

## The Moderating Role of Employee Positive Well Being on the Relation Between Job Satisfaction and Job Performance

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This research provides further clarification to the age-old quest to better understand the happy/productive worker thesis. Using data from 109 managers employed by a large (over 5000 employees) customer services organization on the West Coast of the United States, both job satisfaction ( $r = .36, p < .01, 95\% \text{ CI} = .18 \text{ to } .52$ ) and psychological well-being (PWB;  $r = .43, p < .01, 95\% \text{ CI} = .26 \text{ to } .58$ ) were associated with supervisory performance ratings. Using Fredrickson's (2001) broaden-and-build model as the theoretical base, the authors found that PWB moderates the relation between job satisfaction and job performance. Consistent with Fredrickson's model, performance was highest when employees reported high scores on both PWB and job satisfaction. This moderating effect of PWB may account for some of the inconsistent results of previous studies.

*Keywords:* psychological well-being, job satisfaction, job performance, broaden-and-build model of positive emotions

It would seem impossible to escape the fact that in the long run, at least, [wo]men are more productive when they are in a positive state than in a negative one. (Hersey, 1932, 356–357)

As our quote from Rexford B. Hersey clearly suggests, the happy/productive worker thesis has long been a question of interest for organizational scientists and practitioners alike (cf., Hoppock, 1935; Pennock, 1930). According to this “Holy Grail” of management research, all things being equal, workers who are “happy” with their work—however defined—should have higher job performance. In like fashion, those who are less happy are assumed to be less productive (Hersey, 1932; Spector, 1997). However, in sharp contrast to the promising early work of Hersey (1932) and Kornhauser and Sharp (1932), subsequent efforts to test the happy/productive worker thesis have often met skepticism (see Cropanzano & Wright, 2001, for a further review). This

uncertainty was not unreasonable, given that empirical research had yet to consistently demonstrate links among happiness—typically operationalized as job satisfaction—and job performance ratings (cf., Wright, 2005).

More recent research has provided greater support for the happy/productive worker thesis. Judge, Thoresen, Bono, and Patton (2001) conducted a well-constructed review of the job satisfaction–job performance relation and concluded that job satisfaction was an effective predictor of job performance. Of particular relevance to the present research, Judge et al. (2001) suggested that the job satisfaction–job performance relation is moderated by other variables (their Model 5). From a somewhat different happy/productive worker perspective, Cropanzano and Wright (2001) produced a qualitative review that explored the association between psychological well-being (PWB) and job performance. These authors found evidence of a positive correlation between PWB and performance ratings. This effect appears to be consistent across quasi-experimental, cross-sectional, and longitudinal designs, regardless of whether the criterion variables are measured objectively or subjectively (for additional evidence, see Staw, Sutton, & Pelled, 1994; Wright & Staw, 1999). Coupled with the demonstrated consistent nature of the findings is the actual magnitude of the results,

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with Wright and Staw (1999, Table 2) reporting all nine correlations ranging from .29 to .52.

Contemporary scholars are confronted with an interesting challenge. The possibility now exists that there are at least two happy/productive worker *theses*—with job satisfaction and psychological well-being each serving as operationalizations of employee happiness. In the pages that follow, we will explore these ideas in greater detail. In particular, for reasons to be elaborated below, the present research proposes that the relation between job satisfaction and job performance is moderated by employee well-being. To that end, we first discuss the literature on job satisfaction. Afterward, we turn our attention to the more limited, but also important, literature on PWB. Next, and based on Fredrickson's (1998, 2001) broaden-and-build framework, we integrate the job satisfaction and PWB approaches to worker "happiness" by proposing that PWB acts as a moderator to job satisfaction when considering job performance.

### Job Satisfaction and Job Performance

"Happiness" is a lay construct. Scholarly research, of course, demands additional precision in order to operationalize workplace "happiness" adequately. Over the years, researchers have proposed a number of different approaches to operationalize happiness (see Cropanzano & Wright, 2001, for a review). Within the organization sciences, job satisfaction is probably the most common and one of the oldest operationalizations of workplace "happiness." Of course, no one claims that *satisfaction* with a job is isomorphic with the *happiness* of life as a whole (Wright, 2005). By definition, because job satisfaction is specific to one's job, it excludes aspects of one's life external to the job. This relatively narrow scope stands in stark contrast to research on psychological well-being (PWB), where the happiness component is, by definition, operationalized as a broader construct than job satisfaction, one that refers to aspects of one's life both on and off the job (Diener, 1984; Wright & Cropanzano, 2000). This difference in scope is evidenced by Wright and Cropanzano's (2000) finding that, while related, the correlations are far from robust in magnitude (Study 1 correlation of .35; Study 2 correlation of .10). Finally, since job satisfaction is targeted specifically at work and/or working conditions, it has long seemed intuitively plausible that satisfied workers would be higher performers (Hersey, 1932).

