

# Effect of Dysfunctional Thought Processes on Subjective Well-Being and Job Satisfaction

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Although the dispositional approach to job satisfaction has received a good deal of recent attention, a fundamental deficiency in past dispositional research is a failure to use existing theories to explain why individuals are unhappy and dissatisfied with their jobs. E. A. Locke (1976), T. A. Judge (1992), and T. A. Judge and C. L. Hulin (in press) suggested that thinking processes should be studied in relation to job satisfaction. This study tested the thesis that the cognitive theory of depression, which focuses on individuals' thought processes, will help in understanding both subjective well-being and job satisfaction. A confirmatory model involving subjective well-being, job satisfaction, dysfunctional thought processes, and other relevant influences was hypothesized and tested by using a stratified random sample of university employees. Ratings were obtained from 2 sources to reduce single-source bias. The results indicated strong support for the overall model and for the adverse effect of dysfunctional thought processes.

In a recent review of the literature on dispositional sources of job satisfaction, Judge (1992) argued that much of the research linking dispositional states to job satisfaction is atheoretical in nature. Virtually no dispositional research has attempted to explain, drawing from existing theories of social cognition or attitude formation, why individuals are unhappy in general or dissatisfied with their jobs. Such a deficiency in past dispositional research is regrettable, because established theories from personality and cognitive psychology may have a great deal to offer in terms of explaining how affective states are formed. There are probably valid reasons why dispositional research has not been theoretically based. For example, it is common for research to be inductive in its formative stages, when the attempt often is to establish the existence of a phenomenon rather than its etiology. Although past dispositional research has implicitly recognized the role cognitive variables can play in emotional states, the perspective is now at a stage where theoretical concepts need to be used more explicitly. The importance of understanding the psychology behind dispositional effects on job satisfaction was recently emphasized by Weiss (1991).

Locke (1976) and Judge and Hulin (in press) suggested that thinking processes may influence subjective well-being and job satisfaction, although they did not propose an actual theory. A

relevant theory may be the cognitive theory of depression (Beck, 1963, 1987), which has been one of the most influential theories in the areas of counseling and clinical psychology. This theory maintains that thought processes, such as overgeneralization, perfectionism, and dependence on others, are an important cause of depression (and thus, by necessity, unhappiness). The purpose of the present study was to investigate the role of dysfunctional thought processes in affecting subjective well-being and job satisfaction.

## Relevant Theory and Past Research

### *Cognitive Theory of Depression*

The cognitive theory of depression holds that the way individuals think is a source of unhappiness. Specifically, depressed or unhappy individuals are hypothesized to have repetitive, automatized thoughts (Beck, 1987) that are dysfunctional in nature. The beliefs or processes are manifested in such cognitive tendencies as overgeneralization (e.g., "If I do a bad thing, it means I am a bad person"), perfectionism (e.g., "If I am any good, I should be able to excel at anything I attempt"), dependence on others (e.g., "If people whom I care about do not care for me, it is awful"), and desire for social approval (e.g., "I often do things to please others rather than myself"). Dysfunctional thoughts make individuals vulnerable to depression because they undermine self-worth (Kuiper & Olinger, 1986; Kuiper, Olinger, & Swallow, 1987). For example, believing one must be good at everything guarantees failure. Trying for the approval of others leads one to sacrifice one's own judgment and values. Thus, unhappiness results from these thinking styles.

From a psychological perspective, dysfunctional thought processes comprise cognitive habits or beliefs that screen, code, categorize, and evaluate information inappropriately (Keller, 1983). Treatment of depression or unhappiness, therefore, begins with identification of the dysfunctional beliefs that lead to depression or unhappiness. Attempts are then made to expose and test the individual's beliefs and methods of processing in-

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formation. Finally, individuals are shown how to alter their dysfunctional attitudes and thought processes (Beck, Rush, Shaw, & Emery, 1979; Keller, 1983).

Recently, Haaga, Dyck, and Ernst (1991) provided a review of the empirical evidence on the cognitive theory of depression and found considerable support for its principal hypotheses. Substantial empirical support also exists regarding the validity of cognitive therapy in reducing depression or unhappiness (Dobson, 1989). Despite the apparent efficacy of the theory in explaining why individuals become unhappy with themselves and, by implication, their jobs, the cognitive theory of depression has not been tested as a potential explanatory factor in dispositional or job satisfaction research. Seligman and Schulman (1986) did link the tendency to use an optimistic explanatory style to job performance and turnover. However, their study did not specifically relate this cognitive tendency to job satisfaction.

The generalization of dysfunctional attitudes to judgments of job satisfaction seems appropriate and useful. It may be appropriate because job satisfaction is an evaluative process in which thinking styles would appear to be very relevant (Locke, 1976). Applying dysfunctional thought processes to job satisfaction may be useful because, as noted earlier, dispositional research has not explicitly linked cognitive theoretical constructs to job attitudes. Thus, the introduction of dysfunctional thought processes may help researchers better understand how the dispositional effect operates on judgments of job satisfaction.

### *Affective Disposition, Subjective Well-Being, and Job Satisfaction*

A number of researchers (Cropanzano & James, 1990; Davis-Blake & Pfeffer, 1989; Gerhart, 1987, 1990a; Judge, 1992; Judge & Hulin, in press) have argued that although past dispositional research (Arvey, Bouchard, Segal, & Abraham, 1989; Levin & Stokes, 1989; Pulakos & Schmitt, 1983; Staw, Bell, & Clausen, 1986; Staw & Ross, 1985) has made an important contribution to the knowledge base concerning determinants of job satisfaction, it has suffered from conceptual ambiguities. In particular, Judge (1992) and Judge and Hulin (in press) argued that a clearer distinction needed to be made between the general disposition to be satisfied (affective disposition) and how happy an individual currently is with his or her life.

Judge and Hulin (in press) defined affective disposition as the tendency to respond to classes of environmental stimuli in a predetermined, affect-based manner. This may be closer to a dispositional construct than are concepts that represent current affective states. Researchers have often assumed that negative affectivity (Watson & Clark, 1984) is the appropriate dispositional construct (Brief, Burke, George, Robinson, & Webster, 1988; George, 1989; Levin & Stokes, 1989). However, the tendency to respond to the environment in an affect-based manner (affective disposition) is not the same as how happy an individual currently is or is not (as measured by positive and negative affect or subjective well-being). Dispositional tendencies may be thwarted or enhanced by numerous factors in the environment and in the person. Subjective well-being represents an ongoing state of psychological wellness (Diener, 1984). Although Judge and Hulin maintained that the disposition to-

ward affect is different from experienced affect, they hypothesized that affective disposition would significantly influence subjective well-being. Drawing from Weitz (1952), Judge and Hulin measured affective disposition by assessing how satisfied the respondent was with a list of predominantly neutral or innocuous objects common to everyday life (e.g., one's telephone number, one's first name, or  $8\frac{1}{2}'' \times 11''$  paper).

In addition to investigating the relationship between affective disposition and subjective well-being, Judge and Hulin (in press) further hypothesized that subjective well-being and job satisfaction were reciprocally related. Testing the relationship between affective disposition, subjective well-being, and job satisfaction by means of a sample of nurses, Judge and Hulin found that affective disposition significantly influenced subjective well-being. Furthermore, the reciprocal relationship between subjective well-being and job satisfaction was supported. These results suggested that it is important to distinguish between the disposition toward affect and affect actually experienced. Equally important, the relationship between subjective well-being and job satisfaction appears to be bidirectional. A limitation in the Judge and Hulin study is that it provides little knowledge of the psychological process underlying the subjective well-being and job satisfaction relationship. Although subjective well-being and job satisfaction clearly are psychological states, no effort was taken to understand the psychology underlying the formation of these attitudes. Individuals' thought processes represent an avenue through which this psychological process can be explored.

### Hypothesized Model

To investigate the relationships among dysfunctional thought processes, subjective well-being, and job satisfaction, a confirmatory model was hypothesized. These relations were embedded in a network of other constructs to avoid omitted variable bias (L. R. James, Mulaik, & Brett, 1982). The hypothesized structural model is displayed in Figure 1. The links in this model are discussed below; the more critical links are discussed first.

#### *Dysfunctional Thought Processes → Subjective Well-Being*

A considerable amount of research suggests that dysfunctional thought processes lead to depression or unhappiness (Kuiper et al., 1987; Olinger, Kuiper, & Shaw, 1987; Wierzbicki & Rexford, 1989; Wise & Barnes, 1986). Because these thought processes reflect negative views and methods of thinking that are unhealthy, unhappiness or depression often results. For example, holding oneself to a perfect standard, believing that all mistakes impeach one's character, and sacrificing one's self-fulfillment for others are all unhealthy attitudes that may manifest themselves in feelings of personal worthlessness (Beck, 1967). Thus, we hypothesized that individuals' thought processes or cognitive styles can induce unhappiness (i.e., low subjective well-being).

