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## A meta-analytic examination of the relationship between job satisfaction and subjective well-being

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The current meta-analysis examined the relationship between job satisfaction and subjective well-being (SWB). Consistent with the spillover hypothesis, we found positive relationships between job satisfaction and life satisfaction, happiness, positive affect, and the absence of negative affect. In addition, an examination of longitudinal studies suggested that the causal relationship from SWB to job satisfaction was stronger than the causal relationship from job satisfaction to SWB.

Subjective well-being (SWB) is an inclusive term used to refer to life satisfaction, happiness, the presence of positive affect, and the absence of negative affect (DeNeve & Cooper, 1998; Diener, Suh, Lucas, & Smith, 1999; Okun, Stock, & Covey, 1982). Although organizational research has consistently found that job satisfaction is related to each of the above subdimensions of SWB (Tait, Padgett, & Baldwin, 1989; Thoresen, Kaplan, Barsky, Warren, & de Chermont, 2003; Van de Vliert & Janssen, 2002), the magnitude of these relationships has been found to vary considerably from study to study. Research on the job satisfaction–life satisfaction relationship, for example, has yielded correlations ranging from .16 (Crohan, Antonucci, Adelman, & Coleman, 1989; Susskind, Borchgrevink, Kacmar, & Brymer, 2000) to .68 (Van de Vliert & Janssen, 2002). Similarly, the strength of job satisfaction’s relationships with happiness (see Judge & Hulin, 1993; Warr, Cook, & Wall, 1979), positive affect (see Curhan, Elfenbein, & Kilduff, 2009; Ilies, Scott, & Judge, 2006), and the absence of negative affect (see Fisher, 2000; Van Katwyk, Fox, Spector, & Kelloway, 2000) are highly inconsistent across studies.

The objective of the current study is to use meta-analysis to provide a quantitative review of the relationship between job satisfaction and SWB. The use of meta-analysis will allow us to examine whether inconsistencies across studies in the strength of the job satisfaction–SWB relationship is due to either substantive moderators or is instead due to statistical artifacts (see Hunter & Schmidt, 2004). We also conducted meta-analysis of longitudinal samples in an effort to explore the causal nature of the job satisfaction–SWB relationship.

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## **Conceptualizations of SWB**

Specific conceptualizations of SWB, which include both cognitive (e.g. life satisfaction) and affective dimensions (e.g. happiness, the presence of positive affect, and the absence of negative affect), are similar to one another in that each involves subjective appraisals of one's own life that are independent of objective life conditions (e.g. health, virtue, or wealth; DeNeve & Cooper, 1998; Diener, 1984; Diener & Eunkook, 1997). Conceptually, dimensions of SWB are expected to be strongly related to each other, a prediction that has been supported by prior research (Barsky, Thoresen, Warren, & Kaplan, 2004; Judge & Locke, 1993; Piccolo, Judge, Takahashi, Watanabe, & Locke, 2005). Cognitive dimensions of SWB, for example, are expected to be positively related to affective dimensions of SWB because both involve evaluations of one's life and because cognition and affect in general are typically strongly associated (Zajonc, 1980). Because prior research supports the practice of examining different SWB facets as related but separate constructs (Diener *et al.*, 1999; Lucas, Diener, & Suh, 1996), we separately examine life satisfaction, happiness, positive affect, and negative affect.

## **Relationship between job satisfaction and SWB**

Several studies have examined the relationships between job satisfaction and the subdimensions of SWB. A meta-analysis by Tait *et al.* (1989), for example, found a corrected correlation of .44 between job satisfaction and life satisfaction ( $k = 57$ ,  $N = 19,811$ ). More recently, a meta-analysis by Thoresen *et al.* (2003) found that job satisfaction was related to both positive affect ( $\rho = .34$ ,  $k = 79$ ,  $N = 23,419$ ) and the absence of negative affect ( $\rho = .34$ ,  $k = 176$ ,  $N = 59,733$ ). Other research has found that job satisfaction is positively associated with happiness (Michalos & Orlando, 2006; Weaver, 1978). The positive relationships found in the above studies may indicate that job satisfaction is a subdimension of SWB, as some researchers have suggested (Judge & Locke, 1993; Judge, Locke, Durham, & Kluger, 1998; Locke, 1976; Near, Rice, & Hunt, 1978; Rice, Near, & Hunt, 1980). Known as the part-whole theory, this explanation suggests a causal relationship from job satisfaction to SWB.

