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Replicating and Extending Past Personality/Job Satisfaction Meta-Analyses

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A meta-analysis summarizing results of 187 studies reporting cross-sectional and longitudinal relationships between job satisfaction and personality is described. The Big Five factor of Neuroticism related most strongly and negatively to job satisfaction ($-.25$), with the other factors ranging from $.16$ (Conscientiousness) to $-.02$ (Openness to Experience). Job satisfaction was positively related to internal locus of control (LOC), positive affectivity, and Type A (achievement striving). Results showed negative relationships with external LOC, trait anger, Machiavellianism, negative affectivity/trait anxiety, and Type A (global and impatience/irritability). Job satisfaction had a very weak, negative correlation with narcissism that was indistinguishable from zero. These relationships were similar, although the effect sizes were generally not as strong, when examined in a longitudinal context. The distinctiveness of Extraversion and positive affectivity, as well as that of global and composite measures of job satisfaction, are discussed.

Research regarding the dispositional nature of job satisfaction can be traced back at least to the Hawthorne Studies (Roethlisberger, 1941). The basic premise of the dispositional approach is that individuals differ in their tendencies to be satisfied or dissatisfied with work, or that job satisfaction can be trait-like (e.g., Weitz, 1952). Evidence in support of the traitlike nature of job satisfaction comes from several streams of research. First, studies have demonstrated the temporal stability and consistency of job satisfaction across different jobs and organizations (Staw & Ross, 1985). Second, longitudinal studies have shown that dispositions in school predict subsequent job satisfaction (e.g., Spector & O'Connell, 1994; Staw, Bell, & Clausen, 1986). Third, job satisfaction has been shown to correlate with specific personality measures (Connolly & Viswesvaran, 2000; Judge, Heller, & Mount, 2002). Finally, evidence from comparisons of identical twins suggests that as much as 30% of the variance in work attitudes might be due to genetic factors (Arvey, Bouchard, Segal, & Abraham, 1989).

Individual studies, such as those just mentioned, have helped to clarify the nature of the relationship between personality and job satisfaction; however, a more precise explanation is possible when one aggregates the results of multiple studies. Connolly and Viswesvaran (2000) meta-analyzed the results of studies on the relationship between affective disposition and general job satisfaction. The reported mean correlations of negative affectivity (NA) and positive affectivity (PA) with job satisfaction were $-.33$ and $.49$, respectively. Therefore, the results indicate that affective dispositions explain between 10 and 25% of the variance in job satisfaction and further support the role of personality in job attitudes.

Judge et al. (2002) further investigated the relationship between individual differences and overall job satisfaction using the Big Five model of personality, which includes Neuroticism, Extraversion, Openness to Experience, Agreeableness, and Conscientiousness (Goldberg, 1990). Given that NA is strongly correlated with Neuroticism (Watson & Clark, 1984) and PA with Extraversion (Watson & Clark, 1997), they posited that using the Big Five model would be inclusive of the NA/PA taxonomy while considering additional personality traits. Judge et al. concluded that the traits of Neuroticism, Extraversion, and Conscientiousness were the strongest correlates and predictors of job satisfaction.

Although the aforementioned meta-analyses have shown a clear relationship between personality and job satisfaction, they were limited in several ways. First, combined these meta-analyses cover a limited number of personality variables that might be relevant to job satisfaction. Although a large number of disparate personality variables are often subsumed within the Big Five framework, this may obscure true differences that exist between distinct personality traits that have been studied in conjunction with job satisfaction. For example, Emotional Stability includes traits of anger and anxiety, yet Spielberger (1996) and Spielberger, Gorsuch, Luchene, Vagg, and Jacobs (1983) has maintained that these traits are distinct and this perspective is supported by the differential relationship between these constructs and occupational outcomes, such as counterproductive work behavior (Fox & Spector, 1999). Thus, it is critical that the individual contributions of personality traits are examined to ensure that combinations of these traits do not obscure useful variance. Similarly, Judge et al. (2002) combined studies that used measures of the Big Five dimensions with studies of individual traits that they classified into the five dimensions, such as including measures of Emotional Stability with measures of Neuroticism or NA and Extraversion measures with measures of PA. Finally, these meta-analytic studies were restricted in that only cross-sectional relationships between the personality variables and job satisfaction were examined.

To address these limitations, this study used meta-analysis to investigate both individual personality traits and specific measures of the Big Five in both cross-sectional and longitudinal research contexts. Individual personality variables that were included in the meta-analysis were PA, NA, locus of control (LOC), Type A, trait anger, narcissism, and Machiavellianism. The Big Five analyses were limited exclusively to measures designed specifically to assess these dimensions; individual traits were not classified into the Big Five dimensions. This allowed us to compare our findings from pure Big Five measures with Judge et al.'s (2002) analyses and to verify the utility of combining narrowly defined traits with broader personality constructs. An additional contribution of this article is the discussion of theoretical mechanisms whereby individual difference variables affect job satisfaction. Although previous researchers have posited different processes to explain the relationship between specific personality traits and job satisfaction (e.g., Moyle, 1995, discussed NA), we integrated the literature into a discussion that incorporates all of the personality variables included in this meta-analysis.

THE BIG FIVE

Conscientiousness

This Big Five factor refers to individuals who are responsible, careful, thorough, organized, reliable, hardworking, self-disciplined, punctual, scrupulous, neat, ambitious, and persevering

(Barrick & Mount, 1991; Costa & McCrae, 1992). Given the tendency for conscientious employees to be involved in their work (Organ & Lingl, 1995), it is not surprising that studies report a significant positive relationship with job satisfaction (Judge et al., 2002).

Extraversion

Individuals high in Extraversion are described as assertive, ambitious, sociable, active, talkative, person oriented, optimistic, and fun-loving (Costa & McCrae, 1992). Furthermore, they have a higher desire for status, recognition, and material gain (Costa & McCrae, 1988) as well as a predisposition to positive affect (Watson & Clark, 1997). Overall, studies suggest a positive relationship with job satisfaction (Judge et al., 2002).

Agreeableness

Individuals high in Agreeableness are described as tolerant, trusting, flexible, forgiving, cooperative, courteous, soft-hearted, good-natured, helpful, gullible, and straightforward (Barrick & Mount, 1991; Costa & McCrae, 1992). Judge et al. (2002) reported a positive correlation between Agreeableness and job satisfaction.

Neuroticism

Individuals high in Neuroticism (or low in emotional stability) are described as angry, embarrassed, anxious, hostile, depressed, self-conscious, impulsive, worried, nervous, emotional, insecure, and inadequate (Barrick & Mount, 1991; Costa & McCrae, 1992; Matthews & Deary, 1998). Results have consistently shown a negative relationship between Neuroticism and job satisfaction (Judge et al., 2002), which is not surprising given that it is often treated as a main characteristic of NA (see Tokar, Fischer, & Subich, 1998). However, for the purposes of this meta-analysis, studies using measures of NA/trait anxiety were kept separate from those using measures of Neuroticism to address whether a differential relationship between these sets of measures and job satisfaction do, in fact, exist.

Openness

Individuals high in Openness are described as imaginative, curious, creative, and broadminded (Barrick & Mount, 1991; Costa & McCrae, 1992). Its role in employee attitudes has received less attention than some of the other Big Five factors. Furthermore, Judge et al. (2002) found that it did not relate significantly to job satisfaction.

Based on previous research, the following hypotheses were proposed:

- H1a: Conscientiousness, Agreeableness, and Extraversion will be positively related to job satisfaction in cross-sectional and longitudinal contexts.
- H1b: Neuroticism will be negatively related to job satisfaction in cross-sectional and longitudinal contexts.