#### *Subjective Well-Being → Job Satisfaction*

Judge and Hulin's (in press) study, as well as past dispositional research (Levin & Stokes, 1989; Pulakos & Schmitt, 1983; Staw

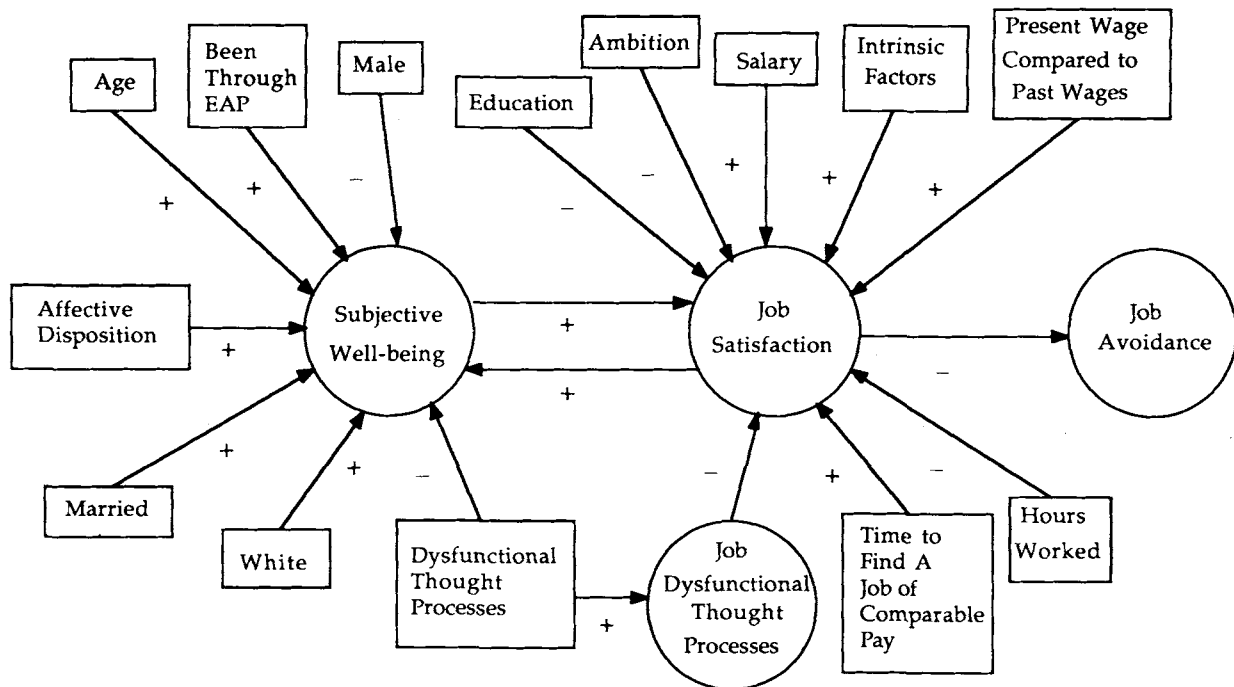


Figure 1. Hypothesized structural model. (Rectangles represent exogenous, or independent, variables. Circles represent endogenous, or dependent, variables.)

et al., 1986; Staw & Ross, 1985; Weitz, 1952), provides support for hypothesizing that subjective well-being will influence job satisfaction. Thus, past empirical data support the effect of affectivity on job satisfaction. There are several theoretical reasons why subjective well-being may influence job satisfaction. One possibility from cognitive psychology is that subjective well-being, as the outcome of affective disposition, may influence how individuals collect and recall information about their jobs. Bower (1981) demonstrated this process with respect to life events. Motowidlo and Lawton (1984) and Porac (1987) have suggested a cognitive approach with respect to job attitudes, where certain dispositions can influence job affect. Thus, happy individuals may tend to store, evaluate, or recall job information differently than unhappy individuals. However, although this suggests that subjective well-being influences job satisfaction, a direct empirical test of the explanation is lacking.

*Job Satisfaction → Subjective Well-Being*

A significant correlation between job and life satisfaction has consistently been found. In a recent meta-analytic review, Tait, Padgett, and Baldwin (1989) found the average correlation between job and life satisfaction, corrected for measurement error, to be .44. Some researchers have interpreted the correlation between job and life satisfaction as evidence for a dispositional effect on job satisfaction (see Staw & Ross, 1985). On the other hand, the causal direction may run from job satisfaction to life satisfaction. In fact, Judge and Hulin (in press) found a significant effect of job satisfaction on subjective well-being.

Estimating a nonrecursive relationship between subjective well-being and job satisfaction allows inferences regarding the reciprocal relationship between the two constructs.

The most obvious reason for hypothesizing that job satisfaction will influence subjective well-being is the importance of work to individuals' lives. Empirical evidence supports the moderating effect of job importance on the job- and life-satisfaction relationship (Iris & Barrett, 1972; Rice, McFarlin, Hunt, & Near, 1985). The centrality of work to individuals, the roots of which may lie in the Protestant work ethic, probably derives from the fact that most individuals spend the majority of their waking hours at work. Having one's identity and time bound to work suggests its importance in judgments of happiness and well-being.

*Job Dysfunctional Thought Processes → Job Satisfaction*

Locke (1976) speculated that individuals' thought processes may influence happiness or satisfaction derived from all domains of life. The link from dysfunctional thought processes to subjective well-being was reviewed earlier. However, Locke's arguments also suggest that dysfunctional thought processes may influence job satisfaction. This would be particularly true if the dysfunctional attitudes were oriented toward the job. Dysfunctional thought processes were expected to affect job satisfaction as mediated through subjective well-being. On the other hand, job dysfunctional thought processes were hypothesized to influence job satisfaction directly, because overgeneralizing about job experiences, holding one's job performance to a perfect standard, and so on should cause individuals to be less

happy with their jobs. Therefore, we hypothesized that job dysfunctional attitudes, which are dysfunctional attitudes oriented toward the job, would negatively influence job satisfaction. Because the degree to which individuals think dysfunctionally about their jobs should be affected by the degree to which they think dysfunctionally in general, we hypothesized that dysfunctional thought processes influence job dysfunctional thought processes.

### *Job Satisfaction → Job Avoidance*

Absenteeism, turnover, and lateness have often been described by organizational researchers as examples of employee withdrawal (Beehr & Gupta, 1978; Youngblood, 1984). Typically, research has investigated these behaviors in isolation. Job satisfaction has often been related to these isolated behaviors, with inconsistent results. Hulin (1991) and Fisher and Locke (1992) have argued that the prediction of job behaviors in isolation is limiting in that it provides little basis for generalizing to other job behaviors that may be functional equivalents or manifestations of the same underlying, general behavioral construct. In proposing a general behavioral construct, Hulin defined employee withdrawal as “the set of behaviors that dissatisfied individuals enact to avoid the work situation; they are behaviors designed to allow avoidance of participation in dissatisfying work situations” (p. 476). Hanisch and Hulin (1991) and Roznowski and Hanisch (1990) reported data suggesting that individual withdrawal behaviors covary in such a manner as to suggest a general factor. Fisher and Locke (1992) found that a set of activities labeled *job and work avoidance* was consistently related to job dissatisfaction. However, the limits inherent in investigations of the linkage between job attitudes and employee withdrawal should be kept in mind. As pointed out by Johns and Nicholson (1982), individual behaviors, such as absence, are not always volitional or inherently linked to the work context (and thus are not properly conceived of as perfect manifestations of work-related withdrawal).

In the present study, we hypothesized that job avoidance is significantly influenced by job dissatisfaction. Job avoidance does not represent only actual withdrawal behaviors, but also intentions and the behavioral tendencies of individuals (Hanisch & Hulin, 1991). On the basis of the theory of reasoned action or planned behavior (Ajzen, 1991), we assumed that such cognitions would lead to actual withdrawal behaviors. However, consistent with the psychological focus of the present research, the cognitions of the individual were of immediate interest.

### *Other Links*

The distinction between affective disposition and subjective well-being was reviewed earlier. We hypothesized that the immediate outcome of affective disposition is not job satisfaction, but rather individuals' level of subjective well-being (see Figure 1). Those predisposed to view their environment in a positive manner are more likely to have a sense of contentment and happiness with their lives. Those predisposed to be critical of life's events and stimuli are expected to be unhappy and trou-

bled. Accordingly, we hypothesized that affective disposition influences the general affective state of the individual.

Four of the more important demographic influences on subjective well-being identified in Diener's (1984) review of the literature were age, race, marital status, and gender. The majority of recent evidence suggests that subjective well-being tends to increase with age (Diener, 1984), although the effects may be modest. Perhaps because of urbanicity and lower socioeconomic status, minorities generally have been found to have lower subjective well-being than Whites (Andrews & Withey, 1976; Diener, 1984). Diener suggested that “virtually all relationships [between marital status and subjective well-being] are positive” (p. 556). Although the effect of gender on subjective well-being has yielded inconsistent results, most research suggests that men are somewhat less happy than women (Diener, 1984). Finally, research suggests that employee assistance programs (EAPs), where employers sponsor counseling or treatment for personal problems (substance abuse, family conflicts, or depression), result in higher levels of subjective well-being (Ramanathan, 1990). Thus, on the basis of past research, we hypothesized that these variables influence subjective well-being, as represented in Figure 1.