A second possibility is that SWB represents a person's general predisposition to experience particular emotions and these predispositions can influence one's satisfaction towards specific domains, such as work (Diener, 1984; Headey, Veenhoven, & Wearing, 1991; Judge & Hulin, 1993; Judge & Watanabe, 1993). This prediction is consistent with the dispositional approach to job satisfaction (Dormann & Zapf, 2001; Staw & Ross, 1985; Steel & Rentsch, 1997) and suggests a causal relationship from SWB to job satisfaction.

Finally, these findings are also consistent with the spillover hypothesis, which suggests that the experiences from one life domain have corresponding influences on the experiences in other life domains (Judge, Parker, Colbert, Heller, & Ilies, 2001; Judge & Watanabe, 1994; Kabanoff, 1980; Near, Rice, & Hunt, 1987; Near *et al.*, 1978; Rain, Lane, & Steiner, 1991; Rice *et al.*, 1980; Wilensky, 1960). Positive experiences at work, for instance, may contribute to satisfaction in non-work domains, such as the marital or leisure domains.

Based on these explanations and the above research findings, we expected that job satisfaction will be positively related to SWB.

*Hypothesis 1:* Job satisfaction will be positively related to SWB.

Not all forms of job satisfaction are expected to be equally related to SWB. Specifically, we predict that global job satisfaction will yield stronger relationships with SWB than will job satisfaction facets (i.e. satisfaction with work itself, supervision, co-workers, pay, and promotional opportunities). This prediction is based on the principle of compatibility (Fishbein & Ajzen, 1974), which suggests that the relationship between two variables will be strongest when both are assessed at the same level of specificity. Because global job satisfaction and SWB are relatively broader than the job satisfaction facets, the strongest job satisfaction-SWB relationships will be found when global rather than facet job satisfaction is assessed.

To illustrate this further, one could think of both SWB and job satisfaction as existing within a hierarchy. SWB, which is the broadest or most high-level construct within the hierarchy, is composed of several medium-level subdimensions, one of which is global job satisfaction (examples of other medium-level subdimensions include marital satisfaction, leisure satisfaction, and health satisfaction). The job satisfaction facets, which are subdimensions of global job satisfaction, exist at the lowest level of the hierarchy. Because they are located relatively close to each other on the hierarchy, global job satisfaction is expected to have a relatively strong relationship with SWB. The relationships between the job satisfaction facets and SWB, on the other hand, are expected to be weak because they are located on different ends of the hierarchy.

*Hypothesis 2:* Global job satisfaction will yield stronger relationships with SWB than will job satisfaction facets.

### **Causal nature of the relationship between job satisfaction and SWB**

The causal nature of the relationship between job satisfaction and SWB has not been clearly established. As suggested above, the part-whole theory posits that job satisfaction has a causal effect on SWB (Hart, 1999; Judge & Locke, 1993; Judge *et al.*, 1998; Locke, 1976), whereas the dispositional approach posits that SWB has a causal effect on job satisfaction (Diener, 1984; Headey *et al.*, 1991; Judge & Hulin, 1993; Judge & Watanabe, 1993).

Longitudinal studies have been used to examine the causal relationship between job satisfaction and SWB. This research has primarily used two waves of data collection to examine: (a) whether initial job satisfaction predicts subsequent SWB after initial SWB is controlled and (b) whether initial SWB predicts subsequent job satisfaction after initial job satisfaction is controlled.

Some of these studies have found significant relationships between initial job satisfaction and subsequent SWB, which has been interpreted as evidence of causal effects from job satisfaction to SWB (e.g. Chacko, 1983; Orpen, 1978). Other studies have found significant relationships between initial SWB and subsequent job satisfaction, which suggests a causal relationship from SWB to job satisfaction (Headey *et al.*, 1991; Schmitt & Mellon, 1980). Still other studies have found that initial job satisfaction was related to subsequent SWB and that initial SWB was related to subsequent job satisfaction (Judge, Boudreau, & Bretz, 1994; Judge & Watanabe, 1993; Keon & McDonald, 1982; Schmitt & Bedeian, 1982). This latter finding has been interpreted as evidence of a reciprocal relationship between job satisfaction and SWB. Given these inconsistencies in the longitudinal research findings, we used meta-analysis to examine the causal nature of the relationship between job satisfaction and SWB. We made no *a priori* predictions about these analyses, thus we consider them to be exploratory.