The early fascination with the possible role of job satisfaction in the prediction of employee perfor-

mance was based more on a practical than a theoretical basis (e.g., Kornhauser & Sharp, 1932). In his classic article, "The nature and causes of job satisfaction," Locke (1976) lamented the lack of a solid theoretical basis for proposing a job satisfaction to job performance relation, concluding that job satisfaction and job performance are best considered as separate outcomes. Twenty-five years later, in echoing Locke's sentiments, Judge et al. (2001) noted that the theoretical basis for a job satisfaction–job performance relation was best considered as "implicitly grounded in the broader attitudes literature in social psychology" (p. 378). According to a number of proponents (Eagly & Chaiken, 1993; Fishbein, 1973; Judge et al., 2001), the general "theoretical" premise is that attitudes have behavioral implications. More specifically, Eagly and Chaiken (1993) stated that favorable attitudes about an object are linked to behaviors that foster or support it, while unfavorable attitudes about an object are linked to behaviors that do not support it. Following this logic, in summing up this perspective, Judge et al. (2001) concluded that, "attitudes toward the object *should* (italics added) be related to behaviors on the job, the most central of which is performance on the job" (p. 378). As a result, widespread interest in the job satisfaction/job performance relationship has continued to the present day, with the Judge et al. (2001) review providing strong evidence that there is a moderate, but meaningful relationship between the two variables.

Judge et al. (2001) suggested that prior research on the job satisfaction - job performance relation can be organized around seven models. These models can be briefly summarized: job satisfaction causes job performance (Model 1); job satisfaction is caused by job performance (Model 2); job satisfaction and job performance are reciprocally related (Model 3); job satisfaction is spuriously related to job performance (Model 4); the job satisfaction–job performance relation is moderated by other variables (Model 5); job satisfaction is not related to job performance (Model 6); and finally, that there are alternative conceptualizations of job satisfaction/job performance (Model 7). Results of their meta-analysis estimated the true mean correlation between overall job satisfaction and job performance to be .30, though they observed that the more traditionally based Models 1, 2, 3, and 4 have typically provided results that are disappointing to proponents of a job satisfaction–job performance relation. As a consequence, recent research has increasingly come to recognize the importance of possible moderator variable influences (i.e., Model 5),

leading to a renewed optimism about the prospects of finding meaningful relations between job satisfaction and performance (Cropanzano & Wright, 2001). To that end, we propose that PWB moderates the relation between job satisfaction and job performance.

### PWB and Job Performance

Outside of the organizational sciences, it has been common for scholars to treat "happiness" as psychological well-being (sometimes called personal well-being or subjective well-being, see Diener, 1984, 1994; for a classical discussion, see Russell, 1930). PWB is typically defined in terms of the overall effectiveness of an individual's psychological functioning (Wright, 2005). Unlike job satisfaction, which has significant cognitive and affective components, PWB is primarily an affective or emotional experience. More specifically, using the circumplex model of emotion as the theoretical framework, PWB measures the hedonic or pleasantness dimension of individual feelings (Cropanzano, Weiss, Hale, & Reb, 2003; Wright & Cropanzano, 2000). Based upon this circumplex model, PWB can be contrasted with other conceptualizations measuring the level of activation or "affect intensity" of emotional experience (Wright, 2005). PWB is typically operationalized as capturing both positive and negative emotional states on a single axis (Bradburn & Caplovitz, 1965; Cropanzano et al., 2003; Wright & Staw, 1999). In other words, the high pole is anchored by such hedonic or pleasantness-based descriptors as "joyous." Alternatively, the low pole is anchored by such descriptors as "sad" and "annoyed." Thus, to be high on well-being is to be simultaneously low on negative emotion and high on positive emotion. In fact, a number of prominent scholars have more or less equated well-being with happiness (e.g., Diener, 1984; Seligman, 2002).

Generally speaking, definitions of PWB/happiness have at least three characteristics. First, happiness is a subjective experience (Cropanzano & Wright, 2001; Diener, 1994). People are happy to the extent that they believe themselves to be happy (cf., Sekaran, 1985). Second, happiness includes both the relative presence of positive emotions and the relative absence of negative emotions (Diener & Larsen, 1993). Third, happiness is a global judgment. It refers to one's life as a whole (Diener, Sandvik, Seidlitz, & Diener, 1993). Unlike job satisfaction, PWB is not tied to any particular situation (Wright, 2005). In addition, while happiness/PWB exhibits some measure of temporal stability (Diener, 1994; Diener, Suh,

Lucas, & Smith, 1999), it has also been shown to be responsive to a number of therapeutic interventions (e.g., Seligman, 2002).