Hulin, Roznowski, and Hachiya's (1985) model of job satisfaction and employee responses was used to select relevant influences on job satisfaction. Hulin et al. hypothesized that job satisfaction is a function of the difference between work-role inputs—what the individual contributes to the work role (e.g., time and effort)—compared with role outcomes, or what is received (e.g., pay, status, and intrinsic factors). As outcomes received relative to inputs invested increase, job satisfaction is hypothesized to increase.

In the present study, education level and hours worked were selected as representations of work-role inputs. Therefore, controlling for work-role outcomes, we hypothesized that the more education the respondent has achieved and the more hours worked, the lower the level of job satisfaction the individual will report. We chose wage rate and intrinsic factors as manifestations of work-role outcomes, and we expected them to positively influence job satisfaction.

Hulin et al. (1985) further proposed that perceived labor market conditions will affect job satisfaction. In periods of high unemployment, for example, individuals will perceive their inputs as less valuable because there are others in the labor market willing to contribute their inputs. Therefore, as unemployment rises, the perceived value of inputs relative to outcomes declines and job satisfaction increases. The converse is also hypothesized, in which low unemployment (and many alternatives) reduces job satisfaction. It should be noted that Gerhart (1990b) reported a nonsignificant correlation between perceived ease of movement and job satisfaction, although perceived ease of movement did interact with job satisfaction in predicting turnover. However, the direct link between alternative opportunities and job satisfaction was not the primary focus of Gerhart's investigation, and he called for more research investigating this issue. Thus, on the basis of Hulin et al.'s arguments above, we expected perceived time to find a job of comparable pay to be positively related to job satisfaction: Those who believe it will take a long time to find a comparable job are more likely to be happy with what they have.

Hulin et al. (1985) and P. C. Smith, Kendall, and Hulin (1969) have argued that individuals' frames of reference, which these authors defined as past experience with relevant outcomes, influence how individuals perceive current outcomes received. The fewer, or less valued, the outcomes received in the past, the greater the current job satisfaction. As a frame-of-reference variable, present wage compared with past wages was expected to relate positively to job satisfaction.

An unexplored variable in general research and in job satisfaction research in particular is ambition. Howard and Bray (1988) found that the desire to get ahead was one of the most powerful predictors of advancement in their longitudinal study of AT&T managers. Because people use their aspirations (goals) as standards of self-satisfaction (Bandura, 1986), people with high goals should be harder to satisfy than people with low goals (Mento, Locke, & Klein, 1992). This suggests that high ambition, because it represents a high standard of aspiration, should be associated with low satisfaction. Ambitious people are those who are not satisfied with where they are in the organizational hierarchy. Thus, we hypothesized that ambition negatively influences job satisfaction.

## Method

### *Setting, Subjects, and Procedure*

The setting for this research was a large northeastern university. We sampled subjects, members of the clerical profession, from all departments within the university. Sixty-one percent of respondents worked in academic (vs. nonacademic) departments.

Before surveys were mailed to the focal employees, a stratified random sample was drawn from the approximately 2,000 clerical staff working at the university. We stratified the sample by college and department to ensure that significant breadth in survey responses was obtained. The sampling procedure produced a list of 479 names and campus addresses. Surveys were mailed to employees through campus mail. Employees were told in a cover letter that individual responses were completely confidential and were promised their choice of a \$10 honorarium, a 50-50 chance of winning \$20, or a 1-in-5 chance of winning \$50 in return for their participation. Employees also were asked to sign an informed consent form. Twenty-six surveys were returned as undeliverable. Thus, from a potential pool of 453 respondents, 231 usable surveys were returned, representing a response rate of 51%. Response rates did not significantly differ among the departments or by gender.

In an attempt to remove the possibility that the relationships observed were due to self-report bias, a "significant other" was asked to complete an evaluation of focal employee dysfunctional thought processes and subjective well-being. Focal employees were informed that their honorarium would be paid only on return of both self-report and significant-other surveys. Two hundred seventeen usable significant-other surveys were returned, indicating that for 94% of the individuals who returned the focal employee survey, a significant-other survey also was returned. Therefore, both self-report and significant-other data were available on 217 employees. No significant differences in respondent characteristics (e.g., age, race, sex, or salary) were found between those who had a significant-other survey returned and those who had not. The relationships of the significant others to the respondents were as follows: spouse (37%), close friend (36%), sibling (4%), parent (10%), and other (13%). The subjective well-being of the significant other correlated .33 ( $p < .01$ ) with his or her report of the subjective well-being

of the focal employee and .18 ( $p < .01$ ) with the focal employee's report.

### *Measures*

*Dysfunctional thought processes.* We measured dysfunctional thought processes by the Dysfunctional Attitude Survey (DAS), a 100-item survey that measures dysfunctional cognitions or beliefs (Weissman & Beck, 1978). The DAS is one of the more widely used and valid measures of cognitive processes (Cane, Olinger, Gotlib, & Kuiper, 1986; Oliver & Baumgart, 1985). Individuals are asked to indicate their agreement with statements regarding how they think on a 7-point scale ranging from 1 (*totally disagree*) to 7 (*totally agree*). Although the 100 items are summed to form an overall measure of dysfunctional thought processes, the DAS contains items measuring several types of dysfunctional thought process. For example, dependence on others is assessed through such questions as "I cannot find happiness unless I am loved by another person." Perfectionism is measured by such questions as "A person should do well at everything he or she undertakes." Overgeneralization is measured by such questions as "If someone performs an inconsiderate act, it means he or she is a bad person." In the present study, the coefficient alpha reliability estimate ( $\alpha$ ) for the 100-item scale was .93. We factor analyzed the full DAS and were able to isolate meaningful factors, most of which were interpretable in terms of the theoretical base of the scale within the cognitive theory of depression. However, using separate subscales in the analysis did not appreciably change the results (e.g., of the major subscales, there were none that were markedly more highly correlated with subjective well-being than the others). Thus, we only used the total scale in our model.

Not surprisingly, comparison of the present sample's DAS responses with normative data on individuals reporting to the Center for Cognitive Therapy in Philadelphia for treatment of depression revealed that individuals in this sample were significantly less likely to report engaging in dysfunctional thought processes than were clinically depressed individuals. However, this should not present a problem, because the cognitive theory of depression and the measurement of dysfunctional thought processes are fully applicable to "normal" individuals (i.e., individuals without clinically diagnosed mental disorders; T. W. Smith & Allred, 1986). Therefore, it is appropriate to relate such thought processes to subjective well-being in a model that applies to members of the work force.

Significant others were asked to evaluate how often the focal employee engaged in dysfunctional thought processes. Independent of the focal employee's report, the significant other was asked to indicate how descriptive 18 statements from the DAS were of the focal employee. These statements were selected to sample the full range of types of dysfunctional thought processes. The reliability for this scale was .76.

*Job dysfunctional thought processes.* We measured job dysfunctional thought processes by presenting 13 hypothetical scenarios to individuals and asking them to indicate the extent to which each scenario was descriptive of them (1 = *not at all like me* to 5 = *very much like me*). Again, an effort was made to sample all dimensions of dysfunctional thought processes as applied to the job. The following is an example scenario relating to perfectionism on the job:

Blue made an error on an important piece of work, although no great disaster occurred as a result and the error was eventually corrected. Blue concluded that there was no excuse for the mistake, and that the error was unforgivable. People should not make mistakes at work, Blue thought.

These 13 items were summed to form an overall scale. The reliability for this scale was .70.

We asked the significant other to indicate how descriptive five sce-

narios describing job dysfunctional cognitions were of the focal employee. The scenarios were taken from the 13 items on the focal employee survey. The reliability for this 5-item scale was .65.

*Subjective well-being.* We measured subjective well-being with several instruments. Self-reported subjective well-being was measured with six instruments, four of which also were completed by the significant other. The four subscales that both the focal employee and significant other completed were (a) the Affects Balance Scale (see Diener, 1984), a list of 22 adjectives describing hedonic states (e.g., nervous, sad, elated, or delighted; self-report  $\alpha = .94$ ; significant-other report  $\alpha = .94$ ); (b) the "percent time happy" item (Fordyce, 1977), which Diener concluded to have high validity as a single-item measure; (c) a modified version of Underwood and Froming's (1980) measure, which contained nine items with which the respondent is asked to indicate his or her agreement (e.g., "I am usually quite cheerful"); self-report  $\alpha = .92$ ; significant-other report  $\alpha = .91$ ); and (d) the Satisfaction With Life Scale (Diener, Emmons, Larsen, & Griffin, 1985), a five-item measure of life satisfaction consisting of such statements as "In most ways my life is close to ideal" (self-report  $\alpha = .86$ ; significant-other report  $\alpha = .88$ ).