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## **Comparison between the current meta-analysis and prior SWB meta-analyses**

Prior meta-analyses have examined the relationship between job satisfaction and SWB. Although recent meta-analyses of positive affectivity and the absence of negative affectivity indicate a positive association with job satisfaction (Connolly & Viswesvaran, 2000; Thoresen *et al.*, 2003) and facets of job satisfaction (Bowling, Hendricks, & Wagner, 2008), several limitations exist with these meta-analyses. Specifically, the prior meta-analyses included assessments of personality traits (Bowling *et al.*, 2008; Connolly & Viswesvaran, 2000; Thoresen *et al.*, 2003), affect that was contaminated with questions pertaining to the job (Connolly & Viswesvaran, 2000; Thoresen *et al.*, 2003), and did not distinguish between global and facet job satisfaction (Connolly & Viswesvaran, 2000; Thoresen *et al.*, 2003).

The current study also focuses on life satisfaction and happiness, which have not been examined in relationship to job satisfaction by recent meta-analyses. As noted above, a prior meta-analysis (Tait *et al.*, 1989) examined the relationship between job satisfaction and life satisfaction. Thus, it is important to note how the current study improves upon and extends that prior meta-analysis. First, because Tait *et al.* was published nearly two decades ago, our database of primary studies is much larger than that of Tait *et al.* Second, Tait *et al.* did not distinguish between different types of job satisfaction (e.g. global vs. facet). Finally, we have excluded several studies from Tait *et al.*'s original meta-analysis. Specifically, we believe that some life satisfaction measures they included have suspect validity (i.e. Kavanagh & Halpern, 1977; Miller, 1940; Weitz, 1952). Additional studies that we excluded include a sample of retirees (Schmitt, White, Coyle, & Rauschenberger, 1979), a student sample (Bhagat & Chassie, 1978), and a sample that was used in two studies that appears to be double counted (see Schmitt & Bedeian, 1982; Schmitt & Mellon, 1980).

## **Method**

We used meta-analysis to examine the relationship between job satisfaction and SWB. In the following sections, we discuss our literature search strategy, inclusion criteria, and the methods we used to conduct the meta-analyses.

### **Literature search**

We used the PsycINFO computer database to conduct our initial literature search. This search included studies published from 1967 to 2008. In this search, we used the term 'job satisfaction' in combination with either 'life satisfaction', 'happiness', 'affect', 'affectivity', or 'subjective well-being'. We identified additional relevant samples by reviewing the reference sections of the studies we found during the PsycINFO search. We also found relevant samples by reviewing the reference section in Bowling *et al.* (2008), Connolly and Viswesvaran (2000), Rice *et al.* (1980), Tait *et al.* (1989), and Thoresen *et al.* (2003). Combined, these search strategies yielded a total of 223 samples that were included in our analyses.

### **Inclusion criteria**

Each of the studies included in the current meta-analysis measured at least one form of job satisfaction (i.e. global job satisfaction, facet job satisfaction) and at least one of the

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targeted forms of SWB (i.e. global life satisfaction, happiness, affect). Only published studies using samples of employed adults were included in the analyses.

### **Meta-analytic method**

We used Hunter and Schmidt's (2004) method to conduct the meta-analyses. Specifically, we computed the sample-weighted mean corrected correlation between job satisfaction and SWB. In all of the analyses, we corrected for unreliability in both the job satisfaction and SWB measures. We used artefact distributions to estimate missing reliability data. In addition, to detect the possibility of moderation, we computed the percentage of variance across studies attributable to artifacts. If the percentage of variance due to artifacts was less than 75%, potential moderating variables were considered. We computed 95% confidence intervals to test the significance of each uncorrected correlation. If the confidence interval excluded zero, the relationship was deemed statistically significant.

### **Types of job satisfaction measures**

We conducted analyses using global job satisfaction, individual job satisfaction facets, and composite measures consisting of a combination of job satisfaction facets. Examples of global job satisfaction scales used in the primary studies included the Job in General Scale (Ironson, Smith, Brannick, Gibson, & Paul, 1989), Faces Scale (Kunin, 1955), and Michigan Organizational Assessment Questionnaire (Cammann, Fichman, Jenkins, & Klesh, 1983). The job satisfaction facets that we examined were satisfaction with work itself, satisfaction with supervision, satisfaction with co-workers, satisfaction with pay, and satisfaction with promotion. The Job Descriptive Index (Smith, Kendall, & Hulin, 1969) was the most common measure used in the primary studies to assess job satisfaction facets.

