JOB SATISFACTION AS A REFLECTION OF DISPOSITION: A MULTIPLE SOURCE CASUAL ANALYSIS

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Abstract

Dispositional sources of job satisfaction have been the subject of recent research in the organizational sciences. Problems in much of this research, which limit the conclusions one can draw from the results, are discussed. This study makes a distinction between affective disposition, defined as the tendency to respond generally to the environment in an affect-based manner, and subjective well-being, the level of overall happiness and satisfaction an individual has with his or her life. Affective disposition was hypothesized to lead to subjective well-being, and subjective well-being and job satisfaction were hypothesized to be mutually causative. A causal model was tested employing two different sources of data: self-reports and "significant other" evaluations. This biangulation of sources of data and estimation of nonrecursive relationships removes some problems often assumed to plague results based on single source data. Results indicated support for the overall hypothesized causal model and supported a dispositional influence on job attitudes. The influences are more complex than past research has suggested.

JOB SATISFACTION AS A REFLECTION OF DISPOSITION: A MULTIPLE SOURCE CAUSAL ANALYSIS

Empirical results of investigations linking personality variables to organizationally relevant attitudes and behavior have been, for the most part, disappointing (Bernardin, 1977; Guion & Gottier, 1965; Salancik & Pfeffer, 1978; Schmitt, Gooding, Noe, & Kirsch, 1984; Weiss & Adler, 1984; White, 1978). This accumulation of modest results in the organizational literature has paralleled research in the personality literature as a whole. Criticisms of the trait approach began with Mischel (1968), which lead to a decline in theories of the structure and effect of personality (Epstein, 1977; Rorer & Widiger, 1983). What has ensued have been many empirical studies linking traits to outcomes, with often only tangential relations to a well-developed theoretical framework. The disarray in personality research (Rorer & Widiger, 1983) is reflected in organizational personality research, where specific personality attributes often seem to be included as an afterthought (Weiss & Adler, 1984) with little regard for theory.

Recently, a dispositional emphasis, suggesting that general affective states influence job satisfaction, has rekindled interest in the effects of personality in organizations and has offered a unifying theoretical framework for this specific area. Most existing theories of job affect generally view job satisfaction as a phenomenon with exogenous sources (Staw & Ross, 1985; Staw, Bell, & Clausen, 1986) or a person/work role interaction (Locke, 1976; Smith, Kendall, & Hulin, 1969). Where individual differences have been considered, they are often limited to the theoretically sterile need approaches and usually play an ancillary role in the models.

Numerous studies have correlated job satisfaction with scores on personality scales (Locke, 1976). However, these studies have added little to fundamental theoretical development in job satisfaction (Weiss & Adler, 1984). The dispositional approach adds a potentially important element to theoretical developments regarding job attitudes by including relevant personality constructs as the focus of the research. However, the approach has also found its critics (Davis-Blake & Pfeffer, 1989; Gerhart, 1987, 1990). These critics have expressed serious doubts about the empirical and practical significance of dispositional effects based on what they see as shortcomings in past dispositional research.

The purpose of this study is to address issues related to the definition and measurement of disposition, and to assess causal relationships between affective disposition and other important constructs based on specific hypotheses derived from existing theories. Affective disposition and subjective well-being are argued to be separate constructs, and are linked in a causal framework that includes job satisfaction. These constructs are assessed by multiple measures to generate more reliable estimates. Two sources of data are used to reduce problems caused by common source and method variance. This test of the usefulness of affective disposition as an antecedent of subjective well-being, and subjective well-being and job affect as reciprocally related, should add to our understanding of the role of affective disposition in the formulation of job satisfaction, as well as clarify what is meant by the terms and other, closely related, constructs.

Past Dispositional Research

Previous studies of disposition and job affect (Arvey, Bouchard, Segal, & Abraham, 1989; Gerhart, 1987; Levin & Stokes, 1989; Pulakos & Schmitt, 1983; Staw & Ross, 1985; Staw et al., 1986; Weitz, 1952) have found sources of variation in job satisfaction that could be interpreted as dispositional effects. Individuals appear, to some degree, predisposed to respond to the job and other environmental characteristics in an affect-based manner; these dispositions to respond are often reflected in their job satisfaction. The evidence also indicates that these predispositions may be relatively stable over time (Staw et al., 1986). The potential contributions of these studies to job attitude models and theories should not be minimized.