Additionally, focal employees completed the Positive and Negative Affect Schedule scales (Watson, Clark, & Tellegen, 1988), which assess both positive affect and negative affect by asking the respondents to indicate how often they generally experience 10 positive and 10 negative emotions (e.g., upset, proud, ashamed, or inspired). Although treating positive and negative affectivity as measures of a common construct is at odds with some past research that treats them as unrelated, Diener (1990) has argued that positive and negative affectivity are best thought of as measurements of subjective well-being. Evidence indicates that positive and negative affectivity are not completely independent or totally stable and that they correlate highly with other measures of subjective well-being. This has led Diener (1984, 1990) to conclude that the independence of the two constructs is an artifact. Although this is a point of contention, for the purposes of the present investigation we treated positive and negative affectivity as manifestations of the same construct. The reliability for the Positive Affect subscale was .87; reliability for the Negative Affect subscale was .89.

*Job satisfaction.* We measured job satisfaction with the Job Descriptive Index (JDI; P. C. Smith et al., 1969), as modified by Roznowski (1989). The five facets of job satisfaction measured by the JDI are as follows, with their reliability estimates in parentheses: pay ( $\alpha = .87$ ), promotion ( $\alpha = .88$ ), supervision ( $\alpha = .89$ ), co-workers ( $\alpha = .89$ ), and the work itself ( $\alpha = .88$ ). The intercorrelations of those facets reveal a communality among the dimensions, suggesting a second-order general factor (Judge & Hulin, in press; Parsons & Hulin, 1982).

*Affective disposition.* Affective disposition was measured by what is termed the *Neutral Objects Satisfaction Questionnaire*, based on Weitz's (1952) survey. The survey measures affective disposition by assessing how satisfied the respondent is with a list of mostly neutral objects common to everyday life (e.g., telephone service, restaurant food, and popular music). Individuals highly satisfied with the objects as a whole may have a tendency to see most things (including themselves and their lives) in a favorable light; the obverse is true as well. Weitz's scale was modified in several ways described by Judge (1990). Results by Judge and Hulin (in press) suggest that the survey is a valid measure of affective disposition. In the present study, reliability for the scale was .69.

*Work-role inputs and outcomes.* We assessed the following with specific questions in the focal employee survey: work-role inputs (education and hours worked); outcomes (pay and intrinsic factors); time to find a job of comparable pay (assessed on a scale ranging from 1 = *a day or two* to 4 = *more than a year*); and present wage compared with past wages (assessed on a scale ranging from 1 = *present wage is much lower* to 5 = *present wage is much higher*), from the Hulin et al. (1985) model.

We obtained the information on intrinsic job characteristics with a five-item version of the Job Diagnostic Survey (Hackman & Oldham, 1980). Although the possibility exists that assessments of intrinsic job characteristics are influenced by workers' levels of job satisfaction (Roberts & Glick, 1981), this may be the best information on intrinsic factors available, short of objective measurements of job characteristics.

*Ambition.* We assessed ambition with a question on the focal employee survey that asked individuals how many levels they wished to move up from their present jobs. This measurement was based on the measure used by Howard and Bray (1988), who found it to be independent of McClelland's Need for Achievement Scale (McClelland, 1961; McClelland, Atkinson, Clark, & Lowell, 1953). Those expressing a desire to move up many levels are assumed to have more ambition than those who are content to stay where they are. The mode response was a desire to move up two levels from the present position.

*Job and work avoidance.* Consistent with Hanisch and Hulin (1991), we measured job avoidance by asking the individual to objectively report the likelihood of engaging in the following six behaviors within the next year (rated on a scale ranging from 1 = *very unlikely* to 5 = *very likely*): absent, tardy, miss meetings, chat with co-workers about nonwork issues, quit, and give less than 100% on the job (shirk). These items were summed to form a job and work avoidance scale. The reliability for this scale was .70.

*Demographic information.* Age, gender (coded 1 = *male* and 0 = *female*), marital status (coded 1 = *married* and 0 = *divorced, widowed, or single*), race (coded 1 = *White* and 0 = *other*), and whether the individual had been through the EAP program (coded 1 = *yes* and 0 = *no*) were assessed through individual questions on the focal employee survey.

### Covariance Structure Model

Covariance structure models, estimated in this study with LISREL 7 (Jöreskog & Sörbom, 1989), allow the joint specification and estimation of the measurement and structural models hypothesized to account for the observed data (Long, 1983). There were two models tested in this study. The first model is based solely on self-report data. The second model is based on both self-report and significant-other evaluations (i.e., significant-other reports of subjective well-being, dysfunctional attitudes, and job dysfunctional attitudes and self-reports of all other variables). The advantage of the self-report-only model is that it is probably reasonable to assume that the focal employee knows his or her own subjective well-being and dysfunctional attitudes better than anyone else. On the other hand, the model incorporating significant-other reports of subjective well-being, dysfunctional attitudes, and job dysfunctional attitudes, as well as self-reports of all other variables (hereinafter called the *combined data model*) allows inferences about causal relations without complete reliance on self-report data. Comparison of the models permits inferences about the degree to which relations are based on true covariance or on self-report method variance. If there was substantial convergence between the models, the findings in the self-report model could be assumed to represent true content relations and not method-determined relations. Because both models possess advantages, each was estimated and the results were reported.

The measurement components of the self-report and combined data models were estimated before concurrent estimation of the measurement and structural models. Anderson and Gerbing (1988) recommended separate estimation of the measurement model before simultaneous estimation of the measurement and structural models to determine the adequacy of the measurement model. Failing to do this may result in "interpretational confounding" or the inability to detect the cause of model misspecifications (Burt, 1976). Thus, before simultaneous estimation of the measurement and structural models, we exam-

ined the fit statistics and parameter estimates of the measurement model.

The most widely used measure of fit is the chi-square ( $\chi^2$ ) statistic. Perhaps the most conventional use of chi-square is to examine the ratio of chi-square relative to the degrees of freedom (Hoetler, 1983; La Du & Tanaka, 1989). Other conventional fit statistics include the goodness-of-fit index (GFI), adjusted goodness-of-fit index (AGFI), root-mean-square residual (rmsr), and coefficient of determination ( $r^2$ ). There are several limitations in interpreting fit statistics. First, a particular value of a fit statistic cannot be used to rule out the possibility of omitted variables. It is possible, albeit less likely, to infer on the basis of examination of the fit statistics that a particular model fits the data well when in fact not all relevant causes of a dependent variable have been specified (La Du & Tanaka, 1989). Second, levels of most fit statistics depend on the sample size (La Du & Tanaka, 1989). Finally, as the underlying distributions of most fit statistics are unknown, evaluating their acceptability is subjective. Thus, the acceptability of a particular model should be evaluated by examining the fit indexes cumulatively (Harris & Schaubroeck, 1990; L. A. James & James, 1989).

As noted by Anderson and Gerbing (1988), precise guidelines on minimum sample sizes for covariance structure modeling have not been determined. Researchers often have suggested that 150 to 200 observations are sufficient to achieve reliable estimates (Anderson & Gerbing, 1988; Boomsma, 1987; Harris & Schaubroeck, 1990; Hayduk, 1987), although the validity of such cutoffs depends on the complexity of the model. In the present study, the sample size used in the analyses meets the standard described above because it is greater than 200. A means of detecting an adequate sample size post hoc is to examine the standard errors. If they are small enough to be of practical use, it provides suggestive evidence (although certainly not proof) that the sample size is adequate (Anderson & Gerbing, 1988). As will be shown, it does not appear that our standard errors were excessive. An overall measure of the degree to which parameters are estimated with error, rmsr, was at an apparently acceptable level. Furthermore, two other problems deriving from overly small sample sizes, nonconvergence and improper solutions, did not appear evident in the results (Anderson & Gerbing, 1988). On the other hand, because the sample-size-to-parameter ratio did not meet the 5:1 ratio suggested by Bentler and Chou (1987), a larger sample size than that possible in the present study would be desirable.

## Results

Correlations served as input for the LISREL model. Using sample covariances as input yielded equivalent results. The correlation matrix along with means and standard deviations for all variables used in the analyses are shown in Table 1.

### *Self-Report Measurement Model*

Cumulative examination of the fit indexes for the self-report measurement model suggested that the hypothesized measurement model provides an adequate fit to the data,  $\chi^2(41, N = 231) = 77.72, p < .01, \chi^2/df = 1.78, GFI = .95, AGFI = .92, rmsr = .04, r^2 = .95$ . The parameter estimates (factor loadings) of the self-report measurement model are provided in Column 2 of Table 2. The loadings of the measures on their respective constructs were strong (average loading = .67) and significant ( $p < .01$ ). With respect to the loadings, of particular note is the fact that positive and negative affectivity strongly and significantly loaded on the subjective well-being construct. Although this does not constitute a formal test of the independence of positive and negative affectivity and is at odds with some prior research,

the results nonetheless suggest that an overall subjective well-being construct can be defined with both positive and negative affectivity indicators. This represents an apparently viable alternative to the approach used by Watson and colleagues (Watson, 1988; Watson & Clark, 1984, 1992; Watson et al., 1988; Watson & Tellegen, 1985).