We used the formula from Hunter and Schmidt (2004) to compute composite job satisfaction measures. Following Judge and Bono (2001), we computed composites for primary studies that reported two or more job satisfaction facets. Additionally, the short form of the Minnesota Satisfaction Questionnaire (Weiss, Dawis, England, & Lofquist, 1967) was coded as a composite job satisfaction measure because this measure consists of the sum of 20 individual facet-level items.

### **Types of SWB measures**

The primary studies also included several different types of SWB measures, including life satisfaction, happiness, positive affect, and negative affect. Examples of global life satisfaction measures that were included in our analyses were the Satisfaction with Life Scale (Diener, Emmons, Larsen, & Griffin, 1985) and an adapted version of the Faces Scale (Kunin, 1955). Examples of happiness measures included the Fordyce Happiness Scale (Fordyce, 1988) and Underwood and Froming's (1980) scale. In some cases, researchers measured SWB with scales that included both happiness and life satisfaction items (e.g. Brief & Hollenbeck, 1985). Because life satisfaction and happiness are distinct components of SWB (Diener, 1984), we elected to exclude these studies from the current meta-analysis. Positive affect and negative affect scales included the positive and negative affect schedule (PANAS; Watson, Clark, & Tellegen, 1988). The PANAS assesses the frequency of affective experiences over a period of time, which can include 'right now', 'past day', 'past few days', 'past few weeks', 'past year', or 'in general'.

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All versions of the PANAS were meta-analysed. Because SWB researchers are primarily interested in the assessment of long-term moods (Diener *et al.*, 1999), we excluded personality traits (e.g. trait extraversion, trait neuroticism, trait anxiety) and experiences of discrete of emotions (e.g. state depression, state anxiety).

## **Cross-lag regression analyses**

We examined studies that assessed job satisfaction and SWB at two time points so that we could examine the causal nature of the relationship between job satisfaction and SWB. For these analyses, we widened our literature search to include unpublished manuscripts. Eight published and three unpublished samples were examined in this meta-analysis. It should be noted that two studies were included in these longitudinal analyses that were omitted from the primary meta-analyses (Judge & Watanabe, 1993; Schmitt & Mellon, 1980) because the samples overlap with larger cross-sectional studies (Judge & Watanabe, 1994; Schmitt & Bedian, 1982). SWB was assessed using measures of life satisfaction, happiness, and affect. When a study included more than one assessment of SWB (e.g. both positive and negative affect), a coin toss was conducted to randomly select a SWB scale to avoid double counting the sample.

To perform the meta-analytic regression analyses, we followed the method used by Ricketta (2008). Specifically, we conducted meta-analyses of the relationships between: (a) initial job satisfaction and subsequent job satisfaction, (b) initial SWB and subsequent SWB, (c) initial job satisfaction and subsequent SWB, (d) initial SWB and subsequent job satisfaction, (e) initial job satisfaction and initial SWB, and (f) subsequent job satisfaction and subsequent SWB. The corrected correlations obtained in these analyses were used to conduct cross-lag regression analyses.

## **Results**

### **Relationships of global, facet, and composite job satisfaction with SWB**

#### *Life satisfaction*

Table 1 presents the relationships of global, facet, and composite job satisfaction with life satisfaction. Consistent with Hypothesis 1, each type of job satisfaction yielded a significant positive relationship with life satisfaction. Specifically, the analyses yielded positive relationships for global job satisfaction ( $\rho = .48$ ,  $k = 53$ ,  $N = 29,404$ ), satisfaction with work itself ( $\rho = .21$ ,  $k = 11$ ,  $N = 2,477$ ), satisfaction with supervision ( $\rho = .20$ ,  $k = 11$ ,  $N = 2,085$ ), satisfaction with co-workers ( $\rho = .23$ ,  $k = 11$ ,  $N = 2,085$ ), satisfaction with pay ( $\rho = .21$ ,  $k = 10$ ,  $N = 1,578$ ), satisfaction with promotion ( $\rho = .14$ ,  $k = 10$ ,  $N = 1,578$ ), and composite job satisfaction ( $\rho = .36$ ,  $k = 22$ ,  $N = 6,046$ ). It is important to note that the percentage of variance explained by artefacts was less than 75% for each form of job satisfaction, which is indicative of moderator effects (Hunter & Schmidt, 2004).