AFFECTIVE DISPOSITIONS

Positive Affectivity

Individuals high in PA show high energy, enthusiasm, and pleasurable engagement (Watson, Clark, & Tellegen, 1988). They have a generalized sense of well-being and are predisposed to experience positive emotional states (Burke, Brief, & George, 1993). Connolly and Viswesvaran (2000), as noted earlier, found a positive relationship between PA and job satisfaction in their meta analysis.

Negative Affectivity/Trait Anxiety

Trait anxiety refers to a tendency, which is mostly limited to the psychosocial environment, to perceive situations as threatening (Spielberger, 1979). This construct was expanded by Watson and Clark (1984) to include additional negative emotions and was labeled NA. NA is sometimes subsumed into Neuroticism, although Neuroticism is a broader construct than NA. Individuals high on NA tend to report higher levels of negative affect and experience dissatisfaction across time and in a variety of situations (Watson, Pennebaker & Folger, 1986). In addition, high NA individuals tend to dwell on their failures and shortcomings, making them more likely to be dissatisfied with themselves and their lives (Watson & Clark, 1984). Within the context of work, this suggests that high NA employees perceive and experience the job negatively, regardless of the actual conditions (Watson et al., 1986). This is supported by the negative relationship found between NA and job satisfaction by Connolly and Viswesvaran (2000).

Based on prior research, the following hypotheses were proposed:

- H2a: PA will be positively associated with job satisfaction in cross-sectional and longitudinal contexts.
- H2b: NA will be negatively associated with job satisfaction in cross-sectional and longitudinal contexts.

Given our supposition regarding the lack of fit between some personality traits and the Big Five framework (e.g., PA and Extraversion), the following hypotheses were proposed:

- H3a: The relationship between Extraversion and job satisfaction will be significantly different from the relationship between PA and job satisfaction in both cross-sectional and longitudinal contexts.
- H3b: The relationship between Neuroticism and job satisfaction will be significantly different from the relationship between NA and job satisfaction in both cross-sectional and longitudinal contexts.

ADDITIONAL PERSONALITY TRAITS

Locus of Control

LOC is one of the most commonly studied personality traits and its connection to work attitudes has been noted in both narrative and quantitative reviews (e.g., Judge & Bono, 2001; Ng, Sorensen, & Eby, 2006; Spector, 1982). LOC refers to an individual's general belief that the outcomes and rewards in his or her life are controlled either by his/her own actions and behaviors, or by external

forces (Rotter, 1966). Individuals who believe that they control the events in their lives are labeled internal, whereas those that believe that outcomes are outside of their control are labeled external. LOC is not represented in the Big Five as it reflects more cognitive beliefs about the world rather than behaviors, which are the major focus of the Big Five. Therefore, the following hypotheses were proposed:

H4a: LOC will be significantly correlated with job satisfaction such that external LOC will be negatively associated with job satisfaction and internal LOC will be positively associated with job satisfaction in cross-sectional and longitudinal contexts.

H4b: Work LOC will be more strongly correlated with job satisfaction than overall LOC in cross-sectional and longitudinal contexts.

Ng et al. (2006) reported a positive mean relationship between internal LOC and overall job satisfaction; however, their research did not differentiate between the various types of LOC. Researchers have argued that using an LOC scale specific to the work environment would result in stronger relationships with work attitudes (Pettersen, 1985; Spector, 1988). Consequently, some studies have used a work LOC measure that assesses an individual's general belief about their control at work. In addition, Ng et al. (2006) included culturally diverse samples, which may impact the effect sizes reported through both cultural variations in response pattern and language equivalence issues. Cultural variations in response patterns have been identified as problematic in job satisfaction research (Spector et al., 2002). This meta-analysis further contributes to existing research by addressing the relationship between specific types of LOC and job satisfaction as well as maintain cultural consistency within the samples.

Type A

The Type A personality has been commonly studied in conjunction with research on cardiovascular disease (T. W. Smith, 1992). The Type A person is traditionally described as having a sense of time urgency and as being competitive, hostile, and impatient (Friedman & Rosenman, 1974). Two distinct and largely independent dimensions of the Type A personality have been identified, which are impatience/irritability (II) and achievement striving (AS; Spence, Helmreich, & Pred, 1987). II refers to an individual's proneness to experience anger and frustration when having to wait, whereas AS refers to a predisposition to work toward goal achievement. Although AS overlaps to some extent with the Big Five dimension of Conscientiousness, it is only one component of this broader characteristic. II does not fit any of the dimensions well, as it reflects affective states of anger that are distinct from the trait-like affective reactions associated with the Big Five dimension of Emotional Stability.

Studies using global Type A measures have resulted in inconclusive findings regarding its relationship with job satisfaction (Rose, 1998; Nelson & Cooper, 1995; Taggart & Hoyt, 1983). However, it has been suggested that using specific dimension measures may result in differential relationships with work attitudes (Bluen, Barling, & Burns, 1990; Day & Jreige, 2002). Through meta-analysis, it is possible to draw conclusions regarding the utility of specific Type A dimensions in the study of job satisfaction. Therefore, the following hypotheses were proposed:

H5: Type A dimensions will differentially relate to job satisfaction such that II will be negatively related to job satisfaction and AS will be positively related to job satisfaction in both cross-sectional and longitudinal contexts.

Trait Anger

A tendency to experience anger across various situations best describes an individual high in trait anger. This trait is not represented in the Big Five, which limits affective reactions primarily to anxiety (Emotional Stability). Few studies have investigated the role of trait anger in organizational research and even fewer have published their findings with regards to job satisfaction. Nevertheless, this personality variable has been shown to relate to a variety of strains (Fox & Spector, 1999), making its relationship to job satisfaction, a psychological strain, worth further investigation. The construct of trait anger is similar in nature to the Type A II dimension; however, trait anger is more broad in that it pertains to anger reactions across situations, rather than reactions to specifically defined stressors, such as having to wait. Given that high trait anger individuals tend to report more perceived stressors, the following hypothesis was proposed:

H6: Trait anger will be negatively correlated with job satisfaction in cross-sectional and longitudinal contexts.

Narcissism

Individuals high in narcissism typically are sensitive to criticism and have an exceptional interest in and admiration for oneself. Narcissistic individuals are characterized as having a false sense of power, beauty, and success, as well as displaying a grandiose sense of importance (Emmons, 1987). Low scores on measures of narcissism indicate an absence of the characteristics associated with this construct. This trait is not represented in the Big Five. Few studies have examined the role that narcissism plays in job satisfaction, and those that have report mixed results (Kopelman & Mullins, 1992; Soyer, Rovenpor, & Kopelman, 1999).

Machiavellianism

Individuals high in Machiavellianism are described as manipulative, lacking concern for morality, and deceitful (Christie & Geis, 1970). This trait is not represented in the Big Five. The few studies that have investigated the relationship between Machiavellianism and job satisfaction have resulted in mixed findings (Gable & Topol, 1987; Heisler & Gemmill, 1977).

Due to the limited, equivocal research examining the relationships of narcissism and Machiavellianism with job satisfaction, no hypotheses were proposed as the analyses for these variables were exploratory in nature.

METHOD

Studies

Our search returned 956 published journal articles, dissertations, and unpublished data sources that concerned job satisfaction and personality: 657 were journal articles, 295 were dissertations, and 4 were unpublished data sources. We screened out studies according to the criteria listed in the Inclusion Criteria section. The meta-analysis included 187 separate studies, yielding 308 correla-

tions based on a total population of 50,925 participants. The number of samples per variable for the cross-sectional analyses ranged from a minimum of 3 to a maximum of 62.