A small but growing body of empirical research has found support for a PWB/performance relation. For example, in a quasi-experimental study, Staw and Barsade (1993) found that MBA students who were high on PWB were more accurate decision-makers ( $r = .20, p < .05$ ), showed more effective social behaviors ( $r = .24, p < .05$ ), and received higher overall performance ratings ( $r = .20, p < .05$ ). In another study, Staw et al. (1994) reanalyzed a longitudinal data set to determine whether a single dimension measure of well-being could predict changes in performance outcomes. Staw et al. found support that their well-being measure predicted changes in salary ( $\beta = .05, p < .05$ , one-tailed), performance evaluations ( $\beta = .31, p < .01$ , one-tailed), and supervisor support ( $\beta = .25, p < .01$ , one-tailed). More recently, Wright, Cropanzano, Denney, and Moline (2002) found that self-reported psychological well-being predicted supervisory performance ratings assessed a full two years later ( $r = .45, p < .01$ ). Moreover, this relation remained significant even after controlling for the effects of Time 1 performance ratings, dispositional affectivity, and job satisfaction. Finally, field studies by Cropanzano and Wright (1999) and Wright and Staw (1999) also demonstrated that PWB can be correlated with job performance ratings, even after including such demographic control variables as employee age, gender, tenure with the organization, and education level. Despite its value, this research literature is in need of conceptual development and extension. In particular, as we shall discuss in the next section using Fredrickson's (2001) broaden-and-build theory of positive emotions, and consistent with Judge et al.'s (2001) Model 5, there is reason to believe that PWB moderates the association between job satisfaction and performance.

### Fredrickson's Broaden-and-Build Theory (1998, 2001)

Both job satisfaction and PWB have merit as operationalizations of worker happiness, with both models possessing research support (Cropanzano & Wright, 2001; Judge et al., 2001; Wright, 2005). Despite such encouraging results, these two traditional approaches to operationalizing worker happiness have seldom been considered concomitantly. Moreover, those rare investigations that simultaneously examine job satisfaction and PWB usually

consider only main effects. For example, two field studies reported by Wright and Cropanzano (2000) explored the effects of PWB beyond those of job satisfaction on job performance. Wright and Cropanzano did not, however, consider the interaction between the two. While main effect studies have their place, ignoring the moderating effect of PWB is limiting, since there are good conceptual reasons to think that an interaction might take place. Before we more closely examine the conceptual basis for an interaction provided by Fredrickson's model, it is worthwhile to briefly contrast the burgeoning work on positive feeling states, exemplified by Fredrickson and others, with the more typical emphasis of prior work on negative feeling states.

In the past, the prevailing theoretical models attempted to illustrate the general form and function of emotions (Fredrickson, 1998). To that end, most models were devised around prototypic and negative emotions like anger and fear (Fredrickson, 2003). The underlying theme of these traditional approaches (cf., Frijda, 1986; Lazarus, 1991) was that emotions, by definition, are associated with specific action tendencies. According to Fredrickson (2003), a specific action tendency is best described "as the outcome of a psychological process that narrows a person's momentary thought-action repertoire by calling to mind an urge to act in a particular way (e.g., escape, attack, expel)" (p. 166). In other words, a specific action tendency is what helps to get our attention (Wright & Cropanzano, 2004). For example, the negative emotion, fear, is associated with the urge to escape. The negative emotion, anger, is associated with the urge to attack, and so on (Fredrickson, 2003). It is important to note that the key to these traditional, negative-based models is that specific action tendencies are what made our [negative] emotions evolutionarily adaptive. That is, such negative emotions as fear and anger helped narrow behavioral urges toward specific, survival-based actions (e.g., flight or fight) that literally were life saving in nature for our ancestors (Fredrickson & Losada, 2005). Alternatively, the specific action tendencies for positive-based feeling states are, by contrast, typically vague and underspecified (Fredrickson, 2003; Wright, 2005). For example, the positive feelings associated with contentment have been linked with inactivity (Frijda, 1986). Recognizing this incompatibility of positive feeling states with the basic premise of traditional models, Fredrickson developed her broaden-and-build model to help better capture the unique attributes and potential contributions of positive feelings.

According to Fredrickson's (1998, 2001; Fredrickson

& Losada, 2005) broaden-and-build theory, a number of positive feelings, including the experience of PWB, all share the capacity to "broaden" an individual's momentary thought-action repertoires through expanding the obtainable array of potential thoughts and actions that come to mind (Fredrickson & Branigan, 2001; Wright, 2005). In particular, using laboratory experiments, Fredrickson and her colleagues (Fredrickson & Branigan, 2005; Fredrickson & Losada, 2005) demonstrated that relative to neutral states, positive feeling states broaden or expand upon individuals momentary thought-action repertoires, while negative feeling states narrow these same mechanisms. For example, the positive emotion, interest, fosters the desire to explore, assimilate new experiences, encounter new information, and grow. In a like fashion, the positive emotion, joy, creates the urge to play, to think outside the box, and be creative. Similarly, psychologically well individuals tend to be more outgoing and extroverted, remember favorable events better, and are less likely to encode an ambiguous event as threatening as compared to their less psychologically well counterparts (Wright, 2005).

