), as well as the sex, age, and ethnicity of the samples.

Method

Literature Search Procedures

The present investigation used nine literature search procedures suggested by Cooper (1998) to retrieve potentially relevant studies. The

ables can be considered theoretically as personality constructs. Finally, because previous reviews discuss these variables so extensively, we believe these constructs warrant separate consideration from the personality traits included in the present review.

[2] For information on the psychometric properties of specific scales, see Sweetland and Keyser (1991), issues of *Psychological Assessment*, or periodic editions of *The Mental Measurements Handbook*.

literature search was limited to studies that used adults from English-speaking countries.[3] These strategies are presented in the order in which they were conducted.

The first retrieval strategy involved a computer search of the PsycLIT database through June of 1996. For SWB, the keywords *subjective well-being, happiness, life satisfaction,* and *quality of life* were used. These SWB keywords were combined with personality terms found in Tables 8–12 to identify potentially relevant studies examining the personality–SWB association. Second, reference sections were examined from previous research reviews, namely Kozma and Stones (1978), and Diener (1984). Third, a topical bibliography of 556 research reports was examined. This topical bibliography was compiled by William Stock and Morris Okun (1980) and contained the extant SWB literature through 1980. Fourth, a manual search of the 1970–1995 issues of the *Social Sciences Citation Index* (SSCI) was completed to identify articles that had cited the reviews by Wilson (1967), Kozma and Stones (1978), or Diener (1984). Fifth, *Dissertation Abstracts* was searched for the years 1980–1995. The years prior to 1980 were not examined because the reviews by Diener (1984), Kozma and Stones (1978), and Wilson (1967), as well as the Stock and Okun bibliography all attempted to incorporate relevant dissertations. Sixth, the reference sections of relevant research reports found in previous searches were examined for additional references. Seventh, solicitation letters were sent to scholars who had been active contributors to the SWB field. Eighth, the Educational Resources Information Center (ERIC) database was searched. The same SWB keywords as those used for the PsycLIT search and a subset of the most successful personality terms were used for the ERIC search. The final retrieval strategy was to browse through the journals *Social Indicators Research* and *Journal of Gerontology,* which were chosen because of the large number of relevant research reports identified in these journals by one of the previous search strategies.

Inclusion and Exclusion Criteria for Relevant Studies

To be included in the current investigation, research reports had to contain a valid measure of SWB and at least one personality measure. Studies were included if they operationalized SWB as life satisfaction, happiness, or current states of positive or negative affect. Next, studies were included if the authors explicitly identified a personality variable as one of the measures in the study. If the authors did not make such an identification, we included studies that contained a measure that could be considered either a trait measure (i.e., asking respondents about their typical or general way of approaching life) or an individual difference measure (i.e., it operationalized a variable on which people typically report different patterns of thought, emotion, or behavior). An example of a trait measure included in the present review was "intelligence," whereas "belief in a just world" was included because it measured an individual difference. A few studies were excluded because the analysis conducted was either a multiple regression or a multivariate analysis of variance, which prevented the calculation of the zero-order correlation.

Coding Relevant Research Reports

Once the relevant research reports were identified, the information contained in them was coded in a manner that allowed for subsequent computer entry and data analysis. The Appendix describes the information extracted from each research report. In cases where a correlation between a personality variable and SWB was predicted but was not reported, nonsignificance was assumed and a value of $r = .00$ was entered.

All coding was completed by Kristina M. DeNeve. To obtain a measure of intercoder reliability, 10% of studies from the pool of relevant research reports were randomly selected for coding by both Kristina M. DeNeve and a graduate research assistant. The percentage of agreement between coders generally ranged from .85 to 1.00, with a mode of 1.00. Two characteristics, number of items on the measure of SWB (77% agreement), and whether an SWB measure was identified for coding (84% agreement) had lower coder agreement because Kristina M. DeNeve inadvertently reported these variables as missing on two occasions when information was actually provided.

Each correlation was entered into the dataset so that any correlation that supported the expected direction was positively valenced whereas a correlation that was not in the expected direction was negatively valenced. To accomplish this, all correlations obtained for measures of life satisfaction, happiness, and positive affect were entered into the dataset as they were found in the original source. In other words, these correlations were entered in the dataset as either positive or negative in correspondence with what was indicated in the research report. Because negative affect is a measure of the absence of SWB, all correlations using negative affect were reverse scored prior to being entered into the dataset. In this way, if the research report found a negative correlation between negative affect and a personality variable, it was coded as a positive in the dataset (and vice versa for correlations that were reported as negative).

Next, personality traits that were expected to be negatively associated with SWB were reverse scored using statements in SAS.[4] Ultimately, this created a dataset where expected correlations were represented by a positive sign and unexpected correlations were represented by a negative sign. By having the data represented in this fashion, the average weighted correlation was not artifactually lowered by the negative associations that could be expected for either negative personality traits or for correlations using negative affect as the measure of SWB. (Of course, unexpected associations remained in the dataset with a negative sign.) This also allowed the homogeneity analyses to test for differences in the absolute value of various correlations rather than simply compare the positive or negative sign associated with the correlations. This was particularly important for homogeneity analyses that compared negative affect with other measures of SWB as well as for homogeneity analyses comparing Neuroticism with the other four factors.

Although the correlations were positively or negatively valenced in the dataset according to hypotheses, they are reported in the results section and Tables 8–12 according to their actual relationship with SWB. In this way, correlations that appear as positive indicate that higher scores on that personality variable corresponded with more SWB. Correlations that appear as negative indicate that higher scores on that personality variable corresponded with less SWB.

Meta-Analytic Techniques

The specific index of effect size used in the present research synthesis was the correlation coefficient, or r index. The correlation coefficient

[3] A total of 12 studies were found that used a non-English speaking sample, or used a sample of children. A comparison was made between the overall weighted correlation between personality and SWB when these 12 studies were included or excluded. There was no difference in the overall weighted correlation. Therefore, these studies were not included in the present review.

[4] Personality variables hypothesized to be negatively correlated with SWB that were reverse scored were: abasement, admitting frailties, aggression, aggressive–sadistic, ambivalence over emotional expressiveness, anger, anxiety, authoritarianism, blame avoidance, counteraction, cynicism, death anxiety, death concern–negative evaluation, death concern–preoccupation, defendence, depression, distress, fear, fear of intimacy, forceful, general emotionality, guilt-proneness, impulsivity, harm avoidance, hostility, inhibition, locus of control–chance, locus of control–powerful others, negative affectivity, negative emotionality, neuroticism, psychoticism, repressive defensiveness, reactance, rigidity, rebellious–distrustful, rule-free, self-conscious, self-effacing–masochistic, sensitivity to social rejection, shrewdness, social anxiety, tension, tough poise, and vulnerability.

was used in two types of analyses, estimates of central tendency and homogeneity tests. The remainder of this section elaborates on how the analyses were conducted.

Unit of analysis. One problem that arises in estimating average effect sizes is deciding what constitutes an independent hypothesis test. The present review used a "shifting unit of analysis" approach (Cooper, 1998). First, each correlation calculated between any personality variable and SWB was coded as if it were an independent event. For example, if a single study contained three measures of personality (e.g., extraversion, neuroticism, and openness to experience) and two measures of SWB (e.g., positive affect and negative affect), a total of six correlation coefficients would be coded (e.g., extraversion–positive affect, neuroticism–positive affect, and so on). Then, for the calculation of the overall relationship between personality and SWB, the six correlations would be averaged so that this single study would contribute only one correlation to the overall estimate. This procedure ensures that the overall estimate is not unduly influenced by studies that may be small in sample size but measure a large number of variables. For an analysis in which the distinctions between SWB conceptualizations were compared across personality traits, the study would contribute two correlations (i.e., one for positive affect, and one for negative affect) averaged across three measures of personality. Finally, for an analysis examining which personality traits are most closely linked to SWB, the study would contribute three correlations (i.e., one for extraversion, one for neuroticism, and one for openness to experience). In this way, the shifting unit of analysis approach retains as much information as possible while minimizing the threat to the assumption of independent data points (Cooper, 1998).

Estimates of central tendency. The first meta-analytic technique used in the present investigation was the estimation of the relationship between personality and SWB by calculating average correlation coefficients. Correlation coefficients were then averaged within independent samples and weighted by the number of participants in the sample. The weighting procedure provides a more precise and reliable estimate of the true relationship between SWB and personality (Cooper, 1998). However, the weight a correlation could obtain was limited to 1,450 respondents for seven studies with a sample size over 1,500. The weight of 1,450 was determined by calculating 2 *SD*s above the mean number of respondents found in all studies, which was 315. This prevented these seven studies from being weighted as much as 400 times greater than studies with small samples of participants.

Homogeneity tests. Homogeneity analyses were performed using the General Linear Model program of the Statistical Analysis System (SAS Institute, 1985). Homogeneity tests examined whether differences in study outcomes could be explained by measurement and sample differences between studies, the conceptualization of SWB, and differences between the Big Five factors. Each analysis was conducted by creating a new dataset sorted by the study characteristic of interest and using independent samples as the unit of analysis.[5] As shown by Hedges and Olkin (1985), the sums of squares due to the modeled predictor variables in the GLM are actually chi-square statistics (labelled Q_b for meta-analysis) that can be interpreted as testing whether the predictor variable is significantly related to variance in effect sizes. Because some personality variables were hypothesized to obtain positive correlations with SWB whereas other personality variables were expected to obtain negative correlations, homogeneity analyses examined differences in the absolute value of the correlations without regard for the sign associated with the various correlations. (See footnote 4)

Results

Description of the Literature

Publication statistics. Table 1 contains a summary of the information obtained from each study included in the present review. A total of 148 studies found in 142 research reports provided information on 1,538 correlation coefficients relating personality to SWB. The number of independent samples providing estimates of the personality–SWB relation was 197 with a range of 1–12 (and a median of 1) independent samples per study. Correlations were obtained involving 137 distinct personality variables. The number of correlations provided by each study ranged from 1 to 180, with a median of 1.

Characteristics of the studies. A total of 42,171 respondents answered questionnaires pertaining to personality and SWB. In the 122 studies reporting on the sex of their samples, 12,072 respondents were male and 12,931 respondents were female. For the 35 studies reporting on ethnic characteristics, 7,929 respondents were White, 785 were African-American, 121 were Asian, and 115 were Latino. The average age of respondents was 53.2 years with a range of 17–99 years.

Table 2 details the major characteristics of the included studies. A majority of the studies were conducted from 1981 to 1990, were published, and were conducted in the United States. Focusing on sampling issues, the majority of studies used a population of noninstitutionalized adults, used convenience sampling procedures, and collected data on fewer than 150 participants. The majority of studies collected data on personality and SWB simultaneously. For those studies that did report a delay between personality and SWB measurement, the average delay was 4.4 years.

Characteristics of the measures. Table 3 provides information on the measures used for personality and SWB. Eysenck's Personality Questionnaire (Eysenck & Eysenck, 1975) was the most frequently used multidimensional measure of personality and the Life Satisfaction Index (Neugarten, Havighurst, & Tobin, 1961) was the most frequently used measure of SWB. Sixty-nine percent of studies reported correlations with a life satisfaction measure and the vast majority of studies (91%) measured SWB using multiple items. Finally, internal consistency information was reported as frequently for personality as it was for SWB.

Meta-Analysis of the Literature

What is the overall relation between personality and SWB? To examine the relationship between all personality variables and SWB, we calculated the overall average weighted correlation for the entire data set. On the basis of 197 independent samples, personality obtained an average r of .19 with SWB.