#### *Happiness*

Table 1 also presents the relationships of global, facet, and composite job satisfaction with happiness. Consistent with Hypothesis 1, job satisfaction generally yielded a positive relationship with happiness. Specifically, the analyses yielded significant positive relationships for global job satisfaction ( $\rho = .43$ ,  $k = 15$ ,  $N = 9,924$ ),

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**Table 1.** Meta-analyses of the relationships of global, facet, and composite job satisfaction with life satisfaction and happiness

Job satisfaction variable	<i>k</i>	<i>N</i>	Mean <i>r</i>	<i>SD<sub>r</sub></i>	Mean $\rho$	<i>SD<sub>ρ</sub></i>	95% confidence interval	% Variance artefacts
<i>Life satisfaction</i>								
Global job satisfaction	53	29,404	.40	0.10	.48	0.12	.37, .43	13.93
Satisfaction with work itself	11	2,477	.18	0.16	.21	0.18	.09, .27	14.16
Satisfaction with supervision	11	2,085	.17	0.08	.20	0.09	.12, .22	44.04
Satisfaction with co-workers	11	2,085	.20	0.07	.23	0.08	.16, .24	45.00
Satisfaction with pay	10	1,578	.17	0.11	.21	0.14	.10, .24	30.52
Satisfaction with promotion	10	1,578	.12	0.07	.14	0.08	.08, .16	54.06
Facet satisfaction composite	22	6,046	.31	0.12	.36	0.13	.26, .36	19.28
<i>Happiness</i>								
Global job satisfaction	15	9,924	.36	0.09	.43	0.11	.31, .41	13.12
Satisfaction with work itself	3	747	.31	0.00	.35	0.00	.31, .31	100.00
Satisfaction with supervision	2	484	.17	0.00	.19	0.00	.17, .17	100.00
Satisfaction with co-workers	2	484	.14	0.00	.16	0.00	.14, .14	100.00
Satisfaction with pay	2	484	-.02	0.28	-.02	0.09	-.41, .37	4.93
Satisfaction with promotion	2	484	.11	0.07	.12	0.08	.01, .21	40.47
Facet satisfaction composite	3	866	.31	0.12	.39	0.12	.17, .45	21.02

Note. *k*, number of samples; *N*, total sample size; mean *r*, average weighted correlation coefficient; mean  $\rho$ , average weighted correlation coefficient corrected for unreliability in both the predictor and criterion; % variance artefacts, percentage of variance explained by artefacts. Facet satisfaction composite is the composite of two or more job satisfaction facets.

satisfaction with work itself ( $\rho = .35$ ,  $k = 3$ ,  $N = 747$ ), satisfaction with supervision ( $\rho = .19$ ,  $k = 2$ ,  $N = 484$ ), satisfaction with co-workers ( $\rho = .16$ ,  $k = 2$ ,  $N = 484$ ), satisfaction with promotion ( $\rho = .12$ ,  $k = 2$ ,  $N = 484$ ), and composite job satisfaction ( $\rho = .39$ ,  $k = 3$ ,  $N = 866$ ), whereas satisfaction with pay ( $\rho = -.02$ ,  $k = 2$ ,  $N = 484$ ) had a non-significant relationship with happiness. We should further note that artefacts accounted for less than 75% of the variance in effects sizes for the global job satisfaction studies, which suggests the presence of moderators (Hunter & Schmidt, 2004).

## Affect

Table 2 presents the relationships of global, facet, and composite job satisfaction with positive affect and the absence of negative affect. Consistent with Hypothesis 1, job satisfaction generally yielded a positive relationship with forms of affect. Specifically, the analyses for positive affect yielded significant positive relationships for global job satisfaction ( $\rho = .44$ ,  $k = 47$ ,  $N = 12,343$ ), satisfaction with work itself ( $\rho = .36$ ,  $k = 3$ ,  $N = 626$ ), satisfaction with promotion ( $\rho = .21$ ,  $k = 2$ ,  $N = 338$ ), and composite job satisfaction ( $\rho = .37$ ,  $k = 12$ ,  $N = 3,059$ ), whereas satisfaction with supervision ( $\rho = .17$ ,  $k = 2$ ,  $N = 338$ ), satisfaction with co-workers ( $\rho = .05$ ,  $k = 2$ ,  $N = 338$ ), and satisfaction with pay ( $\rho = .12$ ,  $k = 3$ ,  $N = 495$ ) had non-significant relationships with positive affect.