In addition, these benefits of broadened thought-action repertoires merge over time. As proposed by Fredrickson and Losada (2005), these "broadened mindsets carry indirect and long-term adaptive value because broadenings. . ." (p. 679) assist in "building" the individual's enduring personal resources, ranging from physical, psychological, intellectual, and social in nature (Wright, 2005). This capacity to experience the positive is proposed to be crucial to one's capacity to thrive, mentally flourish, and psychologically grow (Fredrickson, 2001, 2003). This sense of flourishing appears to make psychologically well or happy people more proactive (cf. Argyle, 1987) and less prone to stress symptoms (Myers & Diener, 1995). In other words, Fredrickson's model suggests that positive feeling states, such as PWB, may not only have a main effect relation with job performance, but also, and importantly, provides a theoretical framework for the moderating (e.g., broadening and building) effect of PWB. While this possibility of a moderating effect of various positive feelings, such as PWB, on the job satisfaction - job performance relation has long been recognized in organizational research (e.g., Kornhauser & Sharp, 1932; Pennock, 1930), the actual theoretical basis for this type of interaction was always rather tentative and ambiguous (cf., Wright, 2005).

The broaden-and-build model also provides greater insight into the actual form and function of

this moderating effect. More specifically, the possibly adaptive and moderating nature of PWB is potentially more robust for those employees who are both psychologically well and satisfied with their job than for those less psychologically well and/or satisfied with their job. Through the impetus provided by high levels of PWB (a positive circumstance), employees who are also currently satisfied with their job (another positive circumstance) are proposed to be more easily able to “broaden-and-build” themselves over time based upon their ample supply of these positive-based feelings. As a result, these individuals are likely to become more creative, resilient, socially connected, and physically and mentally healthy (Fredrickson, 2001; Wright, 2005). In particular, the positive evaluative sentiments associated with high levels of job satisfaction can be further broadened and built upon when the employee feels psychologically well overall (Wright, 2005).

Building upon prior research establishing main effect associations among job satisfaction, PWB, and job performance (Wright & Cropanzano, 2000), the broaden-and-build model suggests that satisfied and psychologically well employees are more likely than those less satisfied and psychologically well to have the resources necessary to foster and facilitate increased levels of job performance. Research has clearly demonstrated that positive feelings can help enhance one’s ability to be a better problem solver, decision maker, and evaluator/processor of events (e.g., Erez & Isen, 2002; Isen, 2002). In turn, research has consistently shown that these skills and abilities are related to job performance (Wright, 2005). As an added bonus, these effects would appear to persist over time due, in part, to the differential manner in which happy and unhappy people recall events. In fact, as a general consequence, a continued focus on positive feelings expands (broadens) and builds upon these positive urges, creating a potentially “upward spiral” effect, which is proposed to further enhance individual character development (Fredrickson & Joiner, 2002; Fredrickson & Losada, 2005; Hobfoll, 1998; Wright, 2005). This capacity to constructively experience positive feelings has been proposed to be a fundamental human strength (Fredrickson, 2001; Wright, 2005).

### Control Variables

Resource maintenance or conservation theories provide the theoretical basis for why certain demographic variables may help facilitate the emergence of employee PWB and job satisfaction (Cropanzano

& Wright, 2001; Hobfoll, 1998). Hobfoll (1998) introduced the concept of resource caravans, suggesting that such demographic or “status” variables, such as tenure with the organization, gender, education level, ethnicity, wealth, social skills, family membership, and marriage, provide a background net of potential resources that help facilitate individual adaptation and coping. For instance, a number of literature reviews have reported that level of expressed PWB may vary widely based on these demographic or status variables (especially see Diener, 1984; Diener et al., 1999). Cranny, Smith, and Stone (1992) noted the potential relations between job satisfaction and a number of demographic variables. Spector (1997) noted that gender is an important factor to consider in conducting research on job satisfaction. Berkman (1971) noted that similar relations exist among these status variables and PWB. Finally, the possibility of relations among gender, tenure, ethnicity, and performance has also been noted (Blum & Naylor, 1968; Elvira & Town, 2001; Wright & Staw, 1999). We control for gender, tenure, and ethnicity in our analyses and provide an answer to our primary

*Research Hypothesis:* PWB will moderate the relation between job performance and job satisfaction, such that this association will be stronger when PWB is high and weaker when PWB is low.