Does personality relate differently to SWB depending on the SWB conceptualization? Prior to examining potential sources of variation among the correlations, we calculated an omnibus homogeneity test. This homogeneity test examined the variation among the averages of correlations obtained from each independent sample and determined if the variation among these correlations was greater than that expected by measurement and sam-

(*text continues on page 208*)

[5] Homogeneity analyses were conducted excluding effect sizes that were set to $r = .00$ for calculation of average correlations. This was done because the inclusion of $r = .00$ values would artificially inflate the variance in effect sizes, more so as the average effect becomes more different from zero.

Table 1
Summary of Studies Included in Meta-Analysis

Study	*N*	Mean age	SWB variable (alpha; stability)[a]	Code nos. for personality variables (alpha)	Population	Country	Sample type	Delay length[b]	New SWB scale?	New personality scale?	No. of SWB items
Anderson (1990)	131	74	LS (.93)	8 (.74); 26 (.74); 67 (.74); 105 (.74); 125 (.74)	E	US	C		N	N	40
Andrews & Halman (1992)	340	34	LS (.74)	84 (.79)	O	US	C		N	Y	2
Argyle & Lu (1990)	63	38	H (M; .81); PA (M; .49)	3; 8; 20; 38; 105; 107; 111	A	EU	M	.5	N	N	30
Aube et al. (1995)	162		LS; NA; PA	13 (.85); 40 (.82)	S	US	C		N	N	5
Barry (1989)	150	77	LS (.92; .67)	11 (.81)	E	US	C		N	N	40
Bennett (1982, August)	94		LS	3; 13; 40	S	US	C		Y	N	14
Bhagat & Chassie (1978)	137		LS	79	S	US	C		Y	N	M
Bortner & Hultsch (1970)	1,406	46	LS	74; 93; 134; 135	A	US	R		N	Y	1
Bowman & Stern (1995)	187	35	NA (.86; .42); PA (.84; .48)	104 (.82)	O	US	C		N	N	10
Brandt (1980)	37		LS	79 (.84)	E	US	C		N	N	20
Brebner et al. (1995)	95	23	H (.90)	8; 22 (.72); 51 (7.3); 52 (.72); 54 (.74); 56 (.70); 75 (.68); 85 (.79); 101 (.85); 105; 107;	S	AU	C		N	N	29
Breit (1990)	105	70	LS (.90; .84)	3 (.75); 50 (.65); 79 (.64)	E	US	C		Y	Y	6
Brett et al. (1990)	330	41	LS (.90; .82)	93 (.77)	A	US	C		N	N	5
Brief et al. (1993)	443	61	LS; NA; PA	93	A	US	R		N	N	1
Bryant (1989)	524	19	H	84	S	US	C		N	Y	M
Cameron (1975)	507		PA	8; 105	A	US	R		Y	N	1
Clark et al. (1979)	55		LS	79	O	US	C		N	N	20
Clementson-Mohr (1979)	133		LS (.86); H	5 (.32); 17 (.36); 18 (.26); 19 (.48); 21 (.49); 36 (.38); 48 (.30); 69 (.41); 87 (.38); 88 (.36); 99 (.36); 102 (.45); 112 (.53); 120 (.74); 130 (.45); 131 (.32)	A	US	C		Y	N	1
Cohen et al. (1995)	70	26	NA (.80)	104 (.75)	A	US	C		N	N	12
Conway et al. (1983, August)	340		LS	72; 79; 80; 81	A	US	C		N	Y	7
Cooper et al. (1992)	249		LS (.86); NA (.82); PA (.86)	8 (.66); 50 (.88)	S	US	C		N	N	4
Costa et al. (1981)	809	50	LS; H (.61)	8; 68; 105	A	US	R		N	N	1
Costa & McCrae (1980)	903		LS (.84); NA; PA	8; 18; 22; 23; 68; 92; 100; 101; 105;	A	US	M		N	N	M
Costa & McCrae (1984) Study 1	606		LS (M; .47); NA (M; .47); PA (M; .47)	1; 3; 6; 10; 15; 62; 76; 93; 97; 103; 110; 113; 123; 124; 126; 127; 128; 129	A	US	M		Y	N	1

(*Table continues*)

Table 1 (*continued*)

Study	*N*	Mean age	SWB variable (alpha; stability)[a]	Code nos. for personality variables (alpha)	Population	Country	Sample type	Delay length[b]	New SWB scale?	New personality scale?	No. of SWB items
Costa & McCrae (1984) Study 2	158		LS; NA; PA	1; 2; 13; 18; 41; 45; 68; 99; 106; 137	A	US	M	16	Y	N	1
Crawshaw (1995)	184	42	LS (.91)	104 (.85)	A	US	C		N	N	10
Crocker et al. (1994)	238		LS (.82)	30 (.81); 31 (.63); 32 (.79); 33 (.86)	S	US	C		N	N	5
Crohan et al. (1989)	811	51	H; LS	84	A	US	R		Y	Y	1
Decker & Shultz (1985)	100	56	LS (.76)	84 (.81)	O	US	C		N	Y	18
Dengelegi (1989)	150	30	LS	79 (.70)	O	US	C		Y	N	M
DeRenzo (1987)	86	64	H (.85; .70); NA (.90); PA (.90)	8; 105; 125	A	US	C		N	N	24
Devine (1990)	97	79	LS (.87; .82); NA (.84); PA (.89)	5; 7; 12; 14; 24; 27; 44; 50; 55; 57; 61; 63; 64; 65; 70; 75; 76; 83; 90; 96; 136	E	US	C		N	N	5
Devins et al. (1986)	70		H; PA	84	O	CN	C		N	Y	M
Devins et al. (1990)	97	40	H	84	O	CN	C		N	N	M
Diener et al. (1984)	42		NA; PA	8; 14; 27; 63; 64; 70; 83	S	US	C		Y	N	588
Diener et al. (1985)	339		LS (.87; .82)	1; 18; 50; 76; 101; 105	S	US	C		N	N	5
Diener et al. (1991)	130		H; LS; PA	50	S	US	C		Y	N	1
Diener et al. (1992)	4,921		PA	8 (.43)	A	US	R	10	N	N	10
Eisenberg (1981)	124	81	LS	79	E	US	R		N	N	M
Emmons et al. (1986)	22		NA (.84; .81); PA (.89; .79)	8; 14; 18; 27; 63; 64; 75; 76;	S	US	C		N	N	4
Emmons & Colby (1995)	105	21	H; LS (.87; .82); NA (.90); PA (.90)	28 (.89); 39 (.93); 109 (.79)	S	US	C		N	N	1
Emmons & Diener (1985)	136		LS (.86); NA (.88); PA (.88)	1; 8; 17; 18; 19; 21; 35; 46; 47; 48; 59; 62; 69; 76; 79; 82; 88; 91; 93; 99; 101; 102; 105; 108; 112; 120; 130;	S	US	C		N	N	4
Emmons & Diener (1986)	140		LS; NA (.85; .85); PA (.85; .85)	8; 16; 18; 76; 105	S	US	C	.5	N	N	4
Emmons & King (1987, August)	48		H; LS; NA; PA	28 (.90); 37 (.80)	S	US	C		N	Y	M
Fawcett et al. (1980)	56	80	LS (M; .82)	79	E	US	C		N	N	18
Feldman (1984)	52		LS	120	A	US	C		Y	N	M
Felton & Kahana (1974)	124	79	LS	79	E	US	C		N	Y	1
Fine (1975)	169	73	LS	29	A	US	R		Y	N	7
Fried (1984)	2,622		LS	18; 74	A	US	R		M	M	M
Fujita (1991) Study 1	182		NA; PA	8; 105	S	US	C		N	N	3
Fujita (1991) Study 2	90		NA; PA	8; 105	S	US	C		N	Y	3
Furnham & Brewin (1990)	101	23	H (.64; .78)	8; 105; 107	S	EU	C		N	N	30

Table 1 (*continued*)

Study	*N*	Mean age	SWB variable (alpha; stability)[a]	Code nos. for personality variables (alpha)	Population	Country	Sample type	Delay length[b]	New SWB scale?	New personality scale?	No. of SWB items
J. M. George (1991)	336	47	LS (.86)	15 (.77); 104 (.82)	A	US	C		N	N	5
Gerrad et al. (1982)	100	70	LS	79; 120	A	US	C		N	N	20
Godley (1994)	344		LS (.88)	79 (.64); 80 (.78); 81 (.77); 94 (.76); 95 (.85); 109; 119 (.85); 125	S	US	C		N	N	18
Golant (1985)	400		LS	5; 79	A	US	R		N	N	20
Gorman (1972)	67		PA	16; 50; 79; 109; 118; 132	S	US	C		N	N	400
Grafje (1985)	238	70	LS (.84; .82)	8; 79; 105	E	US	C		N	N	18
Granick (1973)	52	76	LS	120	A	US	C		N	N	M
Hartmann (1934)	195		H	5; 77; 105; 120	S	US	C		Y	N	6
Harvey-Yoder (1989)	188	36	H	116 (.80)	O	US	C		Y	N	1
Hasak (1978)	108		LS	5; 7; 12; 14; 24; 27; 44; 50; 55; 57; 61; 63; 64; 65; 70; 75; 76; 83; 90; 96; 136	A	US	C		N	N	13
Headey & Wearing (1989)	649		LS (.92); NA (.65); PA (.64)	8; 105; 125 (.76)	A	AU	R		N	N	5
Headey & Wearing (1991)	649		LS (.92); NA (.65); PA (.64)	8; 105; 125 (.76)	A	AU	R	2	N	N	5
Holland et al. (1985)	53	67	LS	94	E	US	C		N	N	20
Hollinger & Fleming (1988)	108		LS	13 (.85); 40 (.82)	O	US	C	5	N	N	1
Hong & Giannakopoulos (1994)	1,722	25	LS	79; 86; 92	S	AU	C		N	N	5
Hotard et al. (1989)	291		H (.90)	8	S	US	C		N	N	24
Hurst (1991)	120		PA	79; 80; 81	A	US	C		N	N	24
Isikoff (1983)	55	68	LS (.79)	79	O	US	C		N	N	18
Jorm & Duncan-Jones (1990)	386		LS (M; .59)	8; 27; 49; 50; 105	A	AU	M		N	N	4
Kammann et al. (1979)	45	37	H (M; .88); LS (M; .88)	8; 105; 120	M	NZ	M	2	N	N	129
Kernan (1981)	278	57	LS	5; 27; 63; 79	A	US	C		N	N	20
Klein et al. (1989)	60	33	LS	1; 18; 79; 92; 98; 100	A	US	C		N	N	20
Kohutis (1984)	100		LS	79 (.69)	E	US	C		N	N	18
Kopp (1992)	162	36	PA (.95; .72)	79 (.70)	S	US	R		N	N	30
Kozma & Stones (1987)	150	63	H; LS	50	O	NZ	M		N	N	M
Kozma & Stones (1988)	235		H; LS	50	O	NZ	M		N	N	M
Krause (1991)	286	42	LS (.86; .62)	15 (.83); 68 (.83); 104 (.83)	O	US	C		Y	N	6
Larsen et al. (1985)	163		H (.89); LS (.91); NA (.48); PA (.66)	1; 18; 50; 89 (.87); 101; 105	S	US	C		N	N	1
Larsen & Ketelaar (1991)	359		NA (.80); PA (.86)	8; 105	S	US	C		N	N	6
Levitt et al. (1987)	92	77	LS; PA	72; 84	A	US	R		N	N	1
Lewinsohn et al. (1991)	749	64	LS	84 (.62)	A	US	R		N	N	10
Lieberman (1978)	360		LS	5; 74; 79	A	US	R		N	M	M
Lightsey (1994)	152	20	H (M; .81)	114 (.96); 115 (.94)	S	US	C		N	N	2

(*Table continues*)

Table 1 (*continued*)