The absence of negative affect yielded significant positive relationships for global job satisfaction ( $\rho = .32$ ,  $k = 56$ ,  $N = 15,662$ ), satisfaction with work itself ( $\rho = .33$ ,  $k = 3$ ,  $N = 626$ ), satisfaction with supervision ( $\rho = .26$ ,  $k = 2$ ,  $N = 338$ ), satisfaction with co-workers ( $\rho = .23$ ,  $k = 2$ ,  $N = 338$ ), satisfaction with pay ( $\rho = .24$ ,  $k = 2$ ,  $N = 338$ ),

**Table 2.** Meta-analyses of the relationships of global, facet, and composite job satisfaction with positive and negative affect

Job satisfaction variable	<i>k</i>	<i>N</i>	Mean <i>r</i>	<i>SD<sub>r</sub></i>	Mean $\rho$	<i>SD<sub>\rho</sub></i>	95% confidence interval	% Variance artefacts
<i>Positive affect</i>								
Global job satisfaction	47	12,343	.38	0.13	.44	0.13	.34, .42	18.38
Satisfaction with work itself	3	626	.32	0.09	.36	0.05	.21, .43	57.39
Satisfaction with supervision	2	338	.14	0.11	.17	0.08	-.02, .30	49.47
Satisfaction with co-workers	2	338	.04	0.04	.05	0.00	-.02, .10	100.00
Satisfaction with pay	3	495	.10	0.16	.12	0.16	-.09, .29	22.21
Satisfaction with promotion	2	338	.18	0.05	.21	0.00	.11, .25	100.00
Facet satisfaction composite	12	3,059	.30	0.06	.37	0.02	.26, .34	86.56
<i>Absence of negative affect</i>								
Global Job satisfaction	56	15,662	.27	0.09	.32	0.09	.24, .30	33.38
Satisfaction with work itself	3	626	.30	0.07	.33	0.00	.22, .38	100.00
Satisfaction with supervision	2	338	.23	0.11	.26	0.10	.07, .39	40.08
Satisfaction with co-workers	2	338	.20	0.01	.23	0.00	.18, .22	100.00
Satisfaction with pay	2	338	.20	0.14	.24	0.14	.01, .39	26.28
Satisfaction with promotion	2	338	.12	0.14	.15	0.14	-.08, .32	26.98
Facet satisfaction composite	12	3,347	.32	0.09	.39	0.09	.27, .37	36.47

Note. *k*, number of samples; *N*, total sample size; mean *r*, average weighted correlation coefficient; mean  $\rho$ , average weighted correlation coefficient corrected for unreliability in both the predictor and criterion; % variance artefacts, percentage of variance explained by artefacts. Facet satisfaction composite is the composite of two or more job satisfaction facets.

and composite job satisfaction ( $\rho = .39$ ,  $k = 12$ ,  $N = 3,347$ ), whereas satisfaction with promotion ( $\rho = .15$ ,  $k = 2$ ,  $N = 338$ ) had a non-significant relationships with the absence of negative affect. Similar to the effects sizes between global job satisfaction and both life satisfaction and happiness, artefacts accounted for less than 75% of the variance, which suggests the presence of moderators (Hunter & Schmidt, 2004). Overall, support was found for Hypothesis 1.

Partial support was also found for Hypothesis 2, which predicted that global job satisfaction would yield stronger relationships with SWB than would the facet measures of job satisfaction. To examine the significance of these differential relationships, we compared the confidence intervals for the respective correlations. If the confidence intervals did not overlap with each other, then the relationships were interpreted as significantly different. As shown in Table 1, the global job satisfaction–life satisfaction relationship was significantly stronger than the relationships for satisfaction with work itself, supervisors, co-workers, promotion, and composite job satisfaction. In addition, the relationship between global job satisfaction and happiness is significantly stronger than the relationships for satisfaction with supervision, co-workers, and promotion, but was not significantly stronger than satisfaction with work itself, pay, or composite satisfaction.

As shown in Table 2, the global job satisfaction–positive affect relationship was significantly stronger than the relationships for satisfaction with supervisors, co-workers, promotion, and composite job satisfaction, but not significantly stronger than satisfaction with work itself. In addition, the relationship between global job satisfaction and the absence of negative affect is significantly stronger than the relationships for

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satisfaction with co-workers, but not significantly stronger than satisfaction with work itself, supervision, pay, promotions, or composite satisfaction.