Literature Search

To identify the relevant studies for this meta-analysis, we conducted an electronic search of bibliographies using the PsycINFO database (1887–2005) for published studies that examined the relationship between job satisfaction and personality variables. We used the following search terms: “overall job satisfaction,” “job satisfaction,” “job attitude,” “employee work attitude,” “personality,” “positive affectivity,” “positive affect,” “negative affectivity,” “negative affect,” “five-factor,” “big five,” “openness to experience,” “conscientiousness,” “extraversion,” “agreeableness,” “neuroticism,” “emotional stability,” “locus of control,” “work locus of control,” “type A personality,” “trait anxiety,” “trait anger,” “belief in a just world,” “Machiavellianism,” “narcissism,” “psychoticism,” and “individualism.” In addition to the keyword search, our search included the reference lists of the Blegen (1993), Connolly and Viswesvaran (2000), and Judge et al. (2002) meta-analyses. Further, we searched the bibliographical lists of all studies we located, including previous meta-analyses in this area, to identify citations that were not included in the other searches. The results of the keyword and reference/bibliographical list searches were cross-checked with search results from the ABI/INFORM Global database and Expanded Academic ASAP. These additional database searches, however, did not yield any articles beyond those identified by the earlier search strategies. Given that multiple search methods were used, we came across duplicate articles by the same author using the same or overlapping datasets. If two versions of the same study reported some variables in one but not the other, both studies were used. In the case of overlapping data sets, only one was included in our analyses and the duplicate was discarded.

Inclusion Criteria

Our meta-analysis examined the relationship between job satisfaction and several personality variables. The studies that were included in the meta-analysis had to have met several criteria: (a) The study had to have specified the use of measures of job satisfaction at the individual person level; (b) the study had to have specified the use of measures that specifically assessed a personality variable at the individual level; (c) the study must have reported a correlation or any other statistic that could be converted into a correlation coefficient; (d) the study must have been conducted with working populations in naturally occurring job settings, thus excluding laboratory samples; (e) to maintain language equivalence across variables, the study must have used samples limited to Western, English-speaking countries (e.g., the United States, Canada, the United Kingdom, Australia, and New Zealand); (f) the data must have been self-report only and not reports from other sources; and (g) the longitudinal data must have reported the relationship between personality variables measured at time one and job satisfaction measured at Time 2.

Variables

Job satisfaction. In the studies collected for the meta-analysis, job satisfaction had been measured as global and/or composite (i.e., sum of facets). Global job satisfaction scales directly

measure an individual's overall, or general, satisfaction with his or her job. In contrast, composite satisfaction refers to satisfaction scores that are based on scales that measure individual satisfaction facets and then combine (sum) those facets into a composite score. For example, the Job Descriptive Index by P. C. Smith, Kendall, and Hulin (1969) is a facet job satisfaction scale that measures five aspects of work: work itself, pay, promotion, supervisor, and peers. A composite job satisfaction score can be calculated by adding all the individual facet scores. If the study reported only individual facets, we did not attempt to average or combine correlations with those facets, as the correlation with a composite score will not necessarily be equivalent to the average of individual facet correlations.

We wanted to differentiate between global and composite job satisfaction measures. However, there were few differences between the mean correlations for both types of satisfaction measures across corresponding personality variables. Therefore, we combined effect sizes using both global and composite job satisfaction measures in our analyses.

The most common job satisfaction measures (both global and composite) include the following: Job Satisfaction Survey (Spector, 1985), Job in General (Ironson, Smith, Brannick, Gibson, & Paul, 1989), Job Descriptive Index (P. C. Smith et al., 1969), and the Occupational Stress Indicator (C. L. Cooper, Sloan, & Williams, 1988). The average reliability of these four job satisfaction scales was .87.

Big Five. We included only measures that specifically assessed the Big Five factors, which are listed along with their respective mean scale reliabilities: Openness to Experience (.73), Conscientiousness (.81), Extraversion (.75), Agreeableness (.72), and Neuroticism/Emotional Stability (.82). The five factors were most commonly assessed with the following scales: NEO Five Factor Inventory (Costa & McCrae, 1992), NEO Personality Inventory–Revised (Costa & McCrae, 1992), and the Eysenck Personality Inventory (Eysenck & Eysenck, 1964).

PA. PA was measured most commonly with the Positive and Negative Affect Schedule (Watson et al., 1988), followed by the Multidimensional Personality Questionnaire (Tellegen, 1982). The mean scale reliabilities for these two measures were .85 and .75, respectively.

NA and trait anxiety. Trait anxiety studies were subsumed under NA because of the large overlap between the constructs. We found that the mean correlation between NA and overall job satisfaction and trait anxiety and overall job satisfaction was the same at .25. Furthermore, the mean correlation of composite job satisfaction with NA and trait anxiety was $-.20$ versus $-.22$, respectively.

In the majority of studies, NA was measured with the Positive and Negative Affect Schedule (Watson et al., 1988), which had a mean scale reliability of .83. Two other scales used to assess NA were the Multidimensional Personality Index (Watson & Tellegen, 1985) and the Negative Affectivity Scale (Stokes & Levin, 1990). The average reliability of these two scales was .81. The most commonly used trait anxiety measure was the State-Trait Anxiety Inventory (Spielberger, Gorsuch, Lushene, Vagg, & Jacobs, 1983), which had a mean scale reliability of .88.

Trait Anger. The Trait Anger scale from the State Trait Personality Inventory (Spielberger, 1979) and the State-Trait Anger Expression Inventory (Spielberger, 1996) were used to measure trait anger. The average reliability of these two scales was .84.

LOC. LOC was measured in five ways: (a) overall, (b) work, (c) internal, (d) chance, and (e) powerful others. Overall LOC describes the degree of control individuals perceive over the events in their lives, surroundings, rewards, and outcomes. In contrast, work LOC describes the degree of control perceived by individuals within the context of the work environment. Internal LOC assesses the degree to which one believes that outcomes are influenced by one's own behavior. Chance LOC refers to the belief that fate, luck, or chance determines one's outcomes. Powerful others is the belief that people in authority or who otherwise have power are in control. The two most common LOC measures used by the studies were Spector's Work LOC (Spector, 1988) and the Internal-External Locus of Control scale (Rotter, 1966). The mean scale reliabilities for these two measures were .79 and .75, respectively.

Type A personality. Type A personality measures consisted of three types of scales: (a) general, (b) Type A AS, and (c) Type A II. The two most common scales used to measure Type A personality were the Framingham Type A Scale (Haynes, Feinleib, Levine, Scotch, & Kannel, 1978) and the Jenkins Activity Survey (Jenkins, Zyzanski, & Rosenman, 1979). The mean scale reliabilities for these two measures were .66 and .77, respectively.

Narcissism. Three of the four studies reporting correlations for narcissism used the Margolis-Thomas Measure of Narcissism (Margolis & Thomas, 1980), which had a mean scale reliability of .58. The fourth study used the Narcissistic Personality Inventory (Raskin & Hall, 1979).

Machiavellianism. Machiavellianism was assessed with the Mach IV and the Mach V Attitude Inventory (Christie & Geis, 1970). The scale most commonly used in the studies was the Mach IV, which had a mean scale reliability of .71.

Study and Sample Characteristics for Variables With Few Studies

Analyses for the variables of LOC (powerful others and chance), Type A (II and AS), trait anger, and narcissism had a small number of studies included (i.e., $K = 3$ or 4). We present some of the study and sample characteristics for these six variables in order to facilitate interpretation and generalizability of the results. All of the studies used for these analyses were published in refereed journals. The samples for these studies were employed full-time and consisted equally of women and men, and the average age of participants ranged from 35 to 41 years. The response rates for the studies ranged from 39% to 58%. The mean tenure for the studies was available for only three of the variables: LOC powerful others (11 years), LOC chance (11 years), and Type A II (10 years).