### *Self-Report Structural Model*

Examination of the fit statistics suggested that the overall structural model fit the data acceptably,  $\chi^2(227, N = 231) = 487.14, p < .01, \chi^2/df = 2.15, GFI = .88, AGFI = .80, rmsr = .06, r^2 = .82$ . Figure 2 displays the parameter estimates and standard errors of the structural model. The hypothesis that dysfunctional thought processes influence subjective well-being was supported by the results. The coefficient estimate indicates that those who think dysfunctionally are more likely to be unhappy. The data also supported the hypothesis that subjective well-being significantly influences job satisfaction. Those happy with their lives were more likely to be satisfied with their jobs, controlling for other factors influencing job satisfaction. The reciprocal coefficient from job satisfaction to subjective well-being also was significant. Figure 2 also indicates that job dysfunctional thought processes significantly influenced job satisfaction. Those who think dysfunctionally in terms of their jobs are less likely to report being satisfied with their jobs. Job satisfaction significantly influenced job avoidance. Those who were dissatisfied with their jobs were more likely to report that they would engage in avoidance behaviors in the future.

Figure 2 also presents results from the remaining links in the model. Affective disposition significantly influenced subjective well-being. As expected, dysfunctional thought processes significantly influenced job dysfunctional thought processes. Individuals who were married reported significantly higher levels of subjective well-being. Contrary to expectations, Whites reported lower levels of subjective well-being than did minorities. The paths from age, whether the respondent had been through the EAP, and gender to subjective well-being were not significant. The fact that Whites reported lower levels of job satisfaction than minorities may have been due to the single occupation studied. Although minorities may be more likely to be employed in objectively less desirable occupations (and thus report lower job satisfaction), in a single occupation minorities may look at their present positions in a more positive light when comparing themselves to other minorities.<sup>1</sup>

The nonsignificant effect of having gone through the EAP on subjective well-being should be interpreted cautiously—it does not necessarily suggest that EAPs do not enhance subjective well-being. Because employees have alternatives to EAPs that may raise subjective well-being (e.g., friends and churches) and undoubtedly there are those who did not seek out the EAP but nonetheless have low levels of subjective well-being, the dummy variable measurement of EAP simply contrasts the mean level of subjective well-being between those who sought out the EAP and those who did not.<sup>2</sup>

<sup>1</sup> We thank an anonymous reviewer for pointing out this possibility.

<sup>2</sup> We thank an anonymous reviewer for pointing out this interpretation.

Table 1  
Means, Standard Deviations, and Correlations Between Variables Used in Analyses

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12
1. Positive Affectivity scale	35.45	6.38	<b>87</b>											
2. Negative Affectivity scale	18.19	7.02	-.39	<b>89</b>										
3. Fordyce percent happy item	70.39	21.78	.50	-.64	—									
4. Satisfaction With Life Scale	20.59	6.74	.36	-.48	.61	<b>86</b>								
5. Underwood & Froming scale	45.65	10.48	.57	-.70	.83	.64	<b>92</b>							
6. Affects Balance Scale	79.52	11.91	.57	-.80	.74	.58	.80	<b>94</b>						
7. JDI—Work scale	34.19	12.72	.39	-.35	.33	.39	.34	.44	<b>88</b>					
8. JDI—Co-workers scale	41.28	12.19	.08	-.20	.20	.17	.21	.26	.30	<b>89</b>				
9. JDI—Supervision scale	41.61	12.37	.23	-.32	.24	.26	.20	.33	.42	.20	<b>89</b>			
10. JDI—Pay scale	25.03	17.15	.17	-.32	.27	.35	.29	.31	.33	.16	.27	<b>87</b>		
11. JDI—Promotion scale	12.40	14.43	.22	-.24	.20	.24	.24	.26	.34	.14	.25	.30	<b>88</b>	
12. Job dysfunctional attitudes	27.68	6.57	-.38	.49	-.40	-.24	-.47	-.50	-.24	-.18	-.17	-.08	-.12	<b>70</b>
13. Dysfunctional Attitude Survey	296.00	51.64	-.24	.43	-.38	-.19	-.41	-.40	-.19	-.15	-.10	-.16	-.14	.60
14. Married	0.64	0.48	.01	-.14	.19	.28	.15	.14	.14	-.01	.00	.05	-.06	-.09
15. White	0.96	0.19	-.07	.12	-.06	-.02	-.10	-.06	-.02	-.08	-.03	-.02	-.17	.01
16. Been through EAP	0.29	0.45	-.06	.17	-.07	-.20	-.07	-.19	-.05	-.10	-.06	-.06	-.08	.06
17. Age	37.70	10.93	.08	-.18	.05	.03	.07	.08	.13	.04	.09	.22	-.14	-.01
18. Male	0.13	0.34	-.15	.11	-.15	-.08	-.14	-.08	-.08	.02	-.02	-.07	-.10	.16
19. Affective disposition	38.09	4.74	.26	-.28	.32	.36	.27	.36	.22	.19	.23	.24	.08	-.22
20. Salary	19,045.00	6,293.00	.10	-.20	.16	.17	.15	.16	.29	.13	.05	.39	.12	.01
21. Present wage compared to past	3.35	1.09	-.05	-.06	.07	.09	-.01	.07	.16	.09	.13	.39	.20	.08
22. Education	2.92	0.92	.03	.13	-.10	.03	-.04	-.11	-.10	.07	-.02	-.09	-.03	.02
23. Hours worked per week	39.12	3.23	-.02	-.06	.01	.02	.08	.10	.01	.05	-.00	.01	.08	-.00
24. Time to find comparable job	2.96	0.56	-.12	.10	-.15	-.08	-.16	-.15	-.02	.01	-.06	.11	-.16	.14
25. Intrinsic factors	18.81	3.44	.40	-.24	.27	.30	.29	.38	.64	.12	.33	.19	.21	-.16
26. Ambition	1.82	1.01	.06	.10	-.11	-.15	-.03	-.06	-.19	-.16	-.11	-.28	-.07	-.08
27. Job avoidance	13.09	4.56	-.31	.29	-.21	-.21	-.22	-.33	-.32	-.06	-.20	-.27	-.16	.23
28. Fordyce percent happy item, SOR	69.20	21.29	.35	-.35	.39	.33	.41	.39	.15	.06	.16	.10	.15	-.16
29. Satisfaction With Life Scale, SOR	20.44	6.63	.21	-.24	.30	.45	.35	.27	.21	.05	.17	.24	.08	-.15
30. Underwood & Froming scale, SOR	46.30	10.63	.32	-.40	.42	.36	.49	.42	.11	.10	.11	.11	.19	-.19
31. Affects Balance Scale, SOR	79.97	11.00	.36	-.40	.41	.32	.49	.44	.09	.05	.13	.11	.18	-.24
32. Job dysfunctional attitudes, SOR	11.20	4.21	-.17	.22	-.15	-.14	-.25	-.22	-.10	-.05	-.11	-.07	-.16	.17
33. Dysfunctional Attitude Survey, SOR	62.64	10.24	-.20	.16	-.14	-.09	-.20	-.20	-.11	-.02	-.05	.05	-.00	.26

Note. Decimal points are omitted from correlations. Correlations greater than .13 are significant at the .05 level (two-tailed). Where appropriate, assistance program.

Salary level significantly influenced job satisfaction. The effect of present wage compared with past wages approached but did not reach significance. Intrinsic factors strongly influenced job satisfaction. Ambition, as hypothesized, significantly negatively influenced job satisfaction. Paths from education, hours worked per week, and time to find a job of comparable pay to job satisfaction were not significant.

Several indirect effects were revealed by the model. Indirect effects refer to the effect of one variable on another as mediated through a third variable (Hayduk, 1987). The metric of indirect effects, when a standardized solution is obtained, ranges in absolute value from 0 (no effect) to 1 (complete determination). Dysfunctional thought processes displayed a significant indirect effect on job satisfaction (-.22,  $p < .01$ ) through their effect on subjective well-being. Dysfunctional thought processes also exerted a significant indirect effect on job avoidance (.08,  $p < .01$ ) through their effect on job satisfaction.