### *Causal nature of the relationship between job satisfaction and SWB*

We used cross-lag regression analyses to examine the causal nature of the relationship between job satisfaction and SWB. To conduct these analyses, we first meta-analysed the relationships (Table 3;  $k = 11$ ,  $N = 2,867$  for all relationships) between Time 1 SWB and Time 1 job satisfaction ( $\rho = .42$ ), Time 1 SWB and Time 2 job satisfaction ( $\rho = .40$ ), Time 2 SWB and Time 1 job satisfaction ( $\rho = .34$ ), Time 2 SWB and Time 2 job satisfaction ( $\rho = .47$ ), Time 1 SWB and Time 2 SWB ( $\rho = .70$ ), and Time 1 job satisfaction and Time 2 job satisfaction ( $\rho = .66$ ). As with the moderator analyses, we examined the life satisfaction, happiness, and affect studies together.

**Table 3.** Meta-analyses of longitudinal studies

Meta-analysed variables		Mean $r$	$SD_r$	Mean $\rho$	$SD_\rho$	95% confidence interval	% Variance artefacts
SWB Time 1	Job satisfaction Time 1	.36	0.09	.42	0.08	.30, .42	43.41
SWB Time 1	Job satisfaction Time 2	.34	0.09	.40	0.08	.28, .40	43.12
SWB Time 2	Job satisfaction Time 1	.29	0.10	.34	0.09	.23, .35	35.25
SWB Time 2	Job satisfaction Time 2	.40	0.08	.47	0.07	.35, .45	43.55
SWB Time 1	SWB Time 2	.61	0.12	.70	0.13	.54, .68	13.22
Job satisfaction Time 1	Job satisfaction Time 2	.52	0.16	.66	0.15	.42, .62	11.77

*Note.* Number of samples = 11; total sample size = 2,867; SWB, subjective well-being; mean  $r$ , average weighted correlation coefficient; mean  $\rho$ , average weighted correlation coefficient corrected for unreliability in both the predictor and criterion; % variance artefacts, percentage of variance explained by artefacts. SWB includes measures of life satisfaction, happiness, and affect.

The meta-analytic regression analyses used to test the causal nature of the job satisfaction–SWB relationship are reported in Table 4. SWB significantly related to subsequent job satisfaction ( $\beta = 0.15$ ,  $p < .01$ ), while controlling for initial job satisfaction. Likewise, job satisfaction significantly related to subsequent SWB ( $\beta = 0.06$ ,  $p < .01$ ), while controlling for initial SWB. Although these results are consistent with a reciprocal relationship between job satisfaction and SWB, they suggest that the effect of SWB on job satisfaction may be stronger than the effect of job satisfaction on SWB.

**Table 4.** Regression analyses: subsequent job satisfaction or SWB regressed on preceding job satisfaction and SWB

Time 2 variable	$\beta$ , job satisfaction Time 1	$\beta$ , SWB Time 1	$R^2$
Job satisfaction Time 2	0.60 (39.26)**	0.15 (9.79)**	.45**
SWB Time 2	0.06 (3.81)**	0.68 (46.13)**	.49**

*Note.*  $N = 2,867$ ;  $k = 11$ ;  $\beta$ , standardized path coefficients, with  $t$  scores in parentheses. \* $p < .05$ ; \*\* $p < .01$ .

## Discussion

Consistent with the spillover hypothesis (Judge *et al.*, 2001; Judge & Watanabe, 1994; Kabanoff, 1980; Near *et al.*, 1978, 1987; Rain *et al.*, 1991; Rice *et al.*, 1980; Wilensky, 1960), we found that job satisfaction was positively related to SWB. This finding is in line with previous meta-analytic findings suggesting that job satisfaction is related to life satisfaction (Tait *et al.*, 1989) and to positive and negative affect (Bowling *et al.*, 2008; Connolly & Viswesvaran, 2000; Thoresen *et al.*, 2003).

Unlike previous meta-analyses, however, we examined differential relationships for global job satisfaction and job satisfaction facets. These analyses found that global job satisfaction yielded a stronger relationship with SWB than did the facets of job satisfaction. This provides support for the compatibility principle, which predicts that the relationship between two variables is enhanced when both are assessed at the same level of specificity (Fishbein & Ajzen, 1974). In this case, we believe that the job satisfaction facets yielded relatively weak relationships with SWB because they were relatively narrow constructs. Global job satisfaction, on the other hand, yielded a relatively strong relationship with SWB because both variables are relatively broad.