Statistical Methods

For our analyses, we used the method outlined by Rosenthal (1991). Accordingly, we chose the correlation coefficient as our indicator of effect size. Descriptive statistics (mean, weighted mean, standard deviation of the observed correlations, ranges, and confidence intervals) are shown in our tables only for cases where we had a minimum of at least three samples.

The coding process first included identifying the relevant correlation(s) that met our inclusion criteria and would serve as the effect size, and the sample size for that study. Correlations were not reported for samples that were not independent, which addresses the threat to validity posed by de-

pendent effect sizes. Finally, some studies reported a range for the sample size in the correlation matrix. In these cases, a conservative approach was employed and the smaller sample size was utilized.

When computing confidence intervals, P. M. Lee (1989) recommended using the square root of the reciprocal of the total sample size across the studies included as the standard deviation for each variable combination. Following, we calculated a 95% confidence interval by multiplying the standard deviation by 1.96 and then adding and subtracting the result from the mean correlation. Rosenthal's approach to meta-analysis is similar to the more frequently used approach proposed by Hunter and Schmidt (1990) in that both methods compute the same descriptive statistics on the sample of correlations. The difference is that Hunter and Schmidt further estimate how much observed variance in correlations can be attributed to artifacts such as sampling error or unreliability of measures by applying adjustment formulas. Further, these formulas are used to get an estimate of the underlying theoretical population parameters by allowing for the adjustment of the observed mean correlations. Critics of this method (e.g., James, Demaree, & Mulaik, 1986; Rosenthal, 1991; Spector & Levine, 1987) have noted that these adjustments can be problematic and inaccurate, particularly when analyzing a small number of studies per variable, as is the case with this meta-analysis. Consequently, we decided to follow Rosenthal's approach and be conservative in not carrying out the statistical adjustments.

RESULTS

Job Satisfaction and the Big Five

The relationships between job satisfaction and the Big Five factors are presented in Table 1. H1a and H1b were supported. Conscientiousness, Extraversion, and Agreeableness were positively associated with job satisfaction, whereas Neuroticism was negatively related to job satisfaction. With the exception of Openness to Experience, the confidence intervals for all the factors excluded zero. Neuroticism ($M r = -.25$) and Conscientiousness ($M r = .16$) were most strongly asso-

TABLE 1
Meta-Analysis of the Relationship of Job Satisfaction With
the Big Five Factors and Negative Affectivity/Trait Anxiety

Personality Variable	Prior		SD	Range	Median	K	N	Weighted M	Confidence Interval
	M	M							
Conscientiousness	.16	.20 ^a	.13	.01/.46	.14	16	7,630	.07	.14/.18
Extraversion	.12	.19 ^a	.14	-.28/.33	.15	25	9,003	.14	.10/.14
Agreeableness	.13	.13 ^a	.10	.01/.32	.12	10	4,800	.09	.10/.15
Neuroticism	-.25	-.24 ^a	.10	-.52/-.03	-.22	24	9,183	-.25	-.27/-.23
Openness	-.02	.01 ^a	.09	-.20/.05	.01	8	4,311	.02	-.05/.01
NA/Trait anxiety	-.25	-.33 ^b	.18	-.67/.39	-.26	46	12,834	-.30	-.27/-.23
PA	.41	.49 ^b	.15	.17/.68	.39	30	6,595	.40	.38/.43

Note. NA = negative affectivity; PA = positive affectivity; K = number of samples/correlations; N = combined sample size.

^aMean uncorrected correlations reported in Judge et al. (2002). ^bMean uncorrected correlations reported in Connolly and Viswesvaran (2000).

ciated with job satisfaction. On the whole, the pattern of relationships between the Big Five factors and job satisfaction mirrored those found by Judge et al. (2002), as seen when comparing our mean correlations in column 2 with Judge et al.'s prior means in column 3 of Table 1. The biggest discrepancy was for Extraversion; our mean correlation was .12, whereas it was .19 for Judge et al.

Job Satisfaction and Affective Dispositions

Table 1 also shows the relationships of NA and PA with job satisfaction. The moderate, negative mean correlation for NA ($M r = -.25$) included studies that used trait anxiety as an indicator of NA. PA had a strong, positive relationship with job satisfaction ($M r = .41$). This suggests that PA may have more of an influence on job satisfaction than NA, because of the significant difference between these correlations, as indicated by the exclusive confidence intervals (see Table 1). The confidence intervals for PA and NA did not include zero, providing support for H2a and H2b, respectively. These effect sizes are similar to but somewhat smaller in magnitude than those found by Connolly and Viswesvaran (2000). They found mean correlations of $-.33$ and $.49$ for NA and PA, respectively, although we had quite a few more studies.

When comparing the mean correlations of affective dispositions and the Big Five with job satisfaction, PA ($M r = .41$) and Extraversion ($M r = .12$) were found to have significantly different effect sizes ($z = 19.43, p < .001$). Thus, H3a was supported. In contrast, there was no difference in mean correlations for NA ($M r = -.25$) and Neuroticism ($M r = -.25$). Therefore, H3b was not supported.

Job Satisfaction and LOC

As seen in Table 2, the mean correlation between overall LOC and job satisfaction was $-.12$, with the correlations ranging from $-.55$ to $.45$ across 62 studies. It is worth noting that some of these studies may have reversed scored the LOC scale while failing to report doing so. Although the

TABLE 2
Meta-Analysis of the Relationship Between Job Satisfaction and Personality Traits

Personality Variable	<i>M</i>	<i>SD</i>	<i>Range</i>	<i>Median</i>	<i>K</i>	<i>N</i>	<i>Weighted M</i>	<i>Confidence Interval</i>
LOC								
Overall	-.12	.23	-.55/.45	-.19	62	13,073	-.13	-.18/-.08
Work	-.34	.29	-.71/.45	-.42	28	5,046	-.37	-.37/-.31
Internal	.23	.25	-.19/.53	.33	13	3,020	.16	.20/.27
Powerful others	-.19	.44	-.73/.33	-.17	4	302	.03	-.30/-.07
Chance	-.38	.22	-.62/-.20	-.33	3	180	-.32	-.53/-.24
Type A	-.09	.13	-.35/.08	-.06	18	6,083	-.05	-.11/-.06
Achievement striving	.28	.24	.13/.56	.16	3	732	.20	.21/.36
Impatience/Irritability	-.15	.09	-.24/-.07	-.15	3	732	-.20	-.23/-.08
Trait anger	-.23	.03	-.26/-.21	-.23	4	900	-.24	-.30/-.17
Narcissism	-.07	.24	-.27/.22	-.12	4	789	-.14	-.14/-.00
Machiavellianism	-.19	.25	-.47/.31	-.24	7	1,241	-.26	-.25/-.14

Note. LOC = locus of control; *K* = number of samples/correlations; *N* = combined sample size.

confidence interval for overall LOC did not include zero, it was based on a sample size of more than 13,000, making almost any correlation significant. As explained earlier, LOC was coded into the four specific types of internal, work, powerful others, and chance LOC. Internal LOC was positively associated with job satisfaction ($M r = .23$), high scores on this scale indicate internality. In contrast, work, powerful others, and chance LOC all had a negative relationship with job satisfaction ($M r = -.34, -.19, \text{ and } -.38$, respectively). Given that low scores on these scales represent an internal LOC, the negative mean correlations support the notion that higher levels of satisfaction are associated with internality. The confidence intervals for all types of LOC excluded zero, providing support for H4a. H4b also was supported. The mean correlation for work LOC was greater in magnitude than the one for overall LOC ($z = 14.09, p < .001$).