## Method

### *Participants*

Upon receipt of permission from the CEO, the first author asked 149 first-level managers employed by a large (over 5000 employees) customer services-oriented organization on the West Coast of the United States to participate in the study by means of a direct contact procedure. More specifically, the first author scheduled a time to individually meet with each manager in his or her office. Study guidelines were discussed and each manager was asked to participate in the project. The actual sample included 109 managers, representing a participation rate of 73% (109/149). The demographic characteristics of the participants were determined by questionnaire response and confirmed by the first author through examination of company records. The sample was primarily male (76%) and white (62%). All participants had completed at least two years of college. The mean tenure with the organization was 9.8 years ( $SD = 6.7$ ). Examination of company records indi-

cated that the study participants did not differ significantly from nonparticipants regarding gender, ethnicity, education level, and tenure with the organization.

*Measures*

*Psychological Well-Being.* As a measure of psychological well-being, the current study used the eight-item Index of Psychological Well-Being developed by Berkman (1971). Like many other well-being measures (Diener, 1984), the Berkman scale was designed to assess people’s well-being on a single affective index (Wright & Staw, 1999). The Berkman scale uses many of the same items as Bradburn and Caplovitz’s (1965) earlier measure, but with a more general time horizon. In particular, respondents were asked such questions as how often (coded as *never*, *sometimes*, and *often*) they felt “very lonely or remote from other people,” “depressed or very unhappy,” and “on top of the world.” Following Berkman (1971) and Wright and Staw (1999), PWB was scored on a 7-point scale ranging from 1 (low PWB) to 7 (high PWB). For additional information regarding the scoring and validation of the Index using a probability sample of 6928 adults from Alameda County, California, the reader is referred to Berkman (1971).

*Job satisfaction.* Job satisfaction was measured by three widely recognized job satisfaction dimensions or facets: degree of satisfaction with the work itself, degree of satisfaction with coworkers, and degree of satisfaction with supervision (Price & Mueller, 1986). The satisfaction items asked the following questions: “All in all, how satisfied are you with the work itself of your job?”; “All in all, how

satisfied are you with your coworkers?”; and “All in all, how satisfied are you with the supervision?” Ratings were made on a 5-point scale ranging from 1 (*very unsatisfied*) to 5 (*very satisfied*). The theoretical and empirical justification for combining these three facet measures of job satisfaction has been widely documented (Price & Mueller, 1986; Wright & Cropanzano, 2000).

*Job performance.* Supervisory ratings obtained from the employee’s immediate supervisor were used to measure actual job performance. In particular, each participant’s manager evaluated subordinates on the indicator of performance: goal emphasis. The goal emphasis dimension was measured using a 5-point scale ranging from *never* to *always* regarding the extent that employees “develop and maintain high performance goals over the past (one year) evaluation period.” In addition, a one-item, global rating of performance was provided (i.e., “Overall, how would you rate this employee’s performance over the past (one year) evaluation period?”) Values ranged from 1 (*poor*) to 5 (*excellent*). These items were summed to form a composite measure of performance.

Results

*Preparatory Analyses*

Table 1 displays the variable means, standard deviations, intercorrelations, and internal consistency reliabilities. Coefficient alpha reliabilities were .75, .75, and .74 for job satisfaction, psychological well-being, and job performance, respectively. Consistent with Judge et al. (2001), job satisfaction was correlated with job performance ( $r = .36, p < .01, 95\% \text{ CI} = .18 \text{ to } .52$ ). Providing additional support to our

Table 1  
Means, Standard Deviations, Alpha Reliabilities and Intercorrelations

Variables	M	SD	1	2	3	4	5	6
1. Ethnicity <sup>a</sup>	1.4	0.5	—					
2. Gender <sup>b</sup>	1.2	0.4	.01 <sup>**</sup>	—				
3. Organization tenure	9.8	6.7	-.27 <sup>**</sup>	.02	—			
4. Job satisfaction <sup>c</sup>	3.4	0.8	.07	.03	.14	(.75)		
5. Psychological well-being	3.6	1.5	-.02 <sup>**</sup>	.10	.11	.30 <sup>**</sup>	(.75)	
6. Job performance <sup>d</sup>	3.6	0.9	-.28 <sup>**</sup>	.19	.01	.36 <sup>**</sup>	.43 <sup>**</sup>	(.74)

Note. Alpha reliabilities appear in the diagonal.

<sup>a</sup> Ethnicity was coded “1” for white and “2” for nonwhite. <sup>b</sup> Gender was coded “1” for male and “2” for female. <sup>c</sup> Mean score is based on the combined three job satisfaction facet items (5-point scale). <sup>d</sup> Mean score is based on the combined two job performance items (5-point scale).