As discussed above, life satisfaction, happiness, the presence of positive affect, and the absence of negative affect have been identified as distinct dimensions of SWB (Lucas *et al.*, 1996). If they are in fact distinct, then one may expect them to be differentially related to job satisfaction. Although we found that life satisfaction, happiness, and positive affect each yielded similar relationships with global job satisfaction, the absence of negative affect was significantly weaker in strength than the other three SWB constructs. As a whole, this may suggest that life satisfaction, happiness, and positive affect are similar to each other, but distinct from negative affect (however, see Lucas *et al.*, 1996).

### **Causal nature of the relationship between job satisfaction and SWB**

Finally, we conducted longitudinal analyses in order to examine the causal nature of the relationship between job satisfaction and SWB. Although these analyses found evidence that the job satisfaction-SWB relationship may be reciprocal, the effects of SWB on job satisfaction may be stronger than the effect of job satisfaction on SWB. A causal path from SWB to job satisfaction is consistent with the dispositional explanation (Diener, 1984; Headey *et al.*, 1991; Judge & Hulin, 1993; Judge & Watanabe, 1993), which suggests that SWB represents a general tendency to experience particular emotions and that this predisposition influences satisfaction towards specific domains, such as work.

### **Future research**

Although much attention has been given to the job satisfaction-SWB relationship, many unanswered questions remain. First, research is needed to examine the hierarchical nature of SWB and its subdimensions. As discussed above, SWB is the highest-level construct within this hierarchy. Medium-level constructs within the hierarchy include global job satisfaction, marital satisfaction, family satisfaction, and health satisfaction. The lowest-level constructs in the hierarchy include facets of the medium-level variables. Facets of job satisfaction, for instance, include satisfaction with work itself, supervision, co-workers, pay, and promotional opportunities (Smith *et al.*, 1969). Because the current meta-analysis focused on the job satisfaction-SWB relationship,

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we examined only a portion of the hierarchy. Additional research is needed to examine other aspects of the hierarchy, such as medium- and low-level non-work constructs.

More longitudinal research examining the relationship between job satisfaction and SWB is also needed. Although analyses included in the current study examined two-wave longitudinal designs, longitudinal research is needed that employs four or more waves. Such designs would allow research to use more advanced statistical analyses, such as latent growth modelling (Chan, 1998), to examine the relationship between temporal changes in job satisfaction and SWB.

Research is also needed to examine the moderators of the relationship between job satisfaction and SWB. As suggested in the introduction, the strength of the job satisfaction–SWB relationship varies considerably across studies. The results of our meta-analysis suggest that this inconsistency is not simply the product of statistical artefacts. Instead, substantive moderators may influence the relationship between job satisfaction and SWB. Indeed, several different moderators have been proposed, such as gender (Tait *et al.*, 1989), occupation (Bamundo & Kopelman, 1980), and job involvement (Wiener, Muczyk, & Martin, 1992).

## **Limitations**

A few limitations should be noted of the current study. First, the samples included in our meta-analysis primarily used self-report measures [only one sample (Judge & Ilies, 2004) used non-self-report measures]. It is thus possible that our findings were influenced by common-method variance. We should note, however, that there is some evidence that common-method variance may generally not be as serious a problem as many researchers have assumed (Spector, 2006). Indeed, the use of self-report measures may be especially appropriate for assessing job satisfaction and SWB, given the self-reflective nature of these two constructs.

A second potential limitation is that the current meta-analysis primarily used published samples. Publication bias resulting from the exclusion of unpublished studies could result in inflated correlations between job satisfaction and SWB (Rosenthal, 1979). This, however, may not be a serious concern for the current meta-analysis because the job satisfaction–SWB relationship was not the main focus of many of the primary studies included in our analyses. In other words, the publication of many of the studies was not dependent upon a significant relationship between job satisfaction and SWB. Furthermore, an inspection of the funnel plots (Egger, Smith, Schneider, & Minder, 1997; Hunter & Schmidt, 2004) for our data did not suggest the presence of publication bias.<sup>1</sup> A final limitation results for the relatively small  $k$  of some of our analyses. In particular, the  $k$ s are small for the relationships between job satisfaction facets and happiness and affect. These analyses should thus be interpreted with caution.

## **Summary**

The current meta-analysis found a significant relationship between job satisfaction and SWB. We conducted longitudinal analyses to examine the causal nature of this relationship. Despite the progress made in this area, we encourage future research examining the nature of the job satisfaction–SWB relationship.

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<sup>1</sup> A funnel plot is a scatter plot that depicts the effect size of each study on the x-axis and the sample size of each study on the y-axis. In the absence of publication bias, a funnel plot will appear roughly symmetrical.

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