Job Satisfaction and Type A

Studies were coded depending on whether they reported an effect size for global Type A, AS, or II (see Table 2). Although the association between global Type A and job satisfaction was small ($M r = -.09$), more robust relations were found for AS and II ($M r = .28 \text{ and } -.15$, respectively). The confidence intervals for all three measures did not include zero. Therefore, H5 was supported. AS was positively related to job satisfaction, whereas II was negatively associated with job satisfaction. The relationship between global Type A and job satisfaction should be interpreted with caution because the large sample size for global Type A allowed a very small correlation to be significant.

Job Satisfaction, Trait Anger, Narcissism, and Machiavellianism

As seen in Table 2, trait anger had a moderate, negative relationship with job satisfaction ($M r = -.23$), which was significantly different from zero. Thus, H6 was supported. Narcissism and Machiavellianism had negative mean correlations with job satisfaction ($M r = -.07 \text{ and } -.19$, respectively). The confidence interval for narcissism included zero, whereas the one for Machiavellianism excluded zero.

Longitudinal Relationships Between Job Satisfaction and Personality Traits

The Big Five. Longitudinal relationships between overall job satisfaction and the Big Five personality factors are presented in Table 3. With the exception of Openness to Experience, all of the Big Five personality variables have been examined in relation to job satisfaction in a longitudinal context. Over a 1-year period, Conscientiousness had a moderate, positive relationship with job satisfaction ($M r = .15$), which was significantly different from zero. Agreeableness was examined in only one longitudinal study. It had a moderate, positive association with job satisfaction ($r = .11$) 1 year later. The confidence interval for Agreeableness excluded zero. Extraversion had a moderate, positive relationship with job satisfaction ($M r = .13$) over periods of 6 weeks to 7 years. The confidence interval for Extraversion did not include zero. These findings support H1a. The longitudinal relationship between Neuroticism and job satisfaction was moderate, negative ($M r = -.17$), and significantly different from zero, providing support for H1b. This effect size is signifi-

TABLE 3
Meta-Analysis of the Longitudinal Relationship between Job Satisfaction
and Personality Traits

Personality Variable	<i>M</i>	<i>SD</i>	<i>Range</i>	<i>Median</i>	<i>K</i>	<i>N</i>	<i>Weighted M</i>	<i>Confidence Interval</i>
Conscientiousness	.15	.09	.08/.21	.15	2	702	.19	.07/.22
Extraversion	.13	.07	.08/.18	.13	2	326	.13	.02/.24
Agreeableness	.11	—	—	—	1	603	.11	.03/.19
Neuroticism	-.17	.07	-.26/-.09	-.20	6	1,799	-.19	-.22/-.13
NA/Trait anxiety	-.18	.10	-.26/.01	-.20	6	905	-.21	-.24/-.11
PA	.31	.09	.24/.37	.31	2	115	.28	.12/.49
LOC								
Overall	-.22	.19	-.45/.00	-.14	5	3,780	.06	-.25/-.18
Work	-.33	.10	-.44/-.27	-.27	3	322	-.33	-.44/-.22
Type A	-.01	.12	-.15/.08	.04	3	814	.05	-.08/.06
Achievement striving	.16	—	—	—	1	109	.16	-.03/.35
Impatience/Irritability	-.15	—	—	—	1	109	-.15	-.34/.04

cantly different from the cross-sectional effect size ($r = -.25$), as the confidence intervals are exclusive.

Affective dispositions. The relationship between NA/trait anxiety and job satisfaction has been investigated in multiple longitudinal studies. NA/trait anxiety had a moderate, negative association with job satisfaction ($M r = -.18$) over periods of 2 weeks to 7 years. PA was examined in two longitudinal studies. It had a moderate to strong and positive relationship with job satisfaction ($M r = .31$) over time lags of up to 3 years; although this effect size is excluded from the cross-sectional confidence interval (95% = .38, .43). The confidence intervals for NA and PA excluded zero (see Table 3). These results support H2a and H2b.

Similar to the cross-sectional analyses, when comparing the mean correlations of the Big Five and affective dispositions with job satisfaction, PA ($M r = .31$) and Extraversion ($M r = .13$) were found to have significantly different effect sizes ($z = 1.73, p = .04$). Thus, H3a was again supported by these data. There was not a significant difference in mean correlations for NA ($M r = -.18$) and Neuroticism ($M r = -.17$). Therefore, H3b was not supported.

Additional personality traits. The longitudinal relationships of overall LOC and work LOC with job satisfaction were moderate to strong and negative ($M r = -.22$ and $r = -.33$, respectively). The confidence intervals for both did not include zero (see Table 3). Given that low scores on the overall and work LOC scales represent internality, these results provide longitudinal support for the notion internals tend to have higher levels of satisfaction. Furthermore, these longitudinal findings are consistent with previous research that has shown work LOC scales tend to have stronger relationships with work outcomes than overall LOC measures (Spector, 1988). Thus, both H4a and H4b are supported by this longitudinal analysis. Finally, the longitudinal relationship between overall LOC and job satisfaction was not significantly different from the cross-sectional relationship, although the confidence intervals are almost exclusive (see Tables 2 and 3). This difference may be because of the small number of studies included in the longitudinal analysis ($K = 5$).

Over 6 weeks to 1-year intervals, global Type A personality had a small, negative relationship with job satisfaction ($M r = -.01$), which was not significantly different from zero (see Table 3). Only one study examined the relationships of the Type A II and AS dimensions with job satisfaction over time. After 1 year, job satisfaction was negatively associated with II ($r = -.15$), whereas it was positively related to AS ($r = .16$). The confidence intervals for II and AS included zero. Consequently, H5 is supported in the longitudinal context; however, more research in this area is needed.

We were not able to identify any longitudinal studies examining the relationships of trait anger, narcissism, or Machiavellianism with job satisfaction. The relationship between these variables and job satisfaction over time is currently unknown.

DISCUSSION

The goal of this meta-analysis was to investigate the relationship between personality and employee job satisfaction in both longitudinal and cross-sectional contexts. Although previous meta-analyses have investigated the role that NA/PA and the Big Five play in job satisfaction (Connolly & Viswesvaran, 2000; Judge et al., 2002), we investigated a wider range of variables and considered the Big Five factors and individual personality traits separately. It was necessary to keep personality variables distinct despite overlapping construct definitions to assess whether they, in fact, had differential relationships with job satisfaction. Furthermore, the current meta-analysis included personality traits that, although are important in understanding job satisfaction, have not been previously aggregated in meta-analyses.

Global and Composite Job Satisfaction

Measures of job satisfaction can be generally grouped into two types: composite or global scales. Composite scales measure various facets of job satisfaction, which are summed to obtain an overall job satisfaction score. Global scales ask employees to make overall assessments of their job satisfaction. Ironson, Smith, Brannick, Gibson, and Paul (1989) argued that one should not assume that the sum of facets is equivalent to an overall job satisfaction assessment because composite scales may not include all of the relevant facets for some jobs, the frame of reference may differ when answering global versus facet measures, and a linear sum of the facets may not adequately capture individual patterns. However, our findings indicated that the relationships between personality and both types of job satisfaction measures were very similar, therefore addressing some of the concerns raised by previous research. Although it may be the case that composite measures are not equivalent to global measures of job satisfaction in relation to other variables, our findings with personality fail to support this notion.

Mechanisms for Understanding the Personality/Job Satisfaction Relationship

The results of this meta-analysis indicate that a variety of personality variables beyond the widely studied Big Five and NA/PA are significantly related to job satisfaction. In addressing these results, it is important to discuss possible mechanisms by which sets of variables are related. The

purpose in doing this is to provide possible explanations for such relationships, which may in turn stimulate future research to test such mechanisms. Although the means by which personality affects job attitudes have received attention in other domains (see Moyle, 1995; Spector, Zapf, Chen, & Frese, 2000), this article attempts to integrate potential processes across various personality variables. These processes can be classified into nine different theoretical mechanisms, which are not necessarily mutually exclusive, or nonoverlapping. These mechanisms are presented in Table 4.