Davis-Blake and Pfeffer (1989) and Gerhart (1987) have criticized dispositional research on several grounds. Perhaps their most serious charge is the lack of controls in past research that are necessary to rule out alternative explanations of the results. For example, Staw and Ross (1985), in investigating past job satisfaction versus situational variables for predicting present job satisfaction, made the assumption that pay, status, occupation, and complexity represent the entirety of situational influences on job satisfaction. Weitz (1952), in correlating affective reactions to a list of items common to everyday life with job satisfaction, confounded socioeconomic status with affective disposition by including items relating to socioeconomic status in his survey (e.g., housing, area of city, etc.). Socioeconomic status is related to job quality and, hence, job affect. Pulakos and Schmitt (1983) failed to control for job quality in investigating the relationship between expectation of being satisfied and actual job satisfaction. This leaves open the possibility that highly qualified individuals expected, and subsequently received, better jobs, thus leading to higher satisfaction--regardless of their dispositional tendencies (Gerhart, 1987). Staw et al. (1986), in their study of the degree to which affective disposition in early life predicted job satisfaction later in life, inappropriately factor analyzed Q-sort data (Judge, 1990). As Gerhart (1987) has noted, limited control for situational variables, the small sample size, and moderate correlations also may limit generalizability of Staw et al.'s (1986) results. Levin and Stokes (1989) failed to separate the multiple causal paths between perceptions of task characteristics, task satisfaction, and negative affectivity, making any causal interpretation questionable. Arvey et al. (1989), using monozygotic twins reared apart, found what they identified as a genetic source of job satisfaction. Cropanzano and James (1990), however, criticized numerous aspects of the methodology employed by Arvey et al. (1989).

The methodological problems in past dispositional research reviewed above constrain conclusions one can draw from these studies (Judge, 1990). Most of the flaws arose from the use of pre-existing data sets. Researchers using these data sets are required to use variables often originally designed for other uses. Only Weitz (1952) and Levin and Stokes (1989) collected data specifically designed to investigate the effect of disposition on job satisfaction. The ensuing weaknesses in operationalizing dispositional constructs threaten the validity of conclusions that can be drawn about dispositional influences.

Most dispositional research also has lacked a coherent statement of theory about <u>what</u> these dispositions are. Staw and Ross (1985) seemed comfortable with this ambiguity when they used the terms dispositions, traits, and personality synonymously. None of the dispositional studies have offered a formal definition of disposition, delineated a theory, or provided evidence about the causal nature of disposition. We do not know if affective disposition directly influences job satisfaction, or if there are mediating variables. Research on dispositional effects on job satisfaction has often been limited to indirect evidence of a trait by showing affective consistency across jobs and time (Gerhart, 1987; Staw & Ross, 1985). Affective consistency across time may be due to a number of factors and represents but one way of studying dispositional effects on job attitudes.

Finally, disposition is not the only influence on job attitudes. In order to estimate the effect of disposition when other influences on job satisfaction are controlled, Davis-Blake and Pfeffer (1989) suggest, "Dispositional research should be based on a model of job attitudes and behavior that includes both dispositional and nondispositional sources (p. 26)." This strategy would tell us if the dispositional approach should be integrated into other theories of job satisfaction, or if it is a unique, competing model.

The Concepts of Disposition and Subjective Well-being

The operational definition of affective disposition used in this research is the tendency to respond to classes of environmental stimuli in a predetermined, affect-based manner. This definition is less restrictive than a personological definition that views disposition strictly as a trait, and removes some ambiguity present in past dispositional research by making a distinction between the disposition toward affect and affect actually experienced. It further allows us to separate inferences about the existence of disposition from inferences about the effects of such dispositions. It is important to note that dispositional tendency as defined here is affective. To refer to the tendency to be job (dis)satisfied as simply disposition is imprecise. There may be personological dispositions (e.g., honest, choleric, loquacious) that are unrelated to job affect. The disposition to be satisfied, in life or on the job, is an affective disposition.