Examination of the fit statistics revealed that the overall structural model fit the data well. However, because one model fits the data does not necessarily mean it is the correct model; other models may fit the data equally well. Hayduk (1987) encouraged testing of plausible alternative models. In many cases, that entails adding links. If adding a link results in a significant decrease in chi-square, this indicates that adding the link signif-

icantly improves the fit of the model, and therefore the link should be included. This was done on different parts of the model in which there was reason to suspect that the hypothesized causal ordering might not be proper. It is possible, for example, that the tendency to evaluate the environment based on affective disposition influences both subjective well-being and job satisfaction. Therefore, a direct link from affective disposition to job satisfaction was added to the model. The decrease in chi-square was not significant,  $\chi^2(1, N = 231) = 1.31, ns$ . This suggests that, as hypothesized, affective predispositions influence job satisfaction only indirectly, mediated through subjective well-being. A similar finding was reported by Judge and Hulin (in press).

Another possible model is that dysfunctional thought processes influence affective disposition. However, adding a link from dysfunctional thought processes to affective disposition resulted in no improvement in fit,  $\chi^2(1, N = 231) = 0.00, ns$ . The results from these alternative model tests increase confidence in the validity of the hypothesized model.

Combined Data Measurement Model

The intercorrelations between the self-reports and significant-other reports were significant ( $p < .01$ ). The correlations



13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	18	29	30	31	32	33
<b>93</b>																				
-00	—																			
-05	13	—																		
-01	-07	08	—																	
-14	09	10	03	—																
18	-03	-06	-05	-02	—															
-13	02	-02	-09	-00	-13	<b>69</b>														
03	12	09	03	31	03	15	—													
04	04	05	-17	09	-03	16	26	—												
10	-11	08	04	-14	20	-05	11	-16	—											
07	08	27	-06	-01	08	08	31	16	24	—										
14	01	23	07	28	-02	-02	16	13	-01	03	—									
14	01	23	-05	09	-11	16	21	20	-04	09	-05	<b>65</b>								
-14	04	-03	07	-26	02	-13	-22	-27	09	-07	-11	-10	—							
16	-07	-12	17	-26	03	-20	-21	-13	16	-09	-04	-22	07	<b>70</b>						
-10	06	-08	-03	01	-03	18	08	06	-03	-01	-09	11	-08	-29	—					
-11	25	05	-08	01	-04	17	11	12	-04	02	-05	13	-12	-19	50	<b>88</b>				
-15	03	-04	-07	-06	-05	14	04	02	-02	03	-12	05	-05	-24	77	57	<b>92</b>			
-20	01	-05	-04	-07	-10	11	03	01	-10	-02	-13	01	02	-19	65	52	80	<b>94</b>		
19	09	-03	04	03	00	-01	-09	-03	-02	-05	15	-09	04	08	-36	-20	-45	-15	<b>65</b>	
26	05	-13	02	02	-02	-02	00	07	-02	00	08	-07	-05	12	-25	-15	-36	-33	51	<b>76</b>

reliability coefficients are on the diagonal in boldface type. JDI = Job Descriptive Index; SOR = significant-other report; EAP = Employee

between self-reports and significant-other reports of the following variables, corrected for unreliability where appropriate, were as follows: Satisfaction With Life Scale = .52, Affects Balance Scale = .47, Underwood and Froming scale = .54, Fordyce percent happy item = .39, DAS = .34, job dysfunctional attitudes scale = .27.

The fit statistics of the measurement model using significant-other measures of subjective well-being, dysfunctional attitudes, and job dysfunctional attitudes as well as self-reports of job satisfaction,  $\chi^2(40, N = 217) = 50.56, ns, \chi^2/df = 1.26, GFI = .96, AGFI = .94, rmsr = .04, r^2 = .97$ , indicated that the measurement model fit the data within normally acceptable limits. Table 2 shows the parameter estimates for the combined data measurement model. The factor loadings from the combined self-report and significant-other estimation are very similar to the loadings estimated in the self-report-only model. All loadings are statistically significant ( $p < .01$ ).

*Combined Data Structural Model*

The results from estimation of the combined data structural model are shown in Figure 3. The fit statistics of the combined data structural model were as follows:  $\chi^2(195, N = 217) = 359.22, p < .01, \chi^2/df = 1.84; GFI = .89, AGFI = .81, rmsr = .07,$

$r^2 = .57$ . The results indicate some differences from the self-report model. Specifically, the nonrecursive relationship between job satisfaction and subjective well-being grows weaker with the introduction of significant-other data. However, the effects are still statistically significant. Interestingly, the effect of dysfunctional thought processes on subjective well-being when using the significant-other data was somewhat stronger than that obtained from the estimation when using self-report data. The effect of job dysfunctional attitudes on job satisfaction was somewhat weaker when compared with that obtained with the self-report data. Figure 3 also shows results from the remaining links in the model. Overall, the results were consistent with the self-report-only data (the only exceptions were that the effects of race and marital status on subjective well-being became nonsignificant).

The indirect effects from the combined data model remained statistically significant but weaker in magnitude when compared with the self-report model. Specifically, dysfunctional thought processes displayed an indirect effect on job satisfaction that was statistically significant ( $-.08, p < .01$ ) but weaker than that obtained from the self-report-only model. Dysfunctional thought processes also exerted a significant indirect but relatively weak effect on job avoidance ( $.04, p < .01$ ) through their effect on job satisfaction.

Table 2  
Measurement Model Parameter Estimates

Construct & measure	Self-report model		Combined model	
	Parameter estimate	SE	Parameter estimate	SE
Dysfunctional thought processes				
Dysfunctional Attitude Survey (DAS)	1.00		—	
DAS, significant-other report	—		1.00	
Job dysfunctional thought processes				
Job dysfunctional attitudes scale (JDAS)	1.00		—	
JDAS, significant-other report	—		1.00	
Subjective well-being				
Affects Balance Scale (ABS)	.89	.05	—	
Underwood & Froming scale (UF)	.90	.05	—	
Fordyce percent time happy item (FOR)	.83	.06	—	
Satisfaction With Life Scale (SWLS)	.69	.06	—	
Positive Affectivity scale	.62	.06	—	
Negative Affectivity scale	-.76	.06	—	
ABS, significant-other report	—		.84	.06
UF, significant-other report	—		.96	.05
FOR, significant-other report	—		.80	.06
SWLS, significant-other report	—		.60	.06
Job satisfaction				
JDI—Work scale	.73	.07	.69	.08
JDI—Co-workers scale	.38	.07	.32	.08
JDI—Supervision scale	.55	.07	.54	.08
JDI—Pay scale	.50	.07	.47	.08
JDI—Promotion scale	.47	.07	.50	.08

Note. JDI = Job Descriptive Index. For all estimates  $p < .01$ .

On the basis of these results, we can conclude with a reasonable degree of confidence that subjective well-being and job satisfaction significantly influence one another (the exact strength of that effect is open to question, however). Furthermore, we can conclude that dysfunctional thought processes significantly influence subjective well-being directly and job satisfaction and job avoidance indirectly. Finally, job dysfunctional thought processes appear to significantly influence job satisfaction.

The relationships observed between the concepts were argued to represent structural relationships between distinct concepts. The plausibility of this argument, however, depends on the assumption that the measures are distinct—that dysfunctional thought processes, job dysfunctional thought processes, and subjective well-being are not simply alternative measures of an overall affective experience. If in fact they are, it would undermine the causal attributions suggested in this study.

Consequently, we investigated the discriminant validity of the hypothesized constructs in a manner similar to Brooke, Russell, and Price (1988). The fit of the hypothesized measurement model was compared with the fit of a model with one general affective concept consisting of dysfunctional thought processes, job dysfunctional thought processes, and subjective well-being. If the measures did not have adequate discriminant validity, the fit of a single factor model would not be significantly worse than the hypothesized multiple factor model. In such a case, a single factor model would do an acceptable job of describing the data, and measurement relationships between the variables may have been misinterpreted as structural relationships.

Using 10 randomly sampled items from the DAS, 10 randomly sampled items from the job dysfunctional attitude scale, and 10 randomly sampled items from the subjective well-being scales with the self-report data, the single factor model provided a significantly worse fit to the data than did the hypothesized model,  $\chi^2(3, N = 231) = 171.34, p < .01$ . Considering also the significant-other data, a single factor model also provided a significantly worse fit to the data than did the hypothesized model,  $\chi^2(3, N = 217) = 136.57, p < .01$ . Overall, this evidence suggests that the factors, as assessed, are empirically distinct. Even forming the DAS and the job dysfunctional attitude scale resulted in a significant decrease in fit ( $p < .01$ ).