Study	*N*	Mean age	SWB variable (alpha; stability)[a]	Code nos. for personality variables (alpha)	Population	Country	Sample type	Delay length[b]	New SWB scale?	New personality scale?	No. of SWB items
Lu & Argyle (1991)	114	44	H	3; 8; 34 (.65); 79; 105	A	EU	M	.5	N	Y	M
Luikart (1971)	495	59	LS	84	A	US	R		N	N	1
Mancini (1981)	74		LS	79	O	US	R		N	N	1
McCrae (1986)	62	57	LS; PA	50	A	US	R	4	N	N	M
McCrae & Costa (1983)	203		NA; PA	8; 105	A	US	M	1	N	N	M
McCrae & Costa (1991)	429		LS; NA; PA	8; 26; 67; 105; 125	A	US	M	5	N	N	1
McFatter (1994)	384		H; NA; PA	8; 105	S	US	C		N	N	10
W. D. McIntosh (1991)	121		H; NA; PA	50	S	US	M		N	N	3
McNeil et al. (1986)	223	63	H	11 (.64); 93	A	CN	M		N	Y	M
Meyer & Shack (1989)	231		NA (.81; .55); PA (.80; .52)	8 (.83); 15 (.77); 104 (.80); 105 (.87)	S	US	C		Y	Y	17
Morganti et al. (1988)	450		LS	79	A	US	C		N	N	18
Nashef (1981)	72		LS	43 (.80)	E	CN	C		N	N	12
Nehrke et al. (1975, October)	99		LS	79	O	US	C		N	N	M
Nehrke et al. (1978)	120	76	LS	79; 94	A	US	M		N	N	M
Nehrke (1988, November)	88	56	LS	8; 26; 67; 105; 125	O	US	C		N	N	M
Nelson (1989)	82	72	LS (.70)	11 (.70)	A	US	R		N	N	20
Okun & George (1984)	468	59	H; PA	105	A	US	R		N	N	1
Ormel & Schaufeli (1991)	226	39	NA (.69)	79 (.81)	A	EU	R	7	N	N	4
O'Sullivan (1980)	325	72	LS (.77)	13 (.81); 40 (.85)	E	US	R		N	N	18
Palmore (1979)	155		H	120	A	US	M		N	N	1
Palmore & Luikart (1972)	502		LS	79; 120	A	US	R		N	N	1
Pavot et al. (1990)	130		NA; PA	8; 105	S	US	C		N	N	4
Queen & Freitag (1978)	40	79	LS	79; 93	E	US	C		M	N	M
Ramanaiah et al. (1995)	245		LS	13; 40	S	US	C		N	N	5
Raphael (1988)	90	21	LS	93 (.70); 103 (.70); 117 (.91); 120	A	CN	M	3	N	N	1
Reid & Ziegler (1980) Studies 1 and 2	56	74	LS (.65; .59); NA; PA	50; 72 (.87); 84 (.84)	A	US	C		N	Y	M
Reid & Ziegler (1980) Studies 3 and 4	52	77	LS (.67; .44); NA; PA	50; 72 (.82); 84 (.82)	E	US	C	1	N	Y	M
Rhodes (1994)	121	79	LS (.84)	11 (.90)	A	US	C		N	N	18
Rogalski & Paisey (1987)	120	73	LS	93	A	US	C		N	N	20
Rose et al. (1990, November)	45	61	NA; PA	92	A	US	C		N	N	10
Rosenthal (1988)	384		PA (.95; .83)	79 (.64); 80 (.78); 81 (.77)	S	US	C		N	N	40
Rusting & Larsen (1994, May)	232		NA; PA	8; 89; 105	S	US	C		N	N	6
Schreckengost (1990)	219	21	LS (.85)	20 (.76); 38 (.66); 50 (.79)	S	US	C		Y	N	15
Schulz & Decker (1985)	100	56	LS (.76)	84 (.81)	O	US	C		N	Y	18
Schulz et al. (1987)	67	54	H; LS (.76)	84 (.73)	A	US	C		N	Y	8

Table 1 (*continued*)

Study	*N*	Mean age	SWB variable (alpha; stability)[a]	Code nos. for personality variables (alpha)	Population	Country	Sample type	Delay length[b]	New SWB scale?	New personality scale?	No. of SWB items
Seymour (1972)	40	73	LS (M; .74)	64 (.70)	A	US	C		N	N	31
Shaffer (1977)	150	73	LS	4; 18; 25; 42; 44; 58; 60; 71; 73; 77; 99; 122; 133	E	US	C		N	N	20
Sigelman (1981)	2,650		H; LS	120	A	US	R		Y	N	1
Smits et al. (1995)	119		NA (.62); PA (.63)	74 (.61); 79 (.51); 105 (.74)	A	EU	R		N	N	5
Spencer (1974)	379		H	120	A	US	C	6	N	N	2
Stokes & Levin (1990)	215		H; LS; NA; PA	104 (.85)	S	US	C		Y	Y	1
Sundre (1978)	393	20	H (.92; .86)	79	S	US	C		N	N	4
Taylor (1985)	200		LS (.47)	79 (.38)	A	US	M		N	N	M
Trent et al. (1978)	111		LS (.79)	79 (.70)	E	US	R		N	N	18
Tyler et al. (1982)	65		LS	50; 60; 66; 79;	A	US	C		N	N	M
Walker (1988)	171		LS (.87; .82)	13; 34; 40; 76 (.65); 125 (.65)	S	US	C		N	Y	5
Wallhagen (1993)	60	70	LS (.83)	84 (.93)	A	US	C		N	Y	20
Warr et al. (1983)	280		NA (.64); PA (.66)	8; 105	S	EU	C		N	N	18
Washburn (1941)	238		H (M; .80)	120	S	US	C		Y	Y	M
Watkins & St. John (1994)	207		H	53	S	US	C		Y	N	1
G. B. Watson (1930)	174	30	H	120	S	M	M		Y	N	M
Watten et al. (1995)	411	21	H; LS	8 (.77); 9 (.77); 18 (.77); 34 (.77); 48 (.77); 78 (.77); 121 (.77); 134 (.77); 135 (.77)	A	EU	R		N	N	1
Wessman & Ricks (1966)	70		PA	5; 17; 18; 19; 21; 36; 48; 69; 87; 88; 99; 102; 112; 120; 130; 131	S	US	C		Y	N	42
Williams (1981)	33	21	PA	8; 105; 107	S	EU	C		N	N	95
Williams (1990)	172		NA; PA	8; 105; 107	S	EU	C		Y	N	12
Windle (1986)	101	68	LS (.79)	13 (.76); 40 (.73)	E	US	C		N	N	13
Wish (1977)	158		LS	13; 40	E	US	C		N	N	18
Wolk (1976)	166		LS (.84)	79 (.65)	E	US	C		N	N	18
Wolk & Kurtz (1975)	92		LS (.84)	79	A	US	C		N	N	18
Zandi et al. (1988, April)	41	71	LS	79	O	US	C		N	N	M
Ziegler & Reid (1983)	79	78	LS (.65)	72 (.86); 84 (.78)	E	CN	C		N	N	13
Zika & Chamberlain (1987) Study 1	161	32	LS; NA (.95; .72); PA (.95; .72)	3; 79	S	NZ	C		N	N	1
Zika & Chamberlain (1987) Study 2	120	39	LS; NA (.95; .72); PA (.95; .72)	3; 79	A	NZ	R		N	N	1

Note. Mean age and length of delay are reported in years. For the subjective well-being (SWB) variable, H = happiness, LS = life satisfaction, NA = negative affect, and PA = positive affect. For the personality variable, code numbers are given. The code number for each personality variable corresponds with the number located next to the personality variables found in Tables 8–12. For population, A = adult, E = elderly living in an elderly care facility, O = other population sampled, and S = college student. For country, AU = Australia, CN = Canada, EU = Europe, NZ = New Zealand, and US = United States. For sample type, C = convenience sample and R = representative sample. For new SWB or personality scale, N = no, Y = yes. For all columns, M = value is missing in original research report. In cases where multiple alpha coefficients, stability coefficients, or number of SWB items were reported in the original study, the smallest reported value is provided. Likewise, in cases where multiple measures of SWB or personality were measured, a "yes" was indicated if any of the measures was developed at the time of the investigation.

[a] If only one value is reported in the parentheses, it is the alpha coefficient. [b] If SWB and personality were measured at the same time, delay length was left blank.

Table 2
General Characteristics of the Studies

Characteristic	Number of studies (*k*)
Year of report	
Before 1970	4
1970–1980	34
1981–1990	77
1991–1995	33
Source of study	
Published (i.e., journal, book)	100
Unpublished (e.g., dissertation, ERIC documents)	48
Country in which study was conducted	
United States	123
Canada	6
New Zealand	5
Australia	5
Europe	9
Population sampled	
College students	46
Elderly in care facilities	21
Noninstitutionalized adults	61
Other (e.g., military wives)	20
Sampling procedure used	
Convenience	102
Representative	28
Unable to determine from report	18
Sample size	
<50	10
50–150	65
151–300	38
>300	35
Delay in measurement between personality and SWB	
No delay	130
Delay	17
Unable to determine from report	1

Note. ERIC = Educational Resource Information Center; SWB = subjective well-being.

Table 3
Characteristics of the Measures

Characteristic	Number of studies (*k*)
Commonly used multidimensional measures of personality	
Eysenck's Personality Questionnaire[a]	26
NEO[b]	8
16PF[c]	7
Types of reliability reported for personality measures	
Split-half	7
Test–retest	34
Coefficient alpha	57
Correlation with another personality measure	11
Conceptualization of SWB	
Life satisfaction	102
Happiness	35
Positive affect	50
Negative affect	38
Commonly used measures of SWB	
Life Satisfaction Index[d] (all versions)	44
Affect Balance Scale[e]	15
Satisfaction With Life Scale[f]	15
Andrews & Withey Happiness[g]	12
Number of items used to measure SWB	
1	14
2–10	50
11–20	35
>20	21
Unable to determine from report	28
Types of reliability reported for SWB measures	
Split-half	2
Test–retest	31
Coefficient alpha	58
Correlation with another SWB measure	24

Note. SWB = subjective well-being.
[a] Eysenck & Eysenck (1975). [b] NEO = NEO Personality Inventory (Costa & McCrae, 1992). [c] 16PF = Sixteen Personality Factor Questionnaire (Cattell, Eber, & Tatsuoka, 1970). [d] Neugarten, Havighurst & Tobin (1961). [e] Bradburn (1969). [f] Diener, Emmons, Larson & Griffin (1985). [g] Andrews & Withey (1976).

pling error alone. This omnibus test was significant, $Q_w(178) = 807.57, p < .0001$, revealing significant heterogeneity among the average correlations for each independent sample.

Next, a homogeneity analysis was conducted that examined the variability that existed among the four SWB conceptualizations. For this analysis, average correlations were calculated on each SWB conceptualization provided by each independent sample. (For example, one independent sample might provide correlations on life satisfaction, positive affect, and negative affect. Correlations would then be averaged across personality variables and this independent sample would provide three average correlations for inclusion in the homogeneity analysis.) As expected, significant variability existed among the SWB conceptualizations, $Q_b(3, k = 268) = 41.66, p < .01$. Table 4 presents the average weighted correlation for personality with each conceptualization of SWB.

Recall our prediction that either trait-like measures of SWB (namely life satisfaction and happiness) or state-like measures of SWB (namely positive and negative affect) should relate most strongly to personality. Single degree of freedom contrasts between SWB conceptualizations tested this prediction and are summarized in Table 4. Contrasts revealed that negative affect obtained the lowest absolute correlation with personality. Contrary to our prediction, life satisfaction, happiness, and positive affect did not significantly differ from one another.