Dispositional researchers have often used general affect or negative affectivity (Watson & Clark, 1984) as the measure of disposition (Brief, Burke, George, Robinson, & Webster, 1988; George, 1989; Levin & Stokes, 1989). This emphasis on realized or experienced affect rather than a disposition toward affect may cause interpretational problems. The tendency to respond to the environment in an affect-based manner (affective disposition) is not the same as how happy an individual is or is not (as measured by positive/negative affect or subjective well-being). Dispositional tendencies may be thwarted or enhanced by numerous factors in the environment. Therefore, negative affectivity may not be a sufficient measurement or conceptualization of affective disposition.

There is some controversy regarding negative affectivity in the personality literature. The independence between positive and negative affect has been found to depend on several study and measurement issues (Chamberlain, 1988; Diener, 1990). Diener (1990) has concluded, "There is not replicable evidence across samples and methods that positive and negative affect are completely unrelated (pg. 14)." A related construct from the personality literature, subjective well-being, is more general in that it allows the experience of positive and negative emotions and satisfaction levels (Diener, 1984). Thus, subjective well-being was used in the present research to reflect general life satisfaction and affect levels that may be related to both disposition and job satisfaction. Although there are important conceptual differences between positive/negative affectivity and subjective well-being (Diener, 1984), past empirical research has shown them to be closely related (Diener, 1990).

Subjective well-being is defined as an ongoing state of psychological wellness (Diener, 1984). Most research indicates that subjective well-being is a bidimensional construct consisting of life satisfaction and hedonic level (Andrews & Withey, 1976; Chamberlain, 1988; Diener, 1984). Although the differences between the two are subtle, much research suggests that life satisfaction is a result of cognitive acts weighing the components of one's life (e.g., wealth, health, family and leisure activities) to arrive at an overall judgment of satisfaction. Hedonic level, on the other hand, focuses more on an issue of overall happiness and a feeling of emotional well-being (Andrews and Withey, 1976; Diener, 1984; Diener, Emmons, Larsen, & Griffin, 1985; Pavot, Diener, Colvin, & Sandvik, 1989). Positive and negative affectivity are closely related to hedonic level, although unlike positive and negative affectivity, hedonic level does not rest on the assumption that positive and negative affect are unrelated (Diener, 1984). Diener (1990) cites considerable empirical evidence regarding the distinction between hedonic level and life satisfaction. Second-order factor analyses, however, have found that hedonic level and life satisfaction appear to represent a general construct common to both group factors (Liang, 1985; McNeil, Stones, & Kozma, 1986). Therefore, it may be useful to collapse measures of life satisfaction and hedonic level to form an overall measure of subjective well-being.

It is important to note that subjective well-being and affective disposition are distinct constructs. How one typically affectively evaluates characteristics of one's environment (affective disposition) will not always determine how one feels about oneself (subjective well-being). The disposition toward an affect level is different from experienced affect. Some individuals are undoubtedly more (or less) subject to dispositional influences than others, depending on the other influences on subjective well-being. A person with a positive disposition may be relatively unhappy in a difficult environment but this same difficult environment may generate severe depression in one with a negative disposition. Conversely, even a person with a nasty disposition can find some degree of happiness, albeit grudgingly, in a benign environment.

CAUSAL MODEL

A causal model was hypothesized with interest in two constructs, affective disposition and subjective well-being, and three structural paths, affective disposition to subjective-well being, subjective well-being to job satisfaction, and job satisfaction to subjective well-being. These relations are embedded in a network of constructs, many of which have been extensively studied, to avoid omitted variable problems and biased parameter estimates (James, Mulaik, & Brett, 1982). The hypothesized structural model is displayed in Figure 1. Rectangles in the figure represent manifest or directly observed variables. Circles represent latent variables whose meaning is inferred from the covariations of its indicators. The core hypothesized links are discussed below.