\*  $p < .05$ . \*\*  $p < .01$ , all tests are two-tailed.

overall finding, considered individually, each of the three facet items of satisfaction, the work itself ( $r = .35, p < .01, 95\% \text{ CI} = .17 \text{ to } .51$ ), coworkers ( $r = .28, p < .01, 95\% \text{ CI} = .09 \text{ to } .45$ ), and supervision ( $r = .25, p < .01, 95\% \text{ CI} = .06 \text{ to } .42$ ) were correlated with performance. Likewise, consistent with work on psychological well-being, PWB is also associated with performance ratings ( $r = .43, p < .01, 95\% \text{ CI} = .26 \text{ to } .58$ ). It is also noteworthy that though job satisfaction and PWB are significantly associated, the size of this relationship ( $r = .30, p < .01, 95\% \text{ CI} = .12 \text{ to } .46$ ) is not so large as to cause doubts as to the independence of the two constructs.

*Interaction Between Job Satisfaction and PWB*

Using hierarchical moderated regression (Aguinis, 1995), we tested the hypothesized moderating role of PWB on the job satisfaction - job performance relation. For descriptive purposes and in order to better highlight the incremental contribution of our interaction, our analyses proceeded in three steps (Aguinis, 1995); these are shown in Table 2. In Step 1, we entered the demographic control variables (ethnicity, gender, and tenure). In Step 2, we entered the two main effects for job satisfaction and PWB. These were followed by the job satisfaction by PWB interaction in Step 3. PWB and job satisfaction were centered before performing the regression analyses (Cohen, Cohen, West, & Aiken, 2003). In addition, diagnostic checks for influential observations and nonlinearity were conducted, with no problems detected.

The multiple regression results for Steps 1–3 are shown in Table 2. At Step 1, the squared multiple

correlation was .13,  $F(3, 95) = 4.73, p < .01, 95\% \text{ CI}: .01 \text{ to } .24$ ; at Step 2, the squared multiple correlation was .35,  $F(5, 93) = 9.86, p < .01, 95\% \text{ CI}: .17 \text{ to } .47$ ; and, at Step 3, the squared multiple correlation was .38,  $F(6, 92) = 9.26, p < .01, 95\% \text{ CI}: .18 \text{ to } .49$ . When all the variables were included in the model (Step 3), job performance was associated with ethnicity ( $b = -.49, p < .01$ ), PWB ( $b = .15, p < .01$ ), job satisfaction ( $b = .32, p < .01$ ), and the job satisfaction by PWB interaction ( $b = .12, p < .05$ ). Most relevant to the present study, this interaction accounted for a small, but statistically significant increment in variance beyond the control variables and main effects,  $\Delta R^2 = .03, p < .05$ .

*Testing the Form of the Interaction*

To illustrate the nature of the interaction, we plotted the relation between job satisfaction and job performance for individuals with one standard deviation above the mean on PWB and for one standard deviation below the mean (Aiken & West, 1991). Note that these plots are predicted values based on our full sample ( $N = 99$ ) and computed from the Step 3 parameter estimates contained in Table 2. These plots are displayed in Figure 1. In particular, the simple slope at high PWB is strong and positive ( $b = 0.50, t = 3.85, p < .01, 95\% \text{ CI} = .24 \text{ to } .76$ ), while the simple slope at low PWB is nonsignificant and close to zero ( $b = 0.14, t = 1.08, ns, 95\% \text{ CI} = -.12 \text{ to } .40$ ). More specifically, the figure shows that the relation between job satisfaction and job performance tends to be stronger for employees with high PWB than for employees with low PWB. Likewise, performance is highest of all when both job satisfaction and PWB are also high. Figure 1 further demonstrates the

Table 2  
*Hierarchical Regression for Job Performance*

Variables	Step 1			Step 2			Step 3		
	<i>b</i>	<i>SE b</i>	$\beta$	<i>b</i>	<i>SE b</i>	$\beta$	<i>b</i>	<i>SE b</i>	$\beta$
Gender	.47	.19	.24*	.37	.17	.19*	.33	.17	.17
Tenure	-.02	.01	-.13	-.02	.01	-.18*	-.02	.01	-.17
Ethnicity	-.44	.17	-.26*	-.48	.15	-.28**	-.49	.15	-.29**
Psychological well-being (PWB)				.17	.05	.31**	.15	.05	.28**
Job satisfaction				.28	.09	.27**	.32	.09	.31**
Job satisfaction by PWB							.12	.06	.18*
	$R^2 = .13^{**}$			$R^2 = .35^{**}$ $\Delta R^2 = .22^{**}$			$R^2 = .38^{**}$ $\Delta R^2 = .03^*$		

Note. Job satisfaction and psychological well-being were centered for all analyses.  
\*  $p < .05$ . \*\*  $p < .01$ , two-tailed tests.