One possible reason why negative affect does not correlate as strongly with SWB as positive affect, life satisfaction, and happiness might be because only a few of the personality mea-

Table 4
Overall Correlation and Contrasts Between Each SWB Conceptualization

SWB conceptualization	*r*(+)	*k*
Positive affect	$.18_a$	58
Negative affect	$-.13_b$	43
Life satisfaction	$.20_a$	143
Happiness	$.19_a$	45

Note. SWB = subjective well-being; *r*(+) = average weighted correlation; *k* = number of independent samples. Correlations with different subscripts differed significantly at $p < .01$.

sures included in this review tap negative dimensions of personality. It is reasonable to expect that positive dimensions of personality might be most relevant for positive dimensions of SWB. Likewise, negative dimensions of personality might be most relevant for negative dimensions of SWB, namely negative affect. To examine this possibility, a post hoc analysis was performed. Personality traits were first classified as being either positive or negative (according to their sign as appearing in Tables 8–12). SWB measures were also classified as being either positive (for happiness, life satisfaction, or positive affect) or negative (for negative affect). Homogeneity analyses were performed using three separate analysis of variance (ANOVA) tests. One ANOVA was conducted for each of the two categorical variables (positivity of personality and positivity of SWB) and a final ANOVA examined the two categorical variables and the interaction term entered simultaneously. As could be expected, positive SWB measures obtained higher absolute correlations with personality ($r = .19$, $k = 195$) than negative affect ($r = -.13$, $k = 43$), $Q_w(218) = 39.64$, $p < .001$. The correlation between negative personality measures and SWB ($r = -.20$, $k = 84$) did not differ significantly from the correlation between positive personality measures and SWB ($r = .19$, $k = 183$), $Q_w(242) = 0.96$, $p > .05$. When the two categorical variables and the interaction term were entered simultaneously into an ANOVA, the interaction term was significant, $Q_w(309) = 99.72$, $p < .001$. The correlational pattern appears in Table 5, indicating that negative personality measures correlated most strongly with negative affect, whereas positive personality measures correlated most strongly with the remaining three positive SWB measures. This finding indicates that measures with similar affective valence produced larger absolute magnitudes of correlations.

Homogeneity analyses of the distributions of the SWB conceptualizations indicated that significant heterogeneity existed among the average life satisfaction correlations provided by each independent sample, $Q_w(130) = 469.37$, $p < .001$. Significant heterogeneity also existed among the distributions of effects for happiness, $Q_w(39) = 238.55$, $p < .001$; positive affect, $Q_w(54) = 191.95$, $p < .001$; and negative affect, $Q_w(41) = 380.74$, $p < .001$. In this way, the conceptualization of SWB cannot fully explain all of the variation that exists between correlations. Therefore, we turned next to the variation associated with personality variables, specifically personality variables as grouped according to the Big Five factors.

Table 5
Correlational Pattern Between Positive and Negative Personality Traits With Positive and Negative SWB Measures

	Negative personality		Positive personality	
Measure	$r(+)$	k	$r(+)$	k
Negative SWB	.24	34	−.07	37
Positive SWB	−.18	83	.21	182

Note. $r(+)$ = average weighted correlation; k = number of independent samples; SWB = subjective well-being.

Table 6
Overall Correlation and Contrasts Between the Big Five Factors and Overall SWB

Personality factor	$r(+)$	k
Extraversion	$.17_a$	82
Agreeableness	$.17_a$	59
Conscientiousness	$.21_b$	115
Neuroticism	$-.22_b$	74
Openness to Experience	$.11_c$	41

Note. SWB = subjective well-being; $r(+)$ = average weighted correlation; k = number of independent samples. Correlations with different subscripts differed significantly at $p < .01$.

Do the five factors relate differently to SWB? Prior to examining the pattern of relation between each of the five factors with each of the conceptualizations of SWB, we calculated average correlations to indicate the relative strength of each of the five factors with overall SWB. To calculate these average correlations, we averaged every personality variable theoretically related to the Big Five factor of Extraversion into one summary correlation of the relationship between Extraversion and SWB. (A list of personality variables related to Extraversion can be found in Table 8). This process was repeated for each of the five factors on the basis of the correlations presented in Tables 9–12, respectively. The average correlation of each Big Five factor with SWB can be found in Table 6.

To determine if any of the Big Five factors correlated more strongly with overall SWB than the remaining factors, we calculated an omnibus homogeneity test to examine the variation of effects between the five factors. This analysis was significant, $Q_b(4, k = 338) = 94.76$, $p < .001$. Single degree of freedom contrasts between each of the factors with one another indicated that Neuroticism and Conscientiousness correlated most strongly with SWB ($r = -.22$ and $r = .21$, respectively), whereas Openness to Experience obtained the weakest association ($r = .11$). The results of the contrasts are summarized in Table 6.

Previous results indicated that the four SWB conceptualizations contained more variance than expected by chance alone. Prior to examining the pattern of association between each of the five factors with each of the SWB conceptualizations, it was necessary to determine if the five factors also contain more variance than that expected by chance alone. Therefore, we conducted homogeneity analyses for each of the five factors. Each of these analyses was significant, indicating significant heterogeneity among correlations within each of the five factors: Extraversion, $Q_w(74) = 216.58$, $p < .001$; Agreeableness, $Q_w(53) = 166.38$, $p < .001$; Conscientiousness, $Q_w(109) = 473.82$, $p < .001$; Neuroticism, $Q_w(65) = 469.20$, $p < .001$; and Openness to Experience, $Q_w(32) = 147.30$, $p < .001$.

The results indicate that both the different personality factors and the different conceptualizations of SWB were associated with significant variation among correlations, but neither alone led to homogenous sets of correlations. Given these two patterns of results, analyses were undertaken to examine whether the relationship between personality and SWB differed when dis-

Table 7
Overall Correlation and Contrasts for Each SWB Conceptualization With Personality

Big Five Factor × SWB Conceptualization	$r(+)$	k	df	χ^2
Life satisfaction			4, k = 244	76.44*
Extraversion	$.17_a$	54		
Agreeableness	$.16_a$	49		
Conscientiousness	$.22_b$	97		
Neuroticism	$-.24_c$	44		
Openness to Experience	$.14_d$	27		
Happiness			4, k = 71	96.31*
Extraversion	$.27_a$	15		
Agreeableness	$.19_b$	14		
Conscientiousness	$.16_b$	15		
Neuroticism	$-.25_a$	18		
Openness to Experience	$.06_c$	15		
Positive affect			4, k = 126	27.78*
Extraversion	$.20_a$	39		
Agreeableness	$.17_a$	21		
Conscientiousness	$.14_b$	24		
Neuroticism	$-.14_b$	38		
Openness to Experience	$.14_b$	11		
Negative affect			4, k = 102	185.38*
Extraversion	$-.07_a$	32		
Agreeableness	$-.13_b$	16		
Conscientiousness	$-.10_b$	17		
Neuroticism	$.23_c$	31		
Openness to Experience	$.05_d$	9		

Note. SWB = subjective well-being; $r(+)$ = average weighted correlation; k = number of independent samples. Correlations with different subscripts differed significantly at $p < .01$.
* $p < .001$.

tinct factors and distinct SWB constructs were considered simultaneously.

Do the five factors relate differently to the different conceptualizations of SWB? Table 7 presents the average weighted correlations between each of the five factors with each of the SWB conceptualizations. Omnibus homogeneity analyses were conducted separately on positive affect, negative affect, happiness, and life satisfaction. These analyses indicated that the pattern of the five factor correlations differed significantly for each SWB conceptualization. Therefore, 1-*df* contrasts were performed between each of the five factors for positive affect to determine which of the five factors was most strongly correlated with positive affect. Contrasts were then replicated for negative affect, life satisfaction, and happiness. The results of homogeneity tests appear in Table 7.

Recall our prediction that Extraversion would correlate most strongly with positive affect, Neuroticism would correlate most strongly with negative affect, and that Agreeableness or Conscientiousness would correlate most strongly with life satisfaction and happiness. These hypotheses were partially confirmed. Positive affect was predicted equally well by Extraversion (r = .20) and Agreeableness (r = .17). Neuroticism was the strongest predictor of negative affect (r = .23) as well as life satisfaction (r = −.24). Happiness was equally predicted by Extraversion (r = .27) and Neuroticism (r = −.25). Recall that we also predicted that Openness to Experience would correlate equally with both positive and negative affect. This hypothesis was not supported, as Openness to Experience correlated equally with positive affect and life satisfaction (with rs = .14) but only modestly with negative affect (r = .05).

Which specific personality traits are most closely linked with SWB? The previous sections provided information on the extent to which personality, in general and grouped according to the Big Five, is related to SWB. However, they provided no indication of which specific personality traits relate most strongly with SWB. Therefore, the average correlation was calculated separately for each of the 137 personality traits and SWB. Once again, correlations were based on independent samples and were weighted by the sample size.

Tables 8–12 present the weighted and unweighted estimates for each personality variable correlated with SWB.[6] In addition, the number of independent samples, median, confidence interval, minimum and maximum values, and total number of participants are provided. The correlations presented are arranged ac-

(*text continues on page 216*)

[6] Although most personality variables correlated with SWB as expected, there were several unexpected findings reported in Tables 8–12. Although tough poise was hypothesized to obtain a negative correlation with SWB, the data indicated that this variable was positively correlated with SWB. Likewise, several personality traits were hypothesized to be positively correlated with SWB, but data analyses revealed that they were negatively correlated with SWB. These variables included belief in a just world, excitement seeking, openness to fantasy, openness to feelings, openness to values, practicality, radicalism, rule conscious, self-sufficiency, sensitivity, social recognition, and succorance.

Table 8
Average Weighted Correlations for Personality Variables Theoretically Related to the Big Five Factor of Extraversion

Personality variable	*k*	Median	Unweighted mean	Weighted mean	95% CI	Min.–max. values	*SD*	Total no. of respondents
1. Activity	8	.12	.11	.10	.05–.15	.04–.20	.05	1,475
2. Ascendance	1			.16	.00–.32			158
3. Assertiveness	8	.17	.18	.18	.12–.24	−.02–.37	.14	1,263
4. Attention seeking	1			.18	.02–.34			150
5. Dominance	11	.19	.20	.14	.09–.19	−.04–.52	.19	1,166
6. Excitement seeking	2		−.04	−.04	−.12–.04		.05	606
7. Exhibition	4	.15	.13	.11	−.06–.28	−.04–.27	.15	151
8. Extraversion	41	.19	.20	.17	.15–.19	−.20–.55	.15	10,364
9. Forceful	1			−.01	−.11–.09			411
10. Gregariousness	2		.06	.07	−.01–.15		.02	600
11. Hardiness	4	.28	.33	.32	.24–.40	.26–.49	.11	576
12. Harmavoidance	4	−.04	−.06	−.06	−.23–.11	−.02–.19	.09	151
13. Masculine	11	.00	.05	.04	−.02–.10	−.12–.29	.12	1,109
14. Play	7	.13	.08	.10	−.01–.21	−.06–.27	.12	312
15. Positive affectivity	5	.38	.35	.31	.25–.37	.25–.47	.09	1,117
16. Sensation seeking	2		.13	.12	−.05–.29		.27	139
17. Shrewdness	4	.00	−.01	−.02	−.14–.10	−.04–.09	.05	287
18. Sociability	15	.20	.25	.20	.17–.23	.03–.64	.15	4,096
19. Social boldness	4	.26	.32	.24	.11–.35	.17–.61	.20	287
20. Social competence	2		.09	.30	.18–.42		.52	282
21. Surgency	4	.19	.23	.15	.03–.27	.07–.48	.20	287
22. Tempo	2		.26	.12	.06–.18		.25	998
23. Vigor	1		.17	.17	.10–.24			903

Note. *k* = number of studies; CI = confidence interval; Min.–max. = minimum–maximum.