INSERT FIGURE 1 ABOUT HERE

Affective Disposition to Subjective Well-being

Affective disposition will be treated as an exogenous variable, because the effects, not the causes, of affective disposition are of central interest in this study. Arvey et al. (1989) have provided indirect evidence of a genetic influence on affective disposition. Staw et al. (1986) have provided evidence of early childhood influences on affective dispositions. These studies are not incompatible. It is equally important to investigate the influences of affective disposition on other variables. We hypothesize that the immediate outcome of affective disposition is not job satisfaction, but rather individuals' levels 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 to their lives. Also, those predisposed to be critical of life's events and stimuli are expected to be unhappy and troubled. Affective disposition is hypothesized to influence the general affective state of the individual, that is, individual's subjective well-being.

Subjective Well-being to Job Satisfaction

A hypothesized causal link from subjective well-being to job satisfaction is included in Figure 1. The dispositional research reviewed earlier provides initial evidence supporting the influence of general affective states on job satisfaction (Arvey et al., 1989; Gerhart, 1987; Levin & Stokes, 1989; Pulakos & Schmitt, 1983; Staw & Ross, 1985; Staw et al., 1986; Weitz, 1952). Further, there is a positive relationship between life satisfaction, one of the hypothesized components of subjective well-being, and job satisfaction (see Tait, Padgett, & Baldwin, 1989).

Job Satisfaction to Subjective Well-being

As indicated above, a significant correlation between job and life satisfaction has been consistently 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 this as evidence for a dispositional effect on job affect (see Staw & Ross, 1985). It is equally possible, however, that the causal direction is from job satisfaction to life satisfaction. Simple correlations hold no promise of disentangling the causality between the constructs. Estimating a nonrecursive relationship between subjective well-being and job satisfaction may allow us to make inferences regarding the causality between the two constructs.

Other Causal Links

Three of the more important demographic influences on subjective well-being identified in a recent review were age, race, and marital status (Diener, 1984). The majority of recent evidence suggests that subjective well-being (particularly the component due to life satisfaction) tends to increase with age (Diener, 1984) although the effects may be modest. Accordingly, it is expected that age will be positively related to subjective well-being. Perhaps because of urbanicity and lower socioeconomic status, minorities have generally been found to have lower subjective well-being than whites (Andrews & Withey, 1976; Diener, 1984). This leads to the expectation that minorities will report lower levels of subjective well-being than whites. Finally, Diener (1984) suggested that "...virtually all relationships (between marital status and subjective well-being) are positive (pg. 556)." Accordingly, it is expected that married individuals will have higher levels of subjective well-being than unmarried. Gender has been found to have little effect on subjective well-being (Diener, 1984), and therefore no effect is hypothesized. These hypothesized links are represented in Figure 1.

It is unclear what the inclusion of other relevant causes of job satisfaction will have on dispositional effects. It may be, as Davis-Blake and Pfeffer (1989) have argued, that in the presence of situational influences, any dispositional effect would be overwhelmed by the situation. For this reason, with the stipulation that variable inclusion should be based on theoretical models (James et al., 1982), Hulin, Roznowski, and Hachiya's (1985) model of job satisfaction and employee responses was used to select other influences on job satisfaction.

Hulin et al.'s (1985) heuristic model integrates several theories of job attitudes. The model proposes that job satisfaction is a function of the balance between work-role inputs, what the individual puts into the work role (e.g., training, experience, time, effort), compared to role outcomes, and what is received (e.g., pay, status, working conditions, intrinsic factors). All other factors being equal, as outcomes received relative to inputs invested increases, work-role satisfaction is hypothesized to increase.

In the present study, education level and hours worked were selected as representations of work role inputs. Therefore, as shown in Figure 1, controlling for work-role outcomes, the more education the respondent has achieved, and the more hours worked, the lower job satisfaction is predicted to be. Wage rate and intrinsic factors were chosen as manifestations of work role outcomes, and were expected to influence job satisfaction positively.