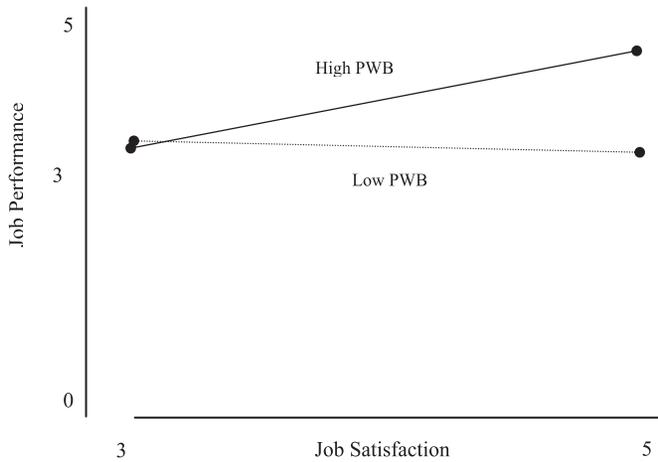


Figure 1. Interaction of PWB and job satisfaction in predicting job performance. Plotted lines illustrate the effect of job satisfaction on job performance for those scoring 1 standard deviation above the mean on the measure of PWB (high PWB) and for those scoring 1 standard deviation below the mean on the measure of PWB (low PWB).

overall tendency for employees with high levels of PWB to have higher levels of job performance than employees with low levels of PWB.

### Discussion

The present research provides further clarification to the age-old quest to better understand the happy/productive worker thesis. In particular and consistent with Judge et al.'s (2001) Model 5 premise, we found that job satisfaction does predict job performance, assuming the employee also has a high level of PWB. Job satisfaction is apparently not as good a predictor of job performance among employees with low levels of PWB. In fact, as graphically evidenced in Figure 1, there is no discernable relationship between job satisfaction and job performance for those low in PWB. What this means is that for even the most satisfied employees, if they are low in PWB, their high job satisfaction is less likely to be reflected in increased job performance. By extension, if job satisfaction is viewed by workers as a positive circumstance (a point with which few would disagree), then according to Fredrickson's (1998, 2001) broaden-and-build model, it should have a stronger relation to performance when PWB is high and a weaker relation to performance when PWB is low. These findings are important and have both theoretical and practical implications.

### Theoretical Implications

In broad outline, this interaction effect is consistent with several lines of theoretical thinking. For instance, Judge and his colleagues emphasized that the job satisfaction/job performance relation was significant overall, but this relationship also showed a good deal of variability. Likewise, Cropanzano and Wright (2001), while asserting that PWB is often related to performance, maintained that those high in PWB respond more favorably to positive circumstances than do those low in PWB.

Even more important to note is that this study suggests that Frederickson's (1998, 2003) broaden-and-build model provides a useful framework for predicting effective work behaviors, such as job performance. Specifically, the model suggests that job satisfaction is of value, but mostly for those with the high well-being that allows them to more fully benefit from this favorable circumstance. Future research should examine the broaden-and-build model in other circumstances. For instance, our study emphasized job satisfaction. However, the impact of other positive circumstances, such as a supportive family, might be stronger when PWB is high and weaker when PWB is low. This idea is speculative, but it is consistent with Frederickson's model.

While this study has answered some questions, it has raised others. Clearly, this is an area of inquiry

that could benefit from additional research. In this regard, it is noteworthy that there are other versions of the happy/productive thesis, and these do not necessarily involve PWB or job satisfaction (for a review, see Cropanzano & Wright, 2001). These include positive affectivity (Watson, 1988; Wright & Staw, 1999) and the Five-Factor personality framework (Barrick & Mount, 1991), among others. Research continues to explore the relation of these constructs to the two operationalizations considered here. One possibility may be causal. For instance, Diener (1994) suggested that dispositional positive affectivity (PA) might be a cause of PWB. Similarly, other researchers have proposed that PA might cause job satisfaction as well (e.g., Cropanzano, James, & Konovsky, 1993; George, 1992; for a related perspective see Judge et al., 2001), though such effects could be moderated by working conditions (Levin & Stokes, 1989).

We propose that a fuller integration of these different constructs, using such approaches as Fredrickson's (1998, 2001) broaden-and-build model as the theoretical framework, could provide greater insight into the happy/productive worker thesis. In particular, in addition to PWB, the broaden-and-build model would support the possible adaptive and interactive nature of a number of other positive-based emotions. For instance, joy, exhilaration, optimism, and interest all share the ability to "broaden" an individual's momentary thought-action experiences and provide valuable assistance in helping to further "build" the individual's personal resource arsenal (Fredrickson, 2001). As a consequence, individuals are more easily able to transform themselves and become more creative, hardy, resilient, socially connected, and physically and mentally healthy (Wright, 2003). We hope that the present study will provide the stimulus for more research on these potentially important topics.

### *Practical Implications*

Assuming that these findings are replicated by future studies, they could have implications for individual betterment and management practice. In particular, organizations may want to pay closer attention to the well-being of their workforce. Generally speaking, employee-focused, positive psychological-based work interventions can take three general forms: composition, training, and situational engineering (Ilgen, 1999). Composition focuses on selecting and placing individuals into appropriate positions, while training emphasizes assisting employees so that they better fit their jobs. Finally, situational

engineering focuses on changing the work environment to make it more closely fit the needs and abilities of one's employees. While employee PWB has implications for each of these approaches, we focus our attention on training and situational engineering.