Table 9
Average Weighted Correlations for Personality Variables Theoretically Related to the Big Five Factor of Agreeableness

Personality variable	*k*	Median	Unweighted mean	Weighted mean	95% CI	Min.–max. values	*SD*	Total no. of respondents
24. Abasement	4	−.13	−.16	−.15	−.32–.02	−.02–.42	.19	151
25. Admitting frailties	1			−.13	−.29–.03			150
26. Agreeableness	3	.12	.10	.12	.04–.20	.12–.19	.10	648
27. Affiliation	10	.29	.30	.29	.23–.35	.09–.58	.15	976
28. Ambivalence over emotional expressiveness	2	−.02	−.02	−.14	−.30–.02		.43	153
29. Authoritarianism	1			−.12	−.27–.03			169
30. Collective self-esteem—identity	3	.08	.08	.07	−.07–.21	−.11–.26	.19	219
31. Collective self-esteem—member	3	.25	.32	.27	.13–.41	.23–.47	.13	219
32. Collective self-esteem—private	3	.33	.35	.31	.17–.45	.24–.47	.12	219
33. Collective self-esteem—public	3	.25	.18	.15	.01–.29	−.01–.30	.17	219
34. Cooperation	3	.22	.18	.13	.06–.20	.06–.26	.11	695
35. Cooperative–overconventional	2		.15	.15	−.02–.32		.02	136
36. Cynicism	2		−.14	−.25	−.41–−.09		.20	151
37. Emotional expressiveness	1			.13	−.16–.42			48
38. Empathy	2		.09	.11	−.01–.23		.05	282
39. Fear of intimacy	1			−.38	−.57–−.19			105
40. Feminine	10	.10	.08	.07	.01–.13	−.20–.23	.13	998
41. Friendliness	1			.16	.00–.32			158
42. Help-seeking	1			.06	−.10–.22			150
43. Interpersonal locus of control	1			.46	.22–.70			72
44. Nurturance	5	.32	.28	.29	.17–.41	.07–.53	.20	301
45. Personal relations	1			.09	−.05–.25			158
46. Responsible–hypernormal	2		.07	.05	−.12–.22		.16	136
47. Self-effacing–masochistic	2		−.22	−.23	−.40–−.06		.16	136
48. Sensitivity	5	−.06	−.12	−.29	−.37–−.23	−.49–.20	.26	698
49. Sensitivity to social rejection	1			−.16	.06–.26			386
50. Social desirability	21	.25	.30	.23	.19–.27	.02–.64	.18	2,615
51. Social emotionality	1			.33	.13–.53			95
52. Social endurance	1			.23	.03–.43			95
53. Social interest	1			.38	.24–.52			207
54. Social plasticity	1			.05	−.15–.25			95
55. Social recognition	4	−.02	−.02	−.02	−.19–.15	−.24–.19	18	151
56. Social tempo	1			.33	.13–.53			95
57. Succorance	4	−.10	−.06	−.07	−.24–.10	−.23–.18	.17	151
58. Tolerance	1			.22	.06–.38			150
59. Tough poise	2		.09	.08	−.09–.25		.08	136
60. Trust	3	.24	.30	.37	.23–.51	.23–.43	.11	215
61. Understanding	4	.08	.05	.06	−.11–.23	−.17–.21	.16	151
62. Warmth	4	.23	.23	.21	.14–.28	.19–.29	.05	742

Note. *k* = number of studies; CI = confidence interval; Min.–max. = minimum–maximum.

Table 10
Average Weighted Correlations for Personality Variables Theoretically Related to the Big Five Factor of Conscientiousness

Personality variable	*k*	Median	Unweighted mean	Weighted mean	95% CI	Min.—max. values	*SD*	Total no. of respondents
63. Achievement	9	.07	.12	.15	.07–.23	−.08–.36	.16	590
64. Autonomy	9	.04	.07	.02	−.09–.13	−.11–.39	.15	352
65. Blameavoidance	4	.02	−.03	−.01	−.19–.15	−.19–.05	.11	151
66. Competence	2		.19	.19	−.06–.44		.08	65
67. Conscientiousness	3	.19	.17	.19	.11–.27	.00–.33	.10	648
68. Constraint	5	.00	.03	.06	.02–.10	−.01–.15	.07	2,156
69. Control	4	.14	.14	.10	−.02–.22	−.08–.35	.18	287
70. Counteraction	6	.06	.00	−.03	−.15–.09	−.39–.26	.23	290
71. Deliberate	1			.00	−.16–.16			150
72. Desire for control	5	.43	.39	.34	.26–.42	.26–.53	.12	612
73. Directive	1			.27	.11–.53			150
74. Efficacy	4	.10	.12	.23	.20–.26	−.08–.35	.19	3,330
75. Endurance	6	.22	.19	.21	.09–.33	−.07–.42	.19	268
76. Impulsivity	12	.07	.09	−.05	−.10–.00	.00–.31	.08	1,394
77. Independence	2		.10	.09	−.02–.20		.07	336
78. Inhibition	1			−.50	−.60–−.40			411
79. Internal locus of control	66	.25	.25	.25	.23–.27	−.31–.65	.17	8,481
80. Locus of control–chance	6	−.35	−.33	−.34	−.40–−.28	−.22–−.44	.08	1,188
81. Locus of control–powerful others	6	−.28	−.29	−.27	−.33–−.21	−.18–−.41	.07	1,188
82. Managerial–autocratic	2		.14	.14	−.03–.31		.04	136
83. Order	6	.22	.19	.14	.02–.26	.02–.38	.14	290
84. Perceived control	19	.39	.35	.29	.26–.32	.00–.69	.21	3,685
85. Plasticity	1			.44	.24–.64			95
86. Reactance	1			−.04	−.10–.00			1,450
87. Rule conscious	2		−.02	−.03	−.19–.13		.02	151
88. Self-sufficiency	4	−.24	−.30	−.22	−.34–−.10	−.62–−.08	.24	287

Note. *k* = number of studies; CI = confidence interval; Min.–max. = minimum–maximum.

Table 11
Average Weighted Correlations for Personality Variables Theoretically Related to the Big Five Factor of Neuroticism

Personality variable	*k*	Median	Unweighted mean	Weighted mean	95% CI	Min.–max. values	*SD*	Total no. of respondents
89. Affect intensity	2		.11	.10	−.20–.00		.10	408
90. Aggression	4	−.27	−.28	−.27	−.44–−.10	−.07–−.50	.18	151
91. Aggressive–sadistic	2		−.21	−.21	−.04–−.38		.04	136
92. Anger	4	−.16	−.14	−.19	−.23–−.15	−.24–.00	.11	2,458
93. Anxiety	12	−.11	−.16	−.16	−.19–−.13	−.75–.53	.33	3,351
94. Death anxiety	4	−.20	−.16	−.19	−.29–−.09	−.24–.00	.11	437
95. Death concern–negative evaluation of death	2		−.18	−.17	−.28–−.06		.07	344
96. Defendence	4	−.10	−.09	−.10	−.26–.08	−.05–−.21	.11	151
97. Depression	2		−.14	−.15	−.23–−.07		.01	606
98. Distress	1			−.46	−.73–−.21			60
99. Emotional stability	6	.31	.29	.36	.44–.28		.19	595
100. Fear	2		−.29	−.26	−.32–−.20		.05	963
101. General emotionality	6	−.23	−.12	−.19	−.24–−.14	−.31–.38	.26	1,649
102. Guilt-proneness	4	−.27	−.31	−.26	−.38–−.14	−.21–−.49	.12	287
103. Hostility	3	−.07	−.13	.00	−.07–.07	.56–−.10	.37	696
104. Negative affectivity	7	−.26	−.04	−.09	−.03–−.15	−.52–.46	.41	1,092
105. Neuroticism	41	−.29	−.30	−.27	−.29–−.25	.28–−.73	.19	9,777
106. Objectivity	1			.19	.03–.35			158
107. Psychoticism	5	−.01	−.05	−.06	−.16–.04	−.18–.00	.08	419
108. Rebellious–distrustful	2		−.35	−.36	−.19–−.53		.18	136
109. Repressive defensiveness	4	−.32	−.32	−.40	−.49–−.31	−.05–−.60	.28	516
110. Self-consciousness	2		−.09	−.09	−.17–−.01		.01	606
111. Social anxiety	1			−.34	−.59–−.09			63
112. Tension	4	−.33	−.34	−.31	−.43–−.19	−.15–−.53	.16	287
113. Vulnerability	2		−.14	−.15	−.23–−.07		.02	606

Note. *k* = number of studies; CI = confidence interval; Min.–max. = minimum–maximum.

Table 12
Average Weighted Correlations for Personality Variables Theoretically Related to the Big Five Factor of Openness to Experience

Personality variable	*k*	Median	Unweighted mean	Weighted mean	95% CI	Min.–max values	*SD*	Total no. of respondents
114. Automatic thoughts—general	1			.23	.08–.38			168
115. Automatic thoughts—positive	1			.21	.06–.36			168
116. Belief in a just world	1			−.23	−.33–−.13			188
117. Conceptual level	1			.15	−.06–.36			90
118. Creative	1			.12	−.13–.37			67
119. Death concern—preoccupation with thoughts	2		−.24	−.23	−.34–−.12		.06	344
120. Intelligence	19	.00	.00	.05	.02–.08	−.18–.13	.06	2,546
121. Mental absorption	1			.05	−.05–.15			411
122. Novelty seeking	1			.15	−.01–.31			150
123. Openness to actions	2		.08	.08	.00–.16		.01	606
124. Openness to aesthetics	2		.08	.08	.00–.16		.00	606
125. Openness to experience	9	.07	.09	.08	.04–.12	.00–.20	.08	2,546
126. Openness to fantasy	2	−.12	−.12	−.11	−.19–−.03		.07	606
127. Openness to feeling	2		−.01	−.02	−.10–.06			606
128. Openness to ideas	2		.05	.05	−.03–.13		.00	606
129. Openness to values	2		−.06	−.06	−.14–.02		.01	606
130. Practicality	4	.00	.10	−.01	−.13–.11	−.10–.48	.26	287
131. Radicalism	2		−.06	−.10	−.26–.06		.08	151
132. Rigidity	1			.14	−.11–.39			67
133. Rule-free	1			−.20	−.36–−.04			150
134. Self-confidence	2		.38	.36	.31–.41		.05	1,817
135. Self-respect	2		.31	.34	.29–.39		.07	1,817
136. Sentience	4	.07	.10	.07	−.10–.24	−.09–.33	.17	151
137. Thoughtfulness	1			.00	−.16–.16			158

Note. *k* = number of studies; CI = confidence interval; Min.–max. = minimum–maximum.

cording to the Big Five factors. Any personality variable considered theoretically related to the Big Five factor of Extraversion is located in Table 8. Table 9 contains all of the personality variables theoretically related to the Big Five factor of Agreeableness and so forth through the fifth factor of Openness to Experience traits being presented in Table 12.

Tables 8–12 reveal that the 95% confidence interval for 56 of the 137 personality traits included $r = .00$, indicating we could not rule out the possibility that no relation existed with SWB. To determine the strongest and most reliable correlates of SWB, we examined the personality variables that were based on three or more independent samples. Of these, repressive defensiveness obtained the strongest absolute correlation with SWB, with $r = -.40$, based on four independent samples. Repressive defensiveness is generally described as a nonconscious avoidance of threatening information that leads to a denial of the experience and the expression of negative emotions associated with that experience (Emmons & Colby, 1995). Following repressive defensiveness, trust ($r = .37$), emotional stability ($r = .36$), locus of control–chance ($r = -.34$), desire for control ($r = .34$), hardiness ($r = .32$), positive affectivity ($r = .31$), private collective self-esteem ($r = .31$), and tension ($r = -.31$) were the strongest correlates of SWB.