TABLE 4
Mechanisms for Understanding the Personality/Job Satisfaction Relationship

<i>Mechanism</i>	<i>Description</i>
General tendency to be Satisfied/ Dissatisfied	Satisfaction may act like a trait, although it might be associated with other personality traits, most notably positive affectivity or negative affectivity. According to this mechanism, satisfaction would not be mediated by situational factors associated with personality.
Selection	Personality may relate to the objective features of jobs through selection, including both self-selection and organizational selection. Hence, individuals with certain personality characteristics may be selected into better jobs with more opportunities for job satisfaction.
Threshold for negative emotion/ Hyper-reactivity	Individuals with certain personality characteristics may be hyper-reactive to work conditions or events that lead to negative or positive emotions, which in turn can affect job attitudes. This mechanism assumes that chronic exposure to emotion can affect attitudes, which has been supported by research (e.g., Van Katwyk, Fox, Spector, & Kelloway, 2000).
Performance as a mediator	Lawler and Porter (1967) proposed that performance leads to satisfaction through the allocation of rewards. Research has shown that certain personality variables relate to performance (see a review by Hough & Ones, 2001), which might affect job satisfaction.
Dissatisfaction/Stressor creation	Individuals with certain personality characteristics might create dissatisfying conditions for themselves (Depue & Monroe, 1986; Dohrenwend, Dohrenwend, Dodson, & Shrout, 1984). For example, research has shown that people have negative responses to individuals who appear depressed (Sacco, Dumont, & Dow, 1993). Therefore, the social environment at work might be less supportive, thus mediating the relationship between personality and job satisfaction.
Attrition/Change	Individuals with certain personality characteristics are more or less likely to quit or leave dissatisfying situations. For example, an individual high in NA might find the prospect of leaving a dissatisfying job to be anxiety provoking, and so he or she might remain on the job. As a result, there would be a disproportionate representation of certain personalities in dissatisfying jobs, which would produce a correlation with job satisfaction.
Third variables	The correlation between job satisfaction and a personality trait might be spurious due to third variables that relate to both. These could include individual differences, mood, or situational variables.
Perception/Appraisal	People with certain personality characteristics have a tendency to perceive the job differently from others, thus resulting in higher/lower levels of satisfaction.
Cognitive consistency	Some individuals are more likely to re-evaluate their situation in a favorable light in order to make sense of their behavior or to be consistent with their personality type, thus reporting higher levels of job satisfaction.

Each of these mechanisms is relevant to a subset of individual personality traits. Research support can be found for some mechanism–trait combinations, but some combinations have not been tested and remain theoretical in nature. Whenever available, empirical evidence that supports these mechanisms was presented. An overview of the proposed relationships between personality variables and mechanisms for understanding the personality/job satisfaction relationship can be seen in Table 5. Next are the nine mechanisms that are used to further discuss the results and a brief description of each.

The Big Five

Our findings were reasonably consistent with Judge et al.'s (2002) meta-analytic results concerning the Big Five, with the largest difference being for Extraversion. As stated in the results, Conscientiousness was one of the strongest Big Five correlates of job satisfaction. The positive association between Conscientiousness and job satisfaction may be explained through performance as a mediator. For instance, Conscientiousness has been associated with high job performance (Barrick & Mount, 1991) and was reported to be the best predictor of job performance in a meta-analysis of European data (Salgado, 1997). To the extent that performance leads to rewards, the conscientious employee may, consequently, feel satisfied with his or her job. An alternative process may have to do with cognitive consistency theory (Salancik & Pfeffer, 1977, 1978). Employees look at their behavior retrospectively and form attitudes (i.e., job satisfaction) to make sense of their actions. A conscientious employee who puts a great deal of effort and time into the job might evaluate his or her job as satisfying to rationalize his or her conscientious work behavior.

Our results also support the notion that extraverted employees report higher levels of job satisfaction. The supposition that productivity causes satisfaction may help explain this relationship (Lawler & Porter, 1967) given that Extraversion has been shown to be positively related to job performance (Barrick & Mount, 1991), higher salaries, and more promotions (Seibert & Kraimer, 2001). The more extraverted employee also may report higher levels of job satisfaction because of the trait's association with positive moods, thus supporting a mechanism driven by third variables. Some evidence to support this process can be found in research that demonstrated extraverts experience more pleasant moods than others (Matthews, Jones, & Chamberlain, 1990).

We found a smaller positive correlation between Extraversion and job satisfaction than did Judge et al. (2002). This may be accounted for by the decision to treat PA separately. In fact, there was a large, significant difference in mean correlation magnitude between measures of Extraversion and PA (.12 vs. .41, respectively). Had we combined these constructs, the mean correlation would have been in the high .20s. We recommend that Extraversion and PA be analyzed separately, not combined, in future research and meta-analyses.

Although we used only measures that specifically assessed Agreeableness, we found a positive mean correlation identical to that of Judge et al. (2002). There is not enough research to assert possible mechanisms by which Agreeableness relates to job satisfaction. Nevertheless, it seems plausible that these individuals simply have a tendency to view situations in a more favorable light, which then causes them to be more satisfied with their jobs. Alternately, agreeable individuals might get along better with others, including coworkers and supervisors, and their experiences at work are more favorable than those of disagreeable individuals, leading to higher job satisfaction. This suggests that Agreeableness would relate more strongly to interpersonal facets of job satisfaction than other facets.

TABLE 5
Proposed Relationships Between Personality Variables and Mechanisms for Understanding
the Personality/Job Satisfaction Relationship

Personality Variable ^a	Mechanism									
	General Tendency	Selection	Threshold/Hyper-reactivity	Performance as Mediator	Stressor Creation	Attrition	Third Variables	Perception/ Appraisal	Cognitive Consistency	
Conscientiousness				X					X	
Extraversion				X			X			
Agreeableness ^b	X									
Neuroticism		X		X						
PA	X							X		
NA/Trait anxiety	X	X			X	X	X	X		
LOC		X		X	X	X	X		X	
Type A			X	X						
Trait anger ^b			X		X				X	
Machiavellianism	X						X			

Note. PA = positive affectivity; NA = negative affectivity; LOC = locus of control.

^aNarcissism and Openness were not included given their nonsignificant relationships with job satisfaction. ^bThere was not enough empirical support for any of the possible mechanisms.

The finding that individuals high in Neuroticism report lower job satisfaction is consistent with previous meta-analytic findings (Judge et al., 2002). Barrick and Mount (1991) reported a negative correlation between Neuroticism and job performance, thus it is possible that one process that explains its relationship to job satisfaction is that of performance as a mediator. It also has been suggested that individuals high on Neuroticism have a tendency to select themselves into situations that promote negative emotions (Diener, Larsen, & Emmons, 1984; Larsen, Diener, & Emmons, 1985), which may be taken as support for the selection mechanism. Further, given their focus on negative stimuli, individuals high in Neuroticism tend to be hyper-reactive to negative events (Rusting & Larsen, 1998) and allow their negative moods to affect their level of job satisfaction (Ilies & Judge, 2002). Relevant processes for Neuroticism are discussed further in the next section on affective dispositions.

Finally, a very weak, negative correlation was found between Openness to Experience and job satisfaction. This relationship was indistinguishable from zero. These results are not surprising given that half of the effect sizes were not significantly different from zero. Furthermore, this is consistent with Judge et al. (2002), who also reported a mean correlation close to zero. Although there is no apparent bivariate relationship between Openness and job satisfaction, it still might be relevant. Openness to Experience might play a role in person–job fit, in that jobs that allow new experiences would be more satisfying for individuals high in openness than for those low in Openness. Even further, an individual might differ in the aspects of life where she or he is open to experiences (e.g., aesthetics), so that the particular type of experience would need to match the person's preference for Openness in order to result in job satisfaction.