## Discussion

The main purpose of this study was to determine whether dysfunctional thoughts affected subjective well-being and job satisfaction. Within the limitations imposed by the correlational method used, the results strongly supported the predictions. To the degree that people believe that they must be dependent on others for self-worth, believe that they must be perfect in terms of task mastery and not making mistakes, and overgeneralize from a single event to a grand conclusion, they decrease the chances that they will enjoy their jobs and their lives in general. Theoretical ideas and findings from a totally different domain (the cognitive theory of depression, from clinical psychology) were found to have strong relevance to organizational psychology and measurement. Yet this result should not be surprising in that depression is a state of extreme negative affect. Those who are depressed more than average are

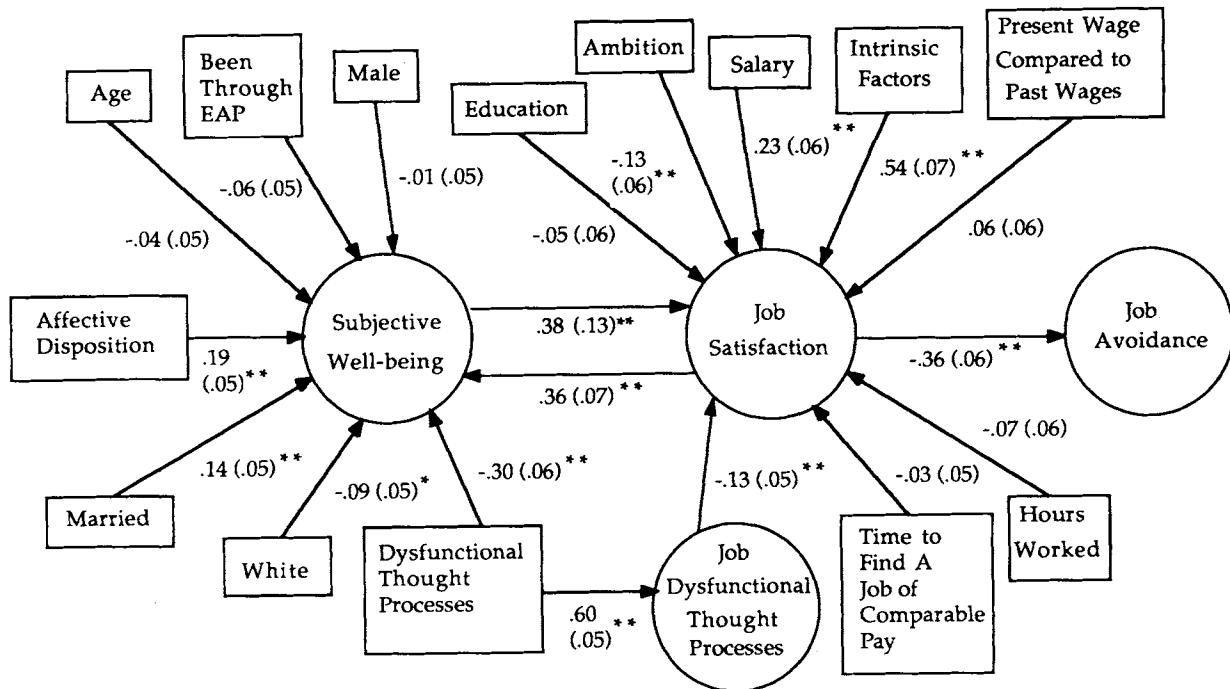


Figure 2. Structural estimates using self-report data. (Standard errors are in parentheses. \* $p < .05$ , one-tailed. \*\* $p < .01$ , one-tailed. Rectangles represent exogenous, or independent, variables. Circles represent endogenous, or dependent, variables.)

more likely to believe that they are no good, that life is no good, and that things will never change for the better. Such a triad (Beck et al., 1979) of self-defeating conclusions virtually guarantees negative affect with respect to one's life in general and one's job in particular.

From a microanalytic perspective one might ask by what means the dysfunctional thoughts of the type measured by the DAS affect satisfaction. Locke (1976) argued that satisfaction with the job and each job component thereof results from automatic, subconscious appraisals based on three elements: what is perceived (how much there is), what is wanted (how much one believes there should be), and the importance of the element. For exploratory purposes we asked the respondents in this study to rate a few of the Hackman and Oldham (1980) job attributes (e.g., autonomy, variety, and task significance) on each of the three dimensions suggested by Locke. We found that the DAS scale (as well as the job DAS scale) was most frequently and negatively correlated with ratings of the amount perceived. Thus, subjects high on the DAS scales saw their jobs as having less autonomy, variety, and significance than did those low on the DAS scales. There also was a tendency for those high on the DAS scales to see the job elements as more important than those low on the DAS scales. The combination of perceiving the job as offering a low amount of a characteristic and placing high importance on getting it would certainly be consistent with the lower degree of satisfaction experienced by those with high DAS scores (DAS scores were not correlated with amount wanted). These preliminary results suggest that dysfunctional thinking may have both an external and an internal aspect. Externally, dysfunctional thinkers may see less of what is there and internally may place more importance on getting it than do

nondysfunctional thinkers. Clearly these results are only preliminary, but they suggest that further microanalytic studies of the mechanisms by which dysfunctional thoughts affect attitudes are warranted.

However, dysfunctional thinking is not the only category of dispositional factors that could affect subjective well-being and job satisfaction. Other possibilities are self-esteem (which itself is affected by thinking; see below), locus of control, self-efficacy, intelligence, and ambition. Ambition was measured with a one-item scale on an exploratory basis in the present study and was found, as predicted, to be negatively related to satisfaction with the job. People who are ambitious are, necessarily, dissatisfied with where they are as a permanent state and want to improve the conditions of their job (e.g., responsibility, job level, and pay) in some significant aspect. Because such people have higher standards for self-satisfaction, they must achieve more to be satisfied (Mento et al., 1992) than do people with less ambition. This is what drives them to excel and improve (Howard & Bray, 1988). Further studies of ambition and other dispositional factors, then, would seem warranted.

Some discussion is needed concerning the observed relationship between job satisfaction and subjective well-being. An obvious reason for job satisfaction playing a causal role in subjective well-being is that it represents a part-whole relationship; that is, the job is a part of life and thus is taken into account when rating subjective well-being (in the same way that satisfaction with work is taken into account when rating overall job satisfaction; Locke, 1976). One prediction that would follow from this is that the job satisfaction-subjective well-being relationship should be moderated by the degree to which the job is considered an important part of one's life. In fact, some past

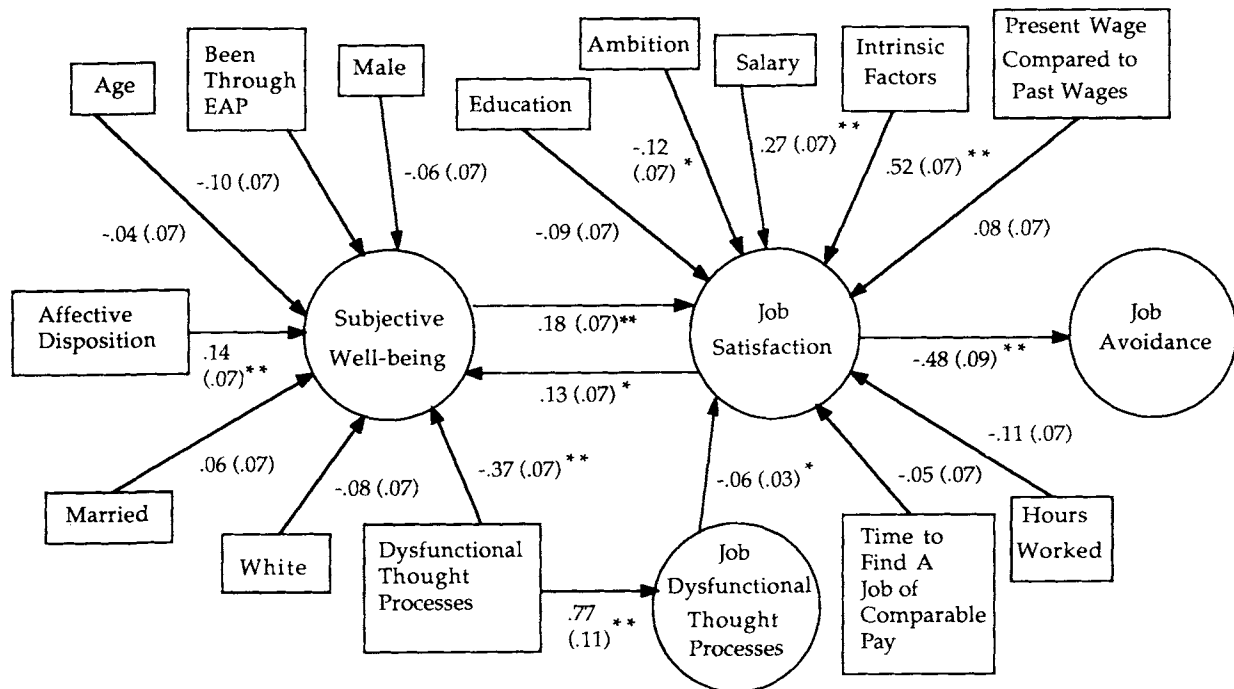


Figure 3. Structural estimates using combined data. (Standard errors are in parentheses.  $*p < .05$ , one-tailed.  $**p < .01$ , one-tailed. Rectangles represent exogenous, or independent, variables. Circles represent endogenous, or dependent, variables.)

research supports this prediction (Iris & Barrett, 1972; Rice et al., 1985). Going in the other direction, subjective well-being could affect job satisfaction through a spillover effect, that is, emotional generalization from one domain to the other. For example, if one's married and family life were exceptionally happy, one might go to work in a positive mood and interpret events on the job in a benevolent and positive light (George, 1989). The opposite could occur if one went to the job in a bad mood because of an unhappy family situation. This explanation is consistent with cognitive models of attitude formation, in which happy individuals may tend to store, evaluate, or recall information related to their jobs differently than unhappy individuals (Isen & Baron, 1991; Motowidlo & Lawton, 1984; Porac, 1987). Other relationships, of course, are possible as well (e.g., segmentation and compensation), but these would not predict a positive correlation between domains.