Recall the prediction that extraversion and sociability would obtain the strongest positive association with SWB, whereas neuroticism was expected to obtain the strongest negative association with SWB. We also predicted that locus of control and perceived control would be strong correlates of SWB, whereas intelligence was not expected to be a strong correlate. The data confirmed that desire for control and locus of control–chance were among the strongest correlates with SWB. Likewise, the hypothesis that intelligence would be modestly correlated with SWB was also confirmed, with $r = .05$. However, the hypothesis that neuroticism ($r = -.27$), internal locus of control ($r = .25$), extraversion ($r = .17$), and sociability ($r = .20$) would be among the strongest correlates of SWB was not supported.

Are methodological differences among studies associated with differences in results? We predicted that studies that used personality and SWB scales with stronger psychometric properties would report higher correlations between personality and SWB. To test this prediction, homogeneity analyses were performed using alpha coefficients, test–retest coefficients, the number of items used, and whether the scale was developed prior to the investigation as predictors of the relation between personality and SWB. The results of significant homogeneity tests are presented in Table 13.

For analyses conducted on measures of personality, Table 13 indicates that higher alpha coefficients corresponded with higher correlations between personality and SWB. Likewise, SWB measures developed prior to the investigation, multiple-item SWB measures, and higher alpha coefficients were all significantly associated with higher correlations between personality and SWB. These results affirm the expected effect that higher reliability yields higher associations. However, one index of potentially low reliability was significantly related to higher correlations between personality and SWB. Personality scales developed at the time of the investigation were associated with higher personality–SWB correlations than personality scales developed prior to the investigation.

Analyses of sampling issues also revealed mixed results. As predicted, Table 13 indicates that studies with no delay between the measurement of personality and SWB obtained higher correlations than studies using a delay. However, studies utilizing representative samples obtained lower correlations than studies using a convenience sample.

Finally, separate analyses were conducted to examine the variation between correlations attributed to the age, gender, and ethnicity of the sample, as well as to examine the age of the study and publication status. Our prediction of no significant differences on the basis of these final variables was supported.

It is possible that the association between personality and SWB may be overestimated due to a conceptual overlap between the constructs of SWB on the one hand and many of the personality constructs on the other hand. Indeed, some personality variables, particularly positive and negative affectivity, general emotionality, and affect intensity, are basically measures of long term pleasant and unpleasant affect and can be considered as types of SWB. To examine whether these personality traits significantly raised the association between personality and SWB, we separated these four personality traits from the remaining data and performed a post hoc analysis. The average weighted correlation between these affectivity variables and SWB was $r = .14$ (based on 11 independent samples), whereas the average weighted correlation for all remaining personality variables remained the same ($r = .19$, based on 192 independent samples). The contrast between affectivity variables and the remaining personality terms revealed that the affectivity variables obtained a significantly weaker association with SWB than the remaining personality terms, $Q_w(184) = 7.16$, $p < .01$. In this way, it does not appear that conceptual overlap between affectivity traits and SWB can explain the strength of overall association between personality and SWB.

Another alternative explanation takes the problem of conceptual overlap one step further than affectivity variables. It can be argued that traits that deal with the emotional domain of personality overlap conceptually with SWB, which is essentially an emotional construct. To test this possibility, we separated the 34 personality variables that focus on emotion from the remaining 103 personality constructs.[7] The contrast between emotional and nonemotional variables was nonsignificant, $Q_w(238) = 2.98$, $p > .05$, revealing that emotional variables were not more strongly associated with SWB ($r = .20$) than nonemotional variables ($r = .18$).

Discussion

The Relative Importance of Personality for SWB

The present meta-analysis found an overall correlation between all personality variables and all SWB indices to be $r =$

[7] The 34 emotion personality traits were affect intensity, ambivalence over emotional expressiveness, anger, anxiety, compassion, death anxiety, depression, distress, ego strength, emotional expressiveness, emotional stability, empathy, fear, fear of intimacy, general emotionality, hostility, positive affectivity, nurturance, negative affectivity, neuroticism, openness to feeling, play, psychoticism, rebellious–distrustful, responsible–hypernormal, self-conscious, sensitivity, sentience, social anxiety, social emotionality, stable, tension, vulnerability, and warmth.

Table 13
Effects of Methodological Variables on Correlations Relating Personality With SWB

Characteristic	$r(+)$	k	df	χ^2 and regression coefficients
Time of personality scale development			1, k = 185	77.43***
Prior to investigation	.17	178		
At the time of investigation	.31	25		
Internal consistency of personality measure[a]			1, k = 144	17.22***
				a = .067
				b = .0019
				B = .1487
Time of SWB scale development			1, k = 184	19.35***
Prior to investigation	.20	167		
At the time of investigation	.12	35		
Number of items in SWB measure			1, k = 167	12.03***
Single item	.16	39		
Multiple items	.20	139		
Internal consistency of SWB measure[a]			1, k = 107	5.80*
				a = .089
				b = .0015
				B = .1049
Stability of SWB measure[a]			1, k = 39	37.08***
				a = −.166
				b = .0052
				B = .4396
Sampling procedure			1, k = 156	26.41***
Representative	.16	36		
Convenience	.21	136		
Delay in measurement			1, k = 179	20.93***
No delay	.19	178		
Delay	.14	19		

Note. SWB = subjective well-being; $r(+)$ = average weighted correlation; k = number of independent samples.
[a] A continuous homogeneity analysis was conducted for this variable so only the intercept, standardized, and unstandardized beta weights are provided.
* $p < .05$. *** $p < .001$.

.19. In a series of publications, Morris Okun, Bill Stock, and their colleagues examined over 600 SWB studies to determine which biosocial factors were most influential. Table 14 summarizes the meta-analytic findings for SWB to date.[8] Most demographic and social factors are not critical to reports of well-being with variables such as age, sex, and marital status essentially unrelated to SWB. In terms of meta-analytic results, Table 14 indicates that the most important correlates of SWB are health, personality, and SES.

In their meta-analysis of 24 studies, Haring et al. (1984) reported SES (comprised by combinations of educational attainment, income, and occupational status) correlated r = .20 with SWB. On the basis of 105 studies, Okun and his colleagues (Okun, Stock, Haring, & Witter, 1984a) reported health to be correlated with SWB with an r of .32. When they considered the type of health measure, Okun and colleagues found that self-ratings obtained stronger correlations with SWB than ratings by others, such as by a physician. Okun and George (1984) significantly reduced the self-rated health and SWB association when they partialled out neuroticism. In this way, although health is a stronger zero-order correlate of SWB than personality, the relationship between health and SWB is complicated by the role of personality and the way health is measured. After reviewing the literature, Myers and Diener (1995) concluded that income–SES and health have similar roles for SWB: "[Their] absence can breed misery, yet having it is no guarantee of happiness" (p. 13). It appears that health and having enough income to provide for life's essentials are necessary but not sufficient conditions for SWB. Individuals who do not feel healthy at any given point in time may be at a loss to find high levels of SWB. Likewise, increasing one's affluence beyond the level of providing for life's necessities adds little to SWB.

Most previous studies have examined either personality or demographic variables in relation to SWB. However, studies

[8] It might be argued that comparisons between these meta-analytic reviews are not warranted because of methodological differences in how the meta-analyses were conducted. Methodological differences might include the way the topic was defined, the literature search strategies utilized, and the assumptions used for inclusion or exclusion of studies. However, the meta-analyses were essentially conducted by the same research team of Morris Okun, Bill Stock, and their colleagues. Wood, Rhodes, and Whelan (1989) used the same dataset generated by Okun and Stock for their analyses. Likewise, the present meta-analysis is partially based on the same dataset generated by Okun and Stock. In addition, when searching for new literature, we used similar literature search procedures and inclusion and exclusion criteria as did the previous meta-analyses. Thus, methodological differences between the meta-analyses should be minimal.

Table 14
Summary of Previous Meta-Analyses Comparing SWB With Biosocial Variables

Biosocial variable	$r(+)$	k	Author(s)
Age	.03	119	Stock, Okun, Haring, & Witter (1983)
Sex	.04	93	Haring, Stock, & Okun (1984)
Marital status	.08 −.07[a]	56	Wood, Rhodes, & Whelan (1989)
Occupational status	.11	34	Haring, Stock, & Okun (1984)
Education	.14	90	Witter, Okun, Stock, & Haring (1984)
Social activity	.15	107	Okun, Stock, Haring, & Witter (1984b)
Religion	.16	28	Witter, Stock, Okun, & Haring (1985)
Income	.17	85	Haring, Stock, & Okun (1984)
Socioeconomic status[b]	.19	24	Haring, Stock, & Okun (1984)
Personality	.19	197	The present meta-analysis
Health	.32	105	Okun, Stock, Haring, & Witter (1984a)

Note. SWB = subjective well-being; $r(+)$ = average effect size; k = number of independent samples. [a] Wood, Rhodes, and Whelan reported a sex difference favoring men ($d = .08$) when studies were primarily composed of few married respondents. This pattern was reversed in studies primarily composed of married respondents ($d = -.07$). [b] Socioeconomic status was a composite of educational attainment, income, and occupational status.

using hierarchical regression analyses that include both personality and demographic variables provide more direct tests of the relative importance of each class of predictors. George (1978) found that demographic factors (namely sex, age, education, occupational status, health impairment, marital status, and employment status) accounted for 6% of the variance of positive affect minus negative affect in a sample of adults over age 50. However, a measure of Cattell's 16 personality factors (Cattell, Eber, & Tatsuoka, 1970) accounted for 18% of the variance, and the regression equation including both demographic and personality factors explained 22% of the variance. Eden (1980) entered age, sex, SES, the lie scale, subjective health, role loss, extraversion, neuroticism, self-concept, and social self as predictors of positive affect, negative affect, and life satisfaction. Demographic variables accounted for less than 3% of the variance in each measure of SWB, whereas subjective health and role loss (entered together) accounted for less than 5% of the variance. On the other hand, extraversion and neuroticism (entered together) accounted for 6% of the positive affect variance, 20% of the negative affect variance, and 11% of the life satisfaction variance. Demographic and personality variables together accounted for 20% of the variance of positive affect, 39% of the variance for negative affect, and 33% of the variance for life satisfaction. Taken together, these studies suggest personality may be more influential for SWB than are demographic variables.

Given that demographics are of limited value for predicting SWB, researchers have increasingly shifted their focus during the last decade to examine a variety of psychosocial factors, including social activity, social support, coping style, goal striving, daily events, and resources. However, these correlates of SWB may also be important in part because of personality. For example, several studies suggest that the personality traits of positive affectivity and extraversion may underlie the social activity–SWB association. Specifically, the amount of social contact, the length of social contact, and even the recreational value and enjoyment level of social contact have all been strongly predicted by positive affectivity and extraversion (Berry & Hansen, 1996; D. Watson, 1988; D. Watson, Clark, McIntyre, & Hamaker, 1992). Social support and coping style may also correlate with SWB because of personality predispositions (Diener, 1996). Specifically, personality may predispose people to extraversion, which in turn affects social support and positive affect. On the other hand, neuroticism may predispose a person's style of coping, which in turn influences negative affect (Diener, 1996).