Affective Dispositions

Our findings were consistent with those of Connolly and Viswesvaran (2000) in showing that individuals high in PA are more satisfied with their jobs, whereas those high in NA/trait anxiety are less satisfied. Although a strong, positive mean correlation was found between PA and job satisfaction, there is little empirical research on the processes by which they may be related. Nevertheless, consistent with the perception/appraisal process described earlier, it has been suggested that individuals high in PA are more sensitive to pleasurable stimuli, which causes them to be more satisfied (Tellegen, 1985). Whatever the mechanism that drives the relationship is, it is important to note that the mean effect size for PA was much larger than that of Extraversion.

A number of processes explaining the effect of NA/trait anxiety on job satisfaction have been supported, including emotion-threshold, perception/appraisal, selection, and stressor creation (e.g., Moyle, 1995; Spector, Zapf, Chen, & Frese, 2000). For example, individuals high in NA frequently experience feelings of anger, frustration, irritability, hostility, and/or dissatisfaction, theoretically, in the absence of obvious stressors (Clark & Watson, 1991). According to the perception/appraisal process, high NA individuals have a greater tendency to see the world as threatening and stressful (i.e., perceived stressors), which would result in higher levels of strain, such as job dissatisfaction. For example, Moyle hypothesized that those who are high in NA tend to perceive their job situation as being negative, which leads them to experience job dissatisfaction. It is also posited that high NA individuals are hyper-responsive to the environment. They do not necessarily perceive stressors differently than a low NA person; rather, they have an exaggerated strain response to stressors.

Further, Schaubroeck, Ganster, and Kemmerer (1994) suggested that individuals low in NA make better job choices and have higher levels of job satisfaction because they are in better jobs. Low NA individuals have been shown to be more successful in employment interviews (K. W. Cook, Vance, & Spector, 2000), thus providing additional support for the selection leads to satisfaction mechanism. There is also evidence that individuals high in NA tend to be in jobs with objectively less desirable characteristics (Spector, Fox, & Van Katwyk, 1999; Spector, Jex, & Chen, 1995).

It is also possible that the relationship between NA and job satisfaction is explained by the stressor creation mechanism. For example, high NA individuals may get into conflicts with others more often, do a worse job of managing their workflow, or perform worse on the job than those low in NA, which in turn would lead to lower satisfaction. Judge (1993) provided evidence for the attrition mechanism in showing that NA moderated the relation between job satisfaction and turnover, such that individuals high in NA do not quit when they are dissatisfied but those low in NA do. This might result in lower job satisfaction for high NA employees because dissatisfied low NA individuals have quit and are not found in the sample (at least in as large numbers). It is possible that the relationship between job satisfaction and NA is simply driven by third variables. For example, a person's mood might affect their reports of both job satisfaction and NA, such that those in better moods will report higher satisfaction and lower NA than those in worse moods (Spector, Chen, & O'Connell, 2000).

As stated earlier, NA and trait anxiety were combined after initial analyses confirmed that the two had the same negative mean correlation with job satisfaction and almost identical standard deviations and confidence intervals. Similarly, it is worth noting that the mean effect size for Neuroticism was identical to that of NA/trait anxiety. Although we kept these results distinct to address both the Big Five and NA/PA typologies, the findings suggest that measures of Neuroticism, NA, and trait anxiety may be combined into one. In fact, a reanalysis of the data including effect sizes for the three traits revealed that the mean Pearson product-moment correlation and confidence intervals were essentially identical to the results displayed in Table 1 for NA/trait anxiety.

LOC

As posited in the literature, a stronger mean correlation was found for work LOC than an overall LOC measure. This finding suggests that context specific measures of LOC should be used in organizational research over more general measures and that it is essential to distinguish between these in further meta-analytic studies. As posited, employees with an external LOC reported being less satisfied with their jobs, whereas those who are internals were more satisfied. Several processes may account for internals' higher level of job satisfaction. The fourth mechanism relates to the position that performance leads to satisfaction through the allocation of rewards (Lawler & Porter, 1967). Therefore, to the extent that internals perform better and that rewards follow performance, it could be expected that internals will be more satisfied. A number of studies have shown that employees with an internal LOC perform better than externals in jobs requiring autonomy, initiative, and responsibility (Rizzo, House, & Lirtzman, 1970; Spector, 1986). Furthermore, Kren (1992) showed that LOC moderated the relationship between performance-contingent rewards and performance, such that internals performed better than externals when incentives were pres-

ent. In a study with self-managing teams, Garson and Stanwyck (1997) found that groups of internals that expected performance-contingent rewards reported higher levels of supervisor satisfaction. In addition to finding a positive relationship between contingent rewards and satisfaction, Gupta (1980) also found that internals reported a higher degree of certainty that rewards would result from their performance than did externals.

A second process that explains why internals would be more satisfied with their jobs than externals refers to selection. Specifically, it may be that internals are selected into better jobs and, hence, experience more satisfaction. Two studies by K. W. Cook et al. (2000) regarding the impact of personality on the interview process showed that internals performed better and were more successful.

Attrition is another mechanism by which the expected relationship may be explained, particularly pertaining to the inclination of internals to take action in situations that require change. J. H. Harvey, Barnes, Sperry, and Harris (1974) showed that internals perceived more alternatives than did externals in situations where a choice had to be made. Furthermore, Spector (1982) suggested that internals are more likely to leave a dissatisfying situation because of their perceived level of control. In fact, internals who choose not to take action in an unfavorable job situation will experience cognitive pressure to reevaluate the situation in a more favorable light, supporting cognitive consistency theory.

The relationship between LOC and job satisfaction may be linked to job characteristics or third variables. Job characteristics theory posits five job dimensions that impact job satisfaction (Hackman & Oldham, 1975). Kimmons and Greenhaus (1976) reported that internals tend to perceive greater autonomy and feedback and are more satisfied with their jobs than externals. Knoop (1981) also reported that internals perceived their jobs as being more enriched and having more motivating potential than did externals, both of which have been linked to job satisfaction.

The stressor creation mechanism may also explain the relationship between LOC and job satisfaction. For example, externals are more likely to respond to a perceived job stressor with counterproductive work behavior (Storms & Spector, 1987), potentially causing more stressors for themselves.

Type A and Its Dimensions

This meta-analysis supports the notion that there is a differential relationship between specific dimensions of Type A personality and job satisfaction, which helps to clarify the mixed conclusions reached in studies of global Type A personality and job satisfaction (Chusmir & Hood, 1988; Frost & Wilson, 1983; Matteson, Ivancevick, & Smith, 1984; Moyle & Parkes, 1999). This is an important finding given that, to our knowledge, there has been no previous meta-analytic work that has investigated this distinction. Although the relationship with job satisfaction was fairly small and negative for measures of global Type A, analyses of the two Type A dimensions revealed that the AS dimension is beneficial to the experience of job satisfaction, whereas II is detrimental. These associations may be explained by several mechanisms.

First, it may be that the relationship between global Type A and job satisfaction is explained by third variables. Specifically, C. Lee, Ashford, and Bobko (1990) explained that the relationship between Type A and job satisfaction depends, in part, on the level of perceived control reported by

employees. They concluded that under high level of perceived control, Type A was positively associated with job satisfaction, whereas the opposite was true under low levels of perceived control.