The magnitude of the relationship between subjective well-being and job satisfaction varied between the self-report-only model and the combined data model. Although the reciprocal effects of subjective well-being and job satisfaction were significant in both estimations, the variance explained by each variable was much lower with the introduction of the significant-other evaluations of subjective well-being (roughly 4%, vs. 16% for the self-report-only model). Thus, it would appear that we have an upper bound estimate of the relationships from the self-report data and a lower bound estimate of the relationships from the inclusion of the significant-other data. The reciprocal relationship clearly seems to be significant, but the true magnitude of the effects is deserving of further research attention. Possibly, the model estimated by using significant-other reports

of dysfunctional attitudes and subjective well-being is more accurate because the relationships are less affected by self-report bias. On the other hand, the relationship may have declined because significant others are less knowledgeable about the well-being and dysfunctional attitudes of the focal employee. We cannot test these competing explanations, but it does reinforce the importance of collecting information from more than one source. Introduction of the significant-other data had little effect on the influence of dysfunctional thought processes on subjective well-being and job satisfaction. Thus, a higher degree of confidence can be placed in the exact magnitude of these specific effects.

Explaining the relationship between affective disposition and subjective well-being is slightly more problematic. On the one hand, one could say that people inclined to be positive in general should be more positive about life, but this is almost a tautology. This is not much different from saying that people who are happy in life will be positive with respect to even neutral objects, such as  $8\frac{1}{2}'' \times 11''$  paper and their telephone number. However, it should be noted that all items in the affective disposition scale were not as neutral as the two examples above.

Two of the items in this scale asked subjects to rate their degree of satisfaction with "yourself" and "the way you were raised." Few people are neutral (as compared with  $8\frac{1}{2}'' \times 11''$  paper) about such issues. The sum of these two "ego" items correlated more highly with other key variables in our model than did the total of the remaining items in the neutral objects scale. For example, the ego scale correlated .58 with subjective well-being (vs. .23 for the remainder scale),  $-.32$  with the DAS (vs.  $-.05$ , *ns*, for the remainder scale),  $-.33$  with job dysfunc-

tional attitudes (vs.  $-.17$  for the remainder scale), and  $-.33$  with job avoidance (vs.  $-.12$ , *ns*, for the remainder scale). These results have intriguing implications. If our ego measure can be considered to be a crude measure of self-esteem, then it suggests that people who like themselves are more likely to enjoy their lives and work than are those who do not like themselves. In fact, this has been observed in previous studies (Brockner, 1988). One reason for this association might be that people who have high self-esteem are more likely to think functionally than are people who have low self-esteem, as shown by the negative correlation between the DAS and our ego measure noted above. From a causal perspective, functional thinking should lead both to higher self-esteem and to greater happiness in the job and life (Rand, 1961). These issues, including that of reciprocal causality, are worthy of further study.

Also worthy of further study is the measurement of affective disposition. Although the Weitz (1952) measure used in the present study yielded some interesting results, it is not yet established that this is a superior measure of affective disposition. For example, when the ego items were excluded from the survey, the effect of this measure on subjective well-being in the confirmatory model dropped to  $.10$  (although it was still significant). This may suggest that the core of affective disposition is the disposition one has toward oneself. Furthermore, the disposition scale may simply measure the cognitive bias to respond positively or negatively. Thus, further work is needed comparing the Neutral Objects Satisfaction Questionnaire to more traditional measures. Until the Weitz measure is demonstrated to be superior to other measures of affective disposition, it may be prudent to think of it as an assessment of cognitive halo tendencies.

A strength of the present study is that data were collected from two sources. Most of the past research in this area has relied only on self-reports, making it possible that self-report variance biased the relationships. The results of this study do suggest some differences between the model estimations. On the other hand, most of the relationships that were significant in the self-report model remained significant in the model estimated with significant-other data.

This is not to say that this study is without its limitations. First, although a strength of the study was that significant-other reports were included, not all variables were assessed with the combination of self-reports and significant-other evaluations. Thus, the same source variance could explain, at least in part, some of the relationships observed in the model. Furthermore, it is likely that measures of some of the exogenous variables in the model (e.g., ambition) could be improved on. Another limitation in the study was that although the effects of dysfunctional attitudes were statistically significant (even with the introduction of the significant-other data), the effects were not strong in magnitude. This should be kept in mind when evaluating the practical significance of the results. Also, because our sample size was relatively small given the complexity of the models tested, some degree of caution should be exercised in interpreting the results. In particular, the sample-size-to-estimated-parameter ratio did not meet the 5:1 threshold suggested by Bentler and Chou (1987). Thus, it is possible that the sample size was not sufficient for the analyses. Another limitation relates to the procedure involved in collecting data from the signif-

icant others. Because the focal employees were in charge of distributing the significant-other surveys, the focal employees may have actually completed them. However, a comparison of the handwriting on the focal employee and significant-other surveys revealed very clear differences in almost all (207 out of 217) cases. Although this suggests that employees did not "cheat," they may have conversed about the survey with their significant other before completing the survey, which may have biased the results observed. Finally, given the geographic and occupational restrictions of the sample (clerical employees working in a relatively small college town), replication using more diverse samples is needed to examine the generalizability of the findings.

The practical implications of this study are worth noting. Dispositional researchers have often argued that organizations may want to select workers on the basis of disposition because of the potential impact it has on job satisfaction and related behaviors (Arvey et al., 1989; Pulakos & Schmitt, 1983; Staw et al., 1986; Staw & Ross, 1985). However, the results of the present study suggest a different alternative: Employee well-being and job satisfaction may be increased by reducing the degree to which employees think dysfunctionally about their jobs and lives in general. This speculation is consistent with previous research suggesting that reducing dysfunctional attitudes produces positive benefits. For example, Kovacs, Rush, Beck, and Hollon (1981) found that most individuals realized a dramatic and long-lasting increase in overall affect after several weeks of regular cognitive therapy sessions. Another study suggested that cognitive therapy can be an important component of EAPs (Klarreich, DiGiuseppe, & DiMattia, 1987). Finally, cognitive therapy has been found to reduce coronary-prone behavior (Levenkron, Cohen, Mueller, & Fisher, 1983), which also has cost-saving implications for organizations and life-saving implications for individuals. Thus, the practical implications of the dispositional approach to job satisfaction are not confined to the selection process. The results of this study imply that organizational interventions aimed at increasing employee well-being, and thus job satisfaction, may be effective and well advised. It should be noted that objectively improving the conditions of work also may increase workers' job satisfaction and subjective well-being, perhaps in an equally or more cost-effective manner. Assuming that both interventions are orthogonal, one could speculate that the greatest increase in job satisfaction would be obtained by using both individual and organizational interventions.

Of course, it is also possible to view dysfunctional attitudes as a dispositional construct. Given the strength of affective disposition, subjective well-being, and dysfunctional thought processes in the model, the results present strong evidence for the ability of dispositional constructs to explain variance in job-relevant attitudes and behaviors. In fact, if future research finds that dysfunctional thought processes are correlated with attitudes related to other life domains and that the thought processes are resistant to cognitive therapy, the dispositional perspective may be strengthened even further.

On a related note, this study has implications for future dispositional research. There is strong evidence that dispositional constructs matter in judgments of job satisfaction. However, there remains a need to use theoretical concepts that may help

in understanding the psychology behind the effect of disposition on job attitudes (Judge, 1992; Weiss, 1991). The present study represented a successful effort in that regard by applying the cognitive theory of depression. Our intriguing findings for the ego measure suggest the relevance of cognitive-ego psychology (Packer, 1986) for understanding job satisfaction. More efforts along these lines are needed. As suggested earlier, past work from cognitive psychology may be of great importance here.

With respect to the remaining relationships in the model, there were few surprises. The negative relationship between job satisfaction and job avoidance and the relationship between intrinsic job characteristics and job satisfaction replicate similar findings in many studies. The salary results were also expected, as was the result for marital status. Race came out in the opposite direction expected and several other factors showed weak or nonsignificant effects. These results are in line with other studies that show demographic characteristics are less strongly related to job attitudes than are direct appraisals of the job situation. The most interesting implication of our results is that such appraisals may be affected by dispositional factors, such as how people think.

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