Hulin et al. (1985) further proposed that individuals' direct and opportunity costs exert an effect on job satisfaction. In periods of labor oversupply (i.e., high unemployment), individuals will perceive their inputs as less valuable because there are others in the labor market willing to contribute their inputs, and the opportunity cost of their work role declines (i.e., current work role membership is less costly relative to other opportunities). Therefore, as unemployment rises, the subjective utility of inputs falls, reducing the perceived value of inputs relative to outcomes, thus increasing job satisfaction. The converse is also hypothesized, where low unemployment (and many alternatives) reduces job satisfaction. In Figure 1, perceived time to find a job of comparable working conditions is expected to be positively related to job satisfaction; those who believe it would take a long time to find a comparable job are more likely to be happy with what they have. For the same reason, number of perceived alternatives was expected to be negatively related to job satisfaction.

Finally, Hulin et al. (1985) have argued that an individual's frame of reference, which they define as past experience with relevant outcomes, influence how the individual perceives current outcomes received. The fewer, or less valued, the outcomes received in the past, the greater the current job satisfaction. Figure 1 shows that, as a frame of reference variable, present wage compared to past is expected to relate positively to job satisfaction.

In sum, Hulin et al.'s (1985) model predicts that an individual's inputs relative to outcomes, as well as the individual's costs and frames of reference, influence job satisfaction.

The model integrates two important statements of job satisfaction formation (March & Simon, 1958; Smith et al., 1969).

METHOD

Setting and Subjects

The setting for this research was a large Midwestern clinic and health maintenance organization. Subjects were sampled from 23 departments within the main clinic (e.g., pediatrics, oncology, family practice), as well as 9 branch clinics widely dispersed throughout the state. Sixty-five percent of the respondents came from the main clinic.

Subjects were registered nurses without Bachelor of Science in Nursing (45%), registered nurses with Bachelor of Science in Nursing (14%), licensed practical nurses (14%), medical office assistants (16%), and laboratory technicians or clinical specialists (11%). Education of the respondents ranged from high school diploma (11%) to master's degree (11%). The average hourly wage rate was $9.60, with a range of $4.15 to $17.43. Seventy percent of the respondents were married; 58% had one or more children. Age ranged from 21 to 70 years, with an average age of 37. Average hours worked per week was 37. Professional experience ranged from newly employed to 50 years. The narrow range of race (98% white) and sex (99% female) may limit generalizability of the results to more demographically diverse samples.

Measures

A measurement model hypothesized to account for the latent constructs is presented in Figure 2. Several aspects of the model deserve attention. Multiple measurements of each construct are used to generate more reliable estimates. In addition to self-report evaluations, individuals had a spouse or family member complete an evaluation of their affective disposition and subjective well-being (see Figure 4). This, in conjunction with self-reports, should yield a more complete estimate of respondent disposition and subjective well-being.

INSERT FIGURE 2 ABOUT HERE

Subjective well-being was measured with the following instruments: 1) a modified version of the Affects Balance Scale (see Diener, 1984), a list of 22 adjectives describing hedonic states (e.g., nervous, sad, elated, delighted); 2) the "percent time happy" item (Fordyce, 1977), which Diener (1984) concluded to have high predictive validity for a single-item measure of hedonic level; 3) a modified version of Underwood and Froming's (1980) measure of hedonic level. Items reported by Underwood and Froming (1980) containing poor factor loadings on a hedonic level construct were excluded; 4) the Satisfaction with Life Scale (Diener et al., 1985), a five-item measure of life satisfaction; 5) the G.M. Faces scale (Kunin, 1955), which Andrews and Withey (1976) found to be a valid measure of life satisfaction. Using all five measures of both facets of subjective well-being should yield a well-rounded measure of the construct.

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 objects common to everyday life (e.g., one's telephone number, one's first name, 8 1/2" x 11" paper). 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 obviously true as well. Weitz's (1952) scale was modified in several ways described by Judge (1990). Due to differences in the content of questions the Neutral Objects Satisfaction Questionnaire, items were grouped into three sub-scales or "parcels" on content grounds: 1) satisfaction with neutral objects, essential items (today's cars, food you buy); 2) satisfaction with neutral objects, entertainment items (movies you see, local newspapers); 3) satisfaction with truly neutral objects common to everyday life (your telephone number, 8 1/2" x 11" paper). These subscales were hypothesized to load on an underlying construct representing affective disposition, as shown in Figure 2. Weitz (1952) is the only researcher known to have used the Neutral Objects Satisfaction Questionnaire. Therefore, little is known about the validity of the instrument. If the results of the present study show a distinction between measures of affective disposition and subjective well-being, as well as predictive validity of the construct, supporting evidence will be provided for the validity and present measurement of affective disposition.