While PWB exhibits significant test-retest consistency over time, these results also indicate that individuals have the opportunity to learn ways to enhance their PWB through any number of training-based interventions (for a review, see Quick, Quick, Nelson, & Hurrell, 1997). In particular, a number of strategies exist where individuals are trained to proactively self-monitor or manage their personal perceptions to enhance positive and discourage negative displays of emotion. For example, constructive self-talk is a learned technique that replaces negative self-talk with more positive and reinforcing self-talk (Eliot, 1995). More recently, Seligman, Steen, Park, and Peterson (2005) reported that several intervention strategies increased happiness and decreased depressive symptoms for up to six months. Especially promising are intervention strategies designed to get individuals to use such signature strengths (Peterson & Seligman, 2004) as love of learning, authenticity, kindness, fairness, forgiveness, and hope in new and novel ways. This discussion emphasizes an important point. These interventions can benefit *both* the individual employee through enhanced PWB, as well as the organization through increased productivity.

Situational engineering involves techniques designed to change the work environment to promote worker PWB. Like training, this approach also shows promise, as there is a growing body of evidence that conditions at work affect employee PWB (Wright & Cropanzano, 2000). For example, research has demonstrated that something as straightforward as providing tangible social support on the job can minimize the negative impact of a stressful work environment (Kohn & Schooler, 1982). Likewise, such family friendly policies as flextime and childcare have been proposed to enhance levels of employee PWB (Quick et al., 1997). We suggest that future research give serious consideration to situational engineering attempts to enhance employee PWB.

### *Limitations of the Present Study*

There are potential limitations to our findings that are worth considering. For one, all our measures were taken contemporaneously, rendering any causal inferences as inappropriate. Fortunately, our interpretation is consistent with longitudinal field research conducted by Wright and

Staw (1999) and Wright et al. (2002), as well as quasi-experimental research by Staw and Barsade (1993). That stated, research is needed to examine the impact of change in employee PWB over time (Wright, 2005). For instance, longitudinal research would afford the opportunity to test the broaden-and-build premise that positive changes will tend to persist over time, due, in part, to the differential manner in which positively and negatively oriented individuals recall events (Fredrickson, 2001; Wright, 2003). In addition, long-term, prospective longitudinal research designs would also allow for the period of time between PWB and such important organizational outcome variables as performance, turnover, chronic absenteeism, and tardiness to more naturally and developmentally unfold.

One could also suggest that another possible limitation is that the present findings are a consequence of the type of performance instrument used. That is, it is possible that employees who are psychologically well and satisfied with their job are simply "nicer" people and more fun to be around. Because people (i.e., management) tend to be more tolerant of those they favor or like, management personnel may provide more positive evaluations for those who appear to be psychologically well and satisfied with their job (Wright & Cropanzano, 1998). Thus, rather than being directly related to changes in performance, PWB and job satisfaction could serve as a systematic source of halo in performance evaluations. Previous research (e.g., Staw et al., 1994; Wright & Staw, 1999) has addressed this possible concern by noting that, "... even if supervisory evaluations include halo or other forms of bias, they are predictive of achievement or success from the employee's point of view." (p. 19). As a case in point, supervisory performance evaluations are the primary (if not sole) basis used to determine employee raise and promotion decisions in the present study organization.

A final issue warranting discussion involves the finding of a negative relation between ethnicity and job performance ( $r = -.28$ ). At the time that our study was undertaken, top management was becoming aware of the need to increase the representation of female and minority management personnel (ethnicity was also negatively correlated with tenure,  $r = -.27$ ). At the completion of the study, the lead author shared these findings with top management and interested study participants. This researcher was later told that these findings were instrumental in convincing top management to initiate a comprehensive, organization-wide intervention plan to increase the number of women and

minority management-level personnel. We suggest that future research endeavors using supervisory measures of performance take the precaution of controlling for the possibility of bias.

## Conclusion

This article provides evidence supporting the incorporation of both employee PWB and job satisfaction in the future consideration of the happy/productive worker thesis. Using Fredrickson's (1998, 2001) broaden-and-build model as the theoretical base and consistent with Judge et al.'s Model 5, we found that PWB moderates the relation between job satisfaction and job performance. Consistent with Fredrickson's model, job performance was highest when employees reported high scores in both PWB and job satisfaction.

Additional research is now needed to more closely examine the form and function of PWB. For example, while various forms of PWB (e.g., fatigued vs. agitated) are similar constructs because they possess large amounts of unpleasantness, they also differ because they possess differing measures of activation (Larsen & Diener, 1992). The awareness of future research endeavors of these types of distinctions could be very helpful in better predicting employee behavior across differing job situations.

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