In addition, it may be that Type A individuals are more hyper-reactive to job conditions that may lead to (dis)satisfaction, such as job stressors, hence making Type A personality itself a potential moderator. In the case of II, Jex, Adams, Elacqua, and Bachrach (2002) concluded that individuals higher in the trait were less satisfied when jobs were more mentally demanding. The researchers also found that AS moderated the stressor–job satisfaction relationship such that individuals high in AS were more satisfied than those low in AS under conditions of high role overload. Day and Jreige (2002) also reported that high AS individuals were more satisfied than low AS ones under conditions of low job control, providing support for the moderating role of Type A and the hyper-reactivity mechanism.

The impact of AS on job satisfaction may also be explained through performance as a mediator. Researchers have shown that AS is positively related to performance (Barling & Charbonneau, 1992; Helmreich, Spence, & Pred, 1988). To the extent that better performance leads to rewards, individuals high in AS would experience more job satisfaction.

Trait Anger, Narcissism, and Machiavellianism

The negative mean relationship between trait anger and job satisfaction is consistent with occupational stress research showing that individuals high in this trait are likely to experience more stressors and strains. Although there are too few studies to provide empirical evidence for any of the processes through which trait anger may influence satisfaction, some theoretical suggestions have been made by Spector (2003). For example, it is possible that individuals high in trait anger create an environment that is more stressful and, consequently, less satisfying. Another process may be that of perception/appraisal. Specifically, it is possible that high trait anger people perceive their work environment as being threatening and less satisfying. Last, individuals high in trait anger are more hyper-reactive than those low in the trait. Therefore, they experience feelings of anger more readily and, consequently, less satisfaction.

Given the inconsistent findings regarding narcissism and job satisfaction, it is not surprising that the resulting mean correlation was weak and indistinguishable from zero. The nonsignificant findings may be due to the complexity of the construct itself. For example, it could be that some narcissists inflate their sense of accomplishment and, thus, report being more satisfied. At the same time, narcissists also have been described as suffering from feelings of inferiority, which may result in dissatisfaction. Consequently, the relationship between this trait and job satisfaction may cancel out.

More interesting, though, was the relationship between Machiavellianism and job satisfaction. Although the findings suggest that employees who are more Machiavellian are less satisfied with their jobs, little is known as to why this relationship exists. Gemmill and Heisler (1972b) reported a nonsignificant relationship between Machiavellianism and job satisfaction once the effects of additional variables were partialled out. This suggests that the process by which Machiavellianism impacts job satisfaction is through third variables. However, Topol and Gable (1988) suggested that individuals low in Machiavellianism simply tend to be more satisfied than those high in the trait, which supports the general tendency mechanism.

Longitudinal Relationships Between Job Satisfaction and Personality Traits

The longitudinal relationships of the Big Five factors (Conscientiousness, Extraversion, Agreeableness, and Neuroticism), affective dispositions (PA and NA/trait anxiety), LOC (overall and work), and Type A (global, AS, and II) with job satisfaction were also meta-analyzed. Although slightly smaller, the longitudinal effect sizes for the Big Five factors of Conscientiousness, Extraversion, and Agreeableness were similar in magnitude to the cross-sectional ones, even with time lags that varied from 6 weeks to 7 years. There was a more substantial difference in effect size for Neuroticism, NA/trait anxiety, and PA over periods that varied from 2 weeks to 7 years. That these personality variables had smaller longitudinal than cross-sectional mean correlations was expected, given that Neuroticism, NA, and PA all reflect a tendency to experience a multitude of (negative or positive) emotional states, which are transitory in nature and less stable.

Longitudinal studies using a work LOC measure had a mean correlation that was similar to, yet slightly smaller than, the cross-sectional one. However, the longitudinal mean correlation for overall LOC ($M r = -.22$) was substantially stronger than the cross-sectional ($M r = -.12$) one. This was probably because the effect size for the individual overall LOC studies in this analysis ranged from $-.45$ to $.00$. Moreover, this finding lends support to the proposition that coding errors by the original authors may have affected the meta-analytical, cross-sectional relationship between these variables.

The longitudinal effect size for global Type A ($M r = -.01$) was smaller than the cross-sectional one ($M r = -.09$) and was indistinguishable from zero. This indicates that the relationship between global Type A personality and job satisfaction may not remain stable over time. This finding should be replicated in the future, as there were a small number of studies included in this analysis ($K = 3$).

Overall, with the exception of global Type A, the relationships found between job satisfaction and personality with longitudinal studies were consistent with those found with cross-sectional ones. It should be noted that the longitudinal analyses were based on a small number of studies (i.e., $K = 2-6$). Therefore, longitudinal findings should be examined with caution and further tested with future research.

Limitations

Although we attempted to include as many effect sizes as possible given our inclusion criteria, a few of our findings are based on a small number of studies and, therefore, require more careful consideration. It has been noted that the measurement of some personality traits, such as NA, trait anxiety, and Neuroticism, suffers from restriction of range (Brief, Burke, George, Robinson, & Webster, 1988). Consequently, this might have led to attenuated correlations with job satisfaction in the study presented here. Furthermore, it was not possible to include mean effect sizes for specific facets of job satisfaction due to the paucity of studies reporting such correlations. Therefore, we were limited to only the discussion of personality and overall job satisfaction.

Another limitation is that all of the studies we included in our analyses relied entirely on self-reports by employees. It is certainly possible that reports of job satisfaction and personality share biases that would inflate observed relationships. Conversely, biases that are unshared would

serve to attenuate correlations. For example, social desirability might bias reports of emotional stability and NA but are unlikely to bias job satisfaction (Moorman & Podsakoff, 1992) rendering observed correlations with job satisfaction to be underestimates. Studies utilizing alternative methods of assessing these variables would add to our understanding of how personality relates to job attitudes.

Implications and Future Directions

This meta-analysis has several important implications for research and our fields' understanding of the nature of the relationship between personality and job satisfaction. It is apparent from the results of this meta-analysis that there is good support for a dispositional effect on job satisfaction. Beyond a replication of findings for the Big Five and NA/PA, these results make it clear that other personality variables are essential in understanding variability in job satisfaction. In addition, the results confirmed that, in the case of LOC, specific measures are more appropriate than a global measure in the study of organizational variables. Similarly, differentiating between dimensions of Type A is critical in job satisfaction research and, potentially, in other organizational domains. Given the scarcity of studies that assessed both Type A dimensions in conjunction with job satisfaction, this is an area ripe for and in need of additional research. Further, Machiavellianism and trait anger are promising personality traits in the study of job satisfaction; however, their limited use in organizational research makes it difficult to draw firm conclusions regarding the processes whereby they impact employee attitudes. Again, this area is wide open for future research and theoretical development.

This study also addressed the important issue of whether measures of different personality traits can be subsumed into one, a practice that is relatively common in personality research. Based on these findings, it is suggested that measures of NA, trait anxiety, and Neuroticism can be combined to measure one overarching construct in the study of job satisfaction. However, the results clearly indicate that combining measures of PA and Extraversion is an inappropriate practice that can distort the actual relationships of these distinct constructs with relevant outcomes. Future research should examine how combining personality constructs, not limited to those investigated here, affects the relationships between personality and other organizational outcomes.

Beyond these implications for research and theory, two broad contributions to research on personality and job satisfaction are also made. First, our knowledge about the relationships between dispositions and job satisfaction has been advanced by examining these variables meta-analytically in a longitudinal context and by looking beyond the widely used personality typologies and including equally important variables that warranted attention. Second, we have presented a theoretical explanation for how these traits might relate to job satisfaction. In doing so, we realized that there is insufficient research that examines the theoretical connections between personality and job satisfaction. It seems that hypotheses regarding expected relationships are often based on previous findings, and little effort is made to understand why such relationships should be expected. Ideally, the findings and theoretical discussion presented here will serve as a catalyst for researchers to investigate some of the more promising traits in greater depth, elaborating on and increasing the investigation of the theoretical processes for the relationship between personality and job satisfaction.

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