The goal striving approach to personality has been offered as an alternative to the trait approach to personality. Goal strivings differ from traits in that strivings are nomothetic and idiographic, and are personalized motives that are neither defined in terms of behavior, nor are they necessarily expressed in behavior (Emmons, 1986). For example, acting dominant over people expresses a personality trait, whereas trying to dominate others expresses a goal striving (Emmons, 1986). Recent research suggests that goal strivings may be quite important to SWB, particularly for negative affect. Individuals who believe they have a low probability of succeeding at their goals, who report more ambivalence towards their goals, and report conflict between different goals also tend to report more negative affect (Emmons, 1986; Emmons & King, 1988). Likewise, ruminating about one's goals (Emmons & King, 1988; M. D. McIntosh & Martin, 1992) or trying to avoid negative outcomes and emotions (Elliot, Sheldon, & Church, 1997) is associated with decreased SWB and increased negative affect. However, the connection between goal strivings and personality cannot be ignored. Elliot and colleagues (1997) found that the goals a person chooses are tied to extraversion and neuroticism. Perhaps personality helps define the goals a person most likely adopts, with the striving toward these goals having a more direct link to SWB.

In addition to personality, demographics, social activities, coping, and goal strivings, daily events also seem important for SWB. Recent research suggests that daily events likely affect SWB primarily in the short-term. Suh, Diener, and Fujita (1996) found that SWB is only influenced for a brief time by life events, with the impact of life events greatly diminished within a 3-month period of time. Indeed, life events themselves may result

from an individual's personality (Diener, 1996). Life events are highly stable and tend to repeat themselves (Headey & Wearing, 1992). Magnus, Diener, Fujita, and Pavot (1993) coded life events objectively and found that extraversion predicted later positive events whereas neuroticism predicted later negative events. Although nonperson factors undoubtedly influence life events, the personality of the individual also appears to influence one's experience of objective life events (Magnus et al., 1993).

In sum, our results indicate that personality may play an important role for SWB. Demographic variables and life events have a surprisingly small effect on long-term SWB. In addition, personality appears to play an important role in many other variables that have been associated with SWB, including health, goal strivings, coping, and social support.

How Personality Might Influence SWB

Personality appears to color how people perceive life events as they take place and returns people to their typical levels of SWB after powerful events are experienced. Results of studies using a top-down approach have found that personality traits lead people to experience life in a positive or negative manner (Andrews & Withey, 1976; Feist et al., 1995; Headey et al., 1991). One of the earliest theories of SWB, adaptation theory, focused on how even the most dramatic events, such as winning the lottery or being paralyzed in a car accident, affect reports of happiness for only a short period of time (Brickman, Coates, & Janoff-Bulman, 1978). The dynamic equilibrium model relied on adaptation theory and proposed that personality sets the standard by which recent events are compared to determine momentary changes in SWB (Headey & Wearing, 1989). However, after a short period of time, personality serves to return individuals to their previous levels of SWB.

Personality also colors perceptions along the way. Personality leads different individuals to experience the same life events in a more positive or negative fashion (Magnus et al., 1993) as well as to respond more or less strongly to experimentally induced moods (Larsen & Ketelaar, 1991).

Beyond adaptation models, personality may influence SWB because SWB is usually conceptualized and measured as a long-term condition (Diener, 1996). Because momentary fluctuations are ignored when measuring SWB, personality is likely to have a stronger effect. In the present meta-analysis, contrary to predictions, the overall correlation between personality and positive affect (r = .18), happiness (r = .19), and life satisfaction (r = .20) did not differ significantly from one another. Perhaps these measures of SWB did not differ because they are each tied to temperament, just as personality is largely tied to temperament. Genetic evidence is fairly consistent with this view; estimates of the genetic influence on extraversion, neuroticism, and openness to experience range from 29% to 41% of the variance, whereas environmental influences account for less than 12% of the variance (Bergeman et al., 1993; Pedersen, Plomin, McClearn, & Friberg, 1988). Likewise, SWB may also be largely inherited. Recent twin studies provide mixed evidence on the heritability of different components of SWB. Lykken and Tellegen (1996) reported the heritability of general well-being to be as much as 52% of the variance. Although Emde et al. (1992) reported nonsignificant heritability estimates for observed positive and negative hedonic tone, they found a significant heritability estimate for parental report of negative emotion.

How specific personality traits might influence SWB. Of 137 personality traits examined in relation to SWB, the most influential personality traits were repressive defensiveness, trust, emotional stability, locus of control–chance, desire for control, hardiness, positive affectivity, private collective self-esteem, and tension. All of these personality traits were examined in three or more independent samples and obtained absolute correlations greater than r = .30. Control variables (i.e., desire for control and locus of control) were expected to be among the strongest correlates. It is also not surprising that tension and emotional stability were among the strongest correlates, given that these traits are conceptually similar to the Big Five factor of Neuroticism (Digman, 1990; Goldberg, 1992; John, 1990). However, the remaining personality traits had not been mentioned by any reviewer or theorist as critical variables for SWB.

Given this pattern of results, perhaps what is most critical to SWB is not simply the tendency to experience positive or negative emotions (as represented by extraversion and neuroticism traits), but the tendency to make either positive or negative attributions of one's emotions and life events, and even others' behaviors. Our results on repressive–defensiveness, control, hardiness, and trust suggest this possibility.

Repressive defensiveness developed from the literature on coping with stress and deals with the extent to which a person denies the existence of threatening information and fails to express emotions relevant to that threat (Emmons & Colby, 1995). Therefore, perhaps it is the denial of experiencing negative emotions (as measured by repressive–defensiveness) as well as the actual experience of these negative emotions (as measured by Cattell's personality factor of tension) that is so detrimental for well-being.

Similarly, internal locus of control refers to how certain people actively and consistently try to deal with life circumstances by exerting control over their own lives (Lefcourt, 1991). In addition to internal locus of control, individuals may also believe that other powerful persons control the events in one's life and that chance happenings affect one's experiences (Levenson, 1981). Our results indicate that in addition to denying threatening information, ascribing control over one's life to an external source can be quite detrimental to SWB.

Although repressive defensiveness, tension, and locus of control–chance are associated with the lack of SWB, hardiness, desire for control, and trust provide insight into how positive attributions may be relevant for SWB. Hardiness is described as the tendency to diminish the impact of stressful life events by appraising the event in an optimistic fashion and then engaging in active coping actions (McNeil, Kozma, Stones, & Hannah, 1986). Desire for control is described as the motivation to control the events in one's environment, with individuals high in desire for control described as assertive, decisive, and capable of manipulating events to ensure desired outcomes (Burger & Cooper, 1979). In relation to attributions, individuals with high desire for control are more likely to engage in the attributional process than individuals with low desire for control, with the former being especially prone to making attributions that give them a sense of control (Burger & Hemans, 1988). Perhaps it is the tendency to optimistically appraise life events (as mea-

sured by hardiness) and to make attributions, especially control attributions (as measured by desire for control), rather than activity (as measured by extraversion) that is so meaningful for the experience of well-being.

At first glance, the personality trait of trust may not seem to deal with making positive attributions. Trust is described as an element of agreeableness that affects the quality of relationships (Costa & McCrae, 1992). However, a further examination of trust reveals that it too is related to attributions, specifically the attributions one makes regarding others' motives. Costa and McCrae (1992) indicated that people low on the trust scale "tend to be cynical and skeptical and to assume that others may be dishonest or dangerous" (p. 17). In this way, trust is essentially a tendency to make attributions of people's actions in either an optimistic or pessimistic fashion. Perhaps the tendency to believe others are honest and trustworthy (as measured by trust) is more important to enhancing well-being than preferring large, social gatherings (as measured by sociability and extraversion).

In sum, the personality traits that were most strongly related to SWB tended to deal with the characteristic experience of emotions (emotional stability, positive affectivity, tension) and the characteristic explanations that people give for life events (repressive defensiveness, hardiness, trust, and the control variables). Attributions have a well documented role in depression and learned helplessness (Seligman, 1975, 1991). Our research suggests that attributions may also be critical to reports of happiness.

The importance of trait extraversion for SWB. Contrary to our predictions, extraversion, neuroticism, sociability, and internal locus of control were not among the highest correlates of SWB. Many strong correlates, such as trust and tension, were personality variables examined in relatively few studies, whereas extraversion, neuroticism, and internal locus-of-control were among the most frequently studied traits. One might argue that the observed average correlations for these traits are a more accurate reflection of the underlying relationship than the reported correlations for variables such as trust and tension.

If the criterion to determine the most influential personality traits was changed from 3 independent samples to 10 independent samples, the only personality variables under consideration would be affiliation, anxiety, dominance, extraversion, femininity, intelligence, impulsivity, internal locus of control, neuroticism, masculinity, perceived control, sociability, and social desirability. In comparison to this "short list," affiliation and perceived control are the most important correlates (rs = .29, respectively), followed by neuroticism (r = −.27), internal locus of control (r = .25), and social desirability (r = .23). Sociability (r = .20) and extraversion (r = .17) are ranked sixth and seventh of the 13 personality variables examined in more than 10 independent samples.

Given the prominence of these personality variables in the extant literature and within several theoretical models, it is not surprising that previous reviewers tended to place more emphasis on extraversion and sociability than on other traits. However, their importance for SWB appears to have been overstated. Although they may not warrant such primary roles for SWB, traits such as repressive–defensiveness, trust, positive affectivity, desire for control, and hardiness deserve more attention than they have received. These traits have received scant attention compared to extraversion, with five or less independent samples respectively. Yet, their potential for predicting SWB may be high. For example, positive affectivity may represent one facet of extraversion, namely the tendency to experience positive emotions (Costa & McCrae, 1992). On the basis of our results, perhaps extraversion (described as containing elements ranging from sociability to assertiveness to energy and even to dominance) is too global a construct to be as meaningful in the prediction of SWB as some particular elements of extraversion (such as positive affectivity). On the other hand, it is possible that the strong associations exist for these variables precisely because they have been underexamined. Future research is needed to determine whether they are truly the most important variables or whether regression toward the mean will occur with replication.

The Big Five and SWB

The majority of individual personality traits have been examined in fewer than five independent samples. Shifting the unit of analysis from individual traits to clusters of traits, such as can be found in the Big Five, allows us to draw conclusions based on between 37 and 243 independent samples. Looking at the pattern of correlations for each type of SWB index, Neuroticism was the strongest predictor for life satisfaction (r = −.24), happiness (r = −.25), and negative affect (r = −.23). Costa and McCrae (1980, 1991) offered a temperamental explanation for the role of Neuroticism for SWB; being neurotic predisposes a person to experience more negative affect. Our results offer a broader conclusion. Being neurotic predisposes a person to experience less SWB, regardless of whether you are examining reports of one's quality of life experiences, negative short-term emotions or the lack of long-term positive emotions.

If Neuroticism identifies what SWB is not, how did the remaining Big Five factors relate to the actual experience of SWB? Costa and McCrae (1980, 1991) proposed that extraverts have a temperament that predisposes them to experience more positive affect, whereas the remaining factors (Agreeableness, Conscientiousness, and Openness to Experience) lead people to have life experiences that facilitate SWB. Our results do not present such a simple picture. Positive affect was predicted by Extraversion, but it was equally predicted by Agreeableness. Happiness was predicted primarily by Extraversion. Conscientiousness obtained the strongest positive association with life satisfaction. Finally, Openness to Experience obtained the lowest correlation with each SWB index.

The idea that extraversion predisposes individuals to positive affect is widely held (Diener & Larsen, 1993; Eysenck & Eysenck, 1985; Hotard, McFatter, McWhirter, & Stegall, 1989; Meyer & Shack, 1989; Myers, 1992; Myers & Diener, 1995; Strelau, 1987; Thayer, 1989; Thayer, Takahashi, & Pauli, 1988). Others suggest that extraversion not only leads to positive affect, but that extraversion and positive affect are essentially based on the same neurological structure (Gray, 1971, 1981, 1987; Larsen & Ketelaar, 1991). Once again, our results point to a broader conclusion.

Positive affect is not tied solely to Extraversion. Rather, positive affect stems primarily from our connections with others,

both in terms of the quantity of relationships (Extraversion) as well as the quality of relationships (Agreeableness). Myers and Diener (1995) described happy individuals not only as having specific personality traits, but also as having strong relationships. Certainly, relationship type personality traits foster better relationships. However, they appear to provide another bonus to the holder; they also facilitate the experience of positive affect. Consistent with a temperamental view, Extraversion and Agreeableness are associated with higher correlations with positive affect than Conscientiousness, Neuroticism, or Openness to Experience. However, consistent with an instrumental view, Extraversion and Agreeableness also foster more and better relationships. In turn, good relationships are associated with increased positive affect.

Interestingly, Conscientiousness was the strongest positive correlate of life satisfaction. Although relationships and relationship-type traits make people feel happy, engaging in goal-directed activity and exerting control over oneself and one's environment enhances quality of life. Work can serve many positive purposes beyond a paycheck, such as providing one with an identity, a network of supportive relationships, and even a sense of purpose (Myers & Diener, 1995). Csikszentmihalyi (1990) reported that optimal experiences, called "flow" experiences, typically take place when a person is highly challenged and yet has the skills to meet the challenge. The "flow" experience has been tied not only to a loss of a sense of self and time, but also to reports of happiness. Our results suggest that characteristically engaging in tasks and exerting control provide not only opportunities for flow, but also enhance the general quality of one's life. As with Extraversion and Agreeableness, Conscientiousness serves a dual purpose. Conscientious people set higher goals for themselves and tend to achieve more in work settings (Barrick & Mount, 1991; Barrick, Mount, & Strauss, 1993). Likewise, conscientious people are more likely to feel satisfied with their lives.

Finally, our results suggest that Openness to Experience is largely irrelevant for SWB, at least when compared with the remaining five factors. McCrae and Costa (1991) proposed that being open to experiences leads to an increase of all emotions, both positive and negative. There are two explanations for our lack of support for this hypothesis. First, although the Big Five is widely researched, the fifth factor is the least understood of the five factors. Factor V has been shown to include components of intellect, culture, and creativity in addition to openness to experiences (John, 1990). We resolved the problem of specificity in the present investigation by broadening the fifth factor to contain "cognitive variables." Ultimately, it is not exactly clear what underlying dimension is actually assessed by the fifth factor. Perhaps this lack of specificity about the fifth factor in general has made it a less robust predictor for SWB.

A second interpretation of the results for Openness to Experience is that perhaps cognition, in and of itself, is largely irrelevant for the experience of well-being. We are not arguing that all cognitive variables are irrelevant for SWB. As reported above, some of the most important individual traits focused on making attributions for life events. The difference may lie in whether the trait describes cognition itself (such as mental absorption and openness to ideas) or whether the trait describes a propensity for using one's cognitive faculties in a healthy fashion (such as repressive defensiveness or hardiness). In this way, perhaps it doesn't matter what cognitive abilities a person has. Perhaps what is important is whether a person uses the cognitive abilities he or she has in a way that facilitates secondary coping of life's events. Future research is needed to test this possibility.

The Limits of Personality for Influencing SWB

Although personality appears to play an important role for SWB, we cannot conclude, on the basis of our results, that personality is the only important variable for SWB. In the current meta-analysis, on average, personality variables were associated with 4% of the variance for all indices of SWB. Likewise, the moderators examined in this investigation did not eliminate the substantial heterogeneity in the distribution of effect sizes, suggesting that there is still unexplained variation among the effect sizes. Clearly, personality cannot be taken as a full explanation of SWB.

There are several methodological issues that may have limited the utility of personality for predicting SWB. First, measurement error was not controlled in this meta-analysis because the primary research reports did not control for measurement error. Measurement error associated with the predictor variable tends to lead to an underestimation of the correlation coefficient (Cohen & Cohen, 1983). This is particularly troubling for the personality–SWB relation given that when measurement error is controlled, the personality–SWB relation may increase substantially. After controlling for measurement error, extraversion and positive affect may correlate as high as .71 (as reported in Diener, 1996). A second methodological issue is that if the distribution of personality scores and the distribution of SWB scores are not normal, the correlation between personality and SWB will be underestimated (Kirk, 1990). More serious than the underestimation of the association between personality and SWB is the possibility of the overestimation of their relationship. A third methodological issue for the present review is that it is possible that personality and SWB may be correlated solely because they are both affected by a third variable that was not partialled out of the association (Pedhazur, 1982).

In addition to these methodological issues, Diener (1996) outlined several theoretical reasons why happiness cannot be explained fully by personality. First, when predicting SWB on a short-term basis, personality is generally a weaker predictor than situational factors. Personality is a strong predictor of SWB only when focusing on long-terms levels of affect. To predict a person's emotion at a specific moment, situational factors need to be assessed in order to more fully understand SWB. For example, Emmons (1991) found that bad interpersonal events correlated with momentary negative affect at $r = .59$, thereby accounting for 35% of the variance.

A second reason why personality cannot completely explain SWB is that environmental circumstances sometimes produce lasting differences in SWB (Diener, 1996). On the basis of national surveys, Diener, Diener, and Diener (1995) found that the poorest countries differed markedly from the wealthiest countries on reported SWB. Diener (1996) suggested that personality may predict within-group differences strongly because of the shared environment of that group. However, when shifting

to examine differences between groups, nations, or cultures (that do not share the same environment), environmental effects are more likely to be found.

A final reason why personality cannot completely explain SWB comes from heritability estimates. Although heritability may account for half of the SWB variance, the remaining 50% of the SWB variance is due to factors other than heredity (Diener, 1996). Certainly, goal striving, daily events, good relationships, and "flow" experiences contribute to SWB. Although related to personality, these processes cannot be completely reduced to a trait explanation. Likewise, demographics combined with personality enhance the prediction of SWB (Eden, 1980). Moving beyond a trait approach to personality, Diener and Fujita (1995) examined how resources contributed to SWB. Resources were conceptualized as material, social, or personal characteristics that a person possesses that can be used to help a person make progress towards personal goals. Examples of the three types of resources include material possessions, family support, and being energetic. Overall, personality resources tended to correlate with life satisfaction and positive affect, but not with negative affect. Each personality resource alone accounted for less than 15% of the variance of life satisfaction, and less than 8% of the positive affect variance. However, when social and material resources were summed with personality resources, fully 28% of the life satisfaction variance and 14% of the positive affect variance were explained.

In sum, although personality is quite important for long-term SWB, other factors are more important for short-term SWB. Likewise, models based on both personality and biosocial variables offer a more complete picture than can be obtained by examining either set of variables alone.

Cultural Limitations in the Present Meta-Analysis

A research synthesis is always constrained by the limitations that exist in the primary investigations of the topic under review (Cooper, 1998). For studies on personality and SWB, studies using non-English speaking samples were so uncommon that the seven studies using these samples had to be excluded from the current meta-analysis. Meta-analysis can generally overcome the limitations of sampling issues of individual studies, assuming that different populations are sampled in different studies. It cannot, however, overcome the limitation of missing populations that have not yet been studied.

The lack of research on personality and SWB utilizing non-English speaking samples is especially troubling given recent SWB findings based on national probability samples. Inglehart (1990) found extensive differences on reports of SWB between nations. In Portugal, only 10% of respondents said they were happy, with this figure increasing to 40% of respondents in the Netherlands. In U.S. national samples, estimates of SWB are routinely above 80% (Andrews & Withey, 1976; Gurin, Veroff, & Feld, 1960; Veenhoven, 1993). National differences remain when income is controlled (Diener, Diener, et al., 1995).

The most obvious explanation for these national differences is that cultural differences lead to differential reports of SWB. There is evidence that collectivistic cultures report lower SWB than individualistic cultures (Diener, Suh, Smith, & Shao, 1995). Likewise, cultures vary in the extent to which they construe the world as benevolent and controllable (Myers & Diener, 1995). Perhaps these cultural templates for interpreting life events lead to national differences on reported SWB (Myers & Diener, 1995). Unfortunately, only one study to date has explicitly examined the personality–SWB relation in the context of cultural differences. Crocker, Luhtanen, Blaine, and Broadnax (1994) examined collective self-esteem and SWB among three racial groups. Collective self-esteem refers to the positivity of the self-concept derived from identifying oneself as a member in one or more social groups (Crocker et al., 1994). Crocker and colleagues (1994) found that collective self-esteem was a stronger correlate of life satisfaction for Asians (rs ranging from .08 to .47) than for either Blacks or Whites (rs ranging from −.01 to .33). However, the participants from these groups were all from the United States and it could be that racial differences themselves rather than cultural differences account for the differential pattern of findings. Research is sorely needed to determine which personality traits are important for SWB in other cultures.

Diener and Diener (1996) recently offered an alternative explanation to national differences in reports of SWB. They suggested that most people, regardless of nationality, actually report themselves as happy. Combining the results of approximately 1,000 studies, they found that 86% of nations actually reported having positive SWB whereas only the poorest of nations reported a lack of SWB. They further hypothesized that humans, regardless of culture, have a positive baseline for affect that serves as their equilibrium level, underlies their approach tendencies, and even produces in them a strong immune response to infections. This perspective essentially places personality at the forefront for all human experience of SWB. Our data suggest personality is indeed critical to experiences of SWB in Western cultures. However, Diener and Diener's (1996) position that personality is an important factor for other cultures remains to be tested.

Conclusions

Five distinct questions pertaining to personality and SWB were answered by the present meta-analysis. Overall, personality appears to be an important correlate of SWB. However, our results suggest that some demographic variables, such as health and SES are equally important. We offered some tentative paths by which personality may influence SWB. At the level of specific personality traits, traits that focus on making attributions in a healthy fashion may be among the most important personality traits. At the level of the Big Five, factors that focus on enhancing personal relationships and success in typical goal settings appear to be important to SWB. However, to fully understand the momentary, short-term experience of SWB, one must also examine situational factors such as daily events, goal strivings, and resources. Our results suggest that the importance of extraversion for SWB has been overstated in previous reviews and theories of SWB. However, several underexamined personality traits and the role of attributions for SWB deserve additional attention. Finally, future research is needed to determine if personality is also important for SWB in non-Western cultures.

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Appendix

Information Extracted From Research Report for Each Effect Size

The following general information was extracted from each research report: type of research report (journal, book, thesis or dissertation, other); method for obtaining report; date report coded; year of report; total number of effect sizes in report, number of nonoverlapping subsamples, number of occasions data was collected, total number of personality measures in report, total number of SWB measures in report.

The following sample information was extracted from each research report: type of sample (representative, convenience), population sampled (college students, noninstitutionalized adults, institutionalized elderly, other), scope of sample (national, regional, local, not specified), country of residence for sample, length of delay in measurement between personality and SWB.

The following information was extracted from each research report as related to the entire sample as well as related to the subsample associated with each effect size: number of Caucasians, number of Latinos, number of Blacks, number of Asians; number of males, number of females; mean age, median age, standard deviation of age of sample, lower and upper bound of age range of sample.

The following SWB information was extracted as related to each effect size: conceptualization of SWB (life satisfaction, happiness, positive affect, negative affect), operationalization of SWB (21 specific scales listed as well as other scales previously designed and other scales developed at time of study), number of items in SWB measure, value of split-half reliability estimate for SWB measure, value of test–retest value of coefficient alpha value of correlation with another measure.

The following personality information was extracted as related to each effect size: conceptualization of personality (one of 137 different personality variables listed), operationalization of SWB (26 specific scales listed as well as other scales previously designed and other scales developed at time of study), number of items in personality measure, value of split-half reliability estimate for personality measure, value of test–retest, value of coefficient alpha, value of correlation with another measure.

Finally, the following information was extracted related to the effect size being coded: type of inference test (chi-square, *t* test, *F* test, correlation coefficient), whether sign of effect size was positive or negative, absolute value of effect size.

Received October 24, 1996
Revision received March 11, 1998
Accepted March 26, 1998 ■