Job satisfaction was measured by the Job Descriptive Index (JDI; Smith et al., 1969), as modified by Roznowski (1989). Overall job satisfaction is hypothesized in the measurement model in Figure 2 to be represented by five facets: pay, promotion, supervision, co-workers, and the work itself. The intercorrelations of those facets reveal a communality among the dimensions, suggesting a second-order general factor (Parsons & Hulin, 1982).

Work role inputs (education, hours worked), outcomes (pay and intrinsic factors), utility of costs (perceived market alternatives, time to find a comparable job), and frames of reference (present wage compared to past wages) from the Hulin et al. (1985) model were assessed with specific questions in the focal employee survey. The information on intrinsic job characteristics was obtained by 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' level of job satisfaction (Hulin & Roznowski, 1985; Roberts & Glick, 1981), this may be the best information on intrinsic factors available.

Procedure

Surveys were administered to employees on a voluntary basis during their work hours. Scheduling was coordinated by department supervisors, but was completely voluntary. Approximately 320 employees worked in the departments covered by the study. Two hundred and fifty-five signed up and completed usable surveys, representing a response rate of approximately 80% (n=255). Follow-up conversations with department supervisors suggested that those not participating were either on leave or unavailable for other reasons beyond their control. Confidentiality of individuals' responses was assured.

A "significant other" (e.g., spouse or family member) was asked to complete an evaluation of focal employee disposition and well-being. The significant other survey mirrored the self-report survey of affective disposition and subjective well-being; all disposition and subjective well-being scales in the focal employee survey were included in the significant other survey. Upon return of a significant other survey, subjects became eligible to win one of 30 prizes of $25 each. An inducement was considered necessary because the significant other completed the survey on his or her own time. Significant others were chosen because, other than the focal employee him or herself, it is assumed they know the focal employee better than anyone else. These dual sources of information about disposition and subjective well-being should minimize social desirability, halo, and response set tendencies (Pavot et al., 1989), and increase the relevant heterogeneity of the measures (Roznowski & Hanisch, 1990). The subjective well-being of significant others has not been shown to significantly affect their evaluations of respondents (Pavot et al., 1989). One hundred and sixty-five usable significant other surveys were returned, representing a response rate of approximately 66%. Therefore, both self-report and significant other data was available on 165 employees. No significant differences in respondent characteristics (e.g., age, race, wages) were found between those that had a significant other survey returned and those that had not.

Covariance Structure Model

Covariance structure models, estimated in the present study with LISREL VI (Joreskog & Sorbom, 1986), allow the joint specification and estimation of the measurement model and structural model hypothesized to account for the observed data (Long, 1983). It is essential, with both measurement and structural models, to examine first the overall fit of the models. If a model does not fit the data acceptably, the overall hypothesis that the model is a accurate representation of the data is rejected.

There are two overall models tested in this study. The first model, represented in Figures 1 and 2, is based solely on self-report data. The second model (see measurement model in Figure 4) is based on full information (self-report and significant other evaluations). The advantage of the self-report only model is the sample size available for these data (n=253). Because of model complexity, this is an important consideration as the number of estimated parameters relative to sample size is an important determinant of convergence, standard errors, and model fit in covariance structure models (Hayduk, 1987; Idaszak, Bottom, & Drasgow, 1988).

In contrast, the sample size for the full data model is 165, 30% less than the self-report only model. However, the advantages of multiple sources of data offset the smaller sample size. The full data model allows inferences about causal relations without complete reliance on self-report data. Comparisons of the models permit inferences about the degree to which relations are based on "true" covariance, or self-report method variance. If there is substantial convergence between the models, the findings in the structurally more complex self-report model can be assumed to represent true content relations and not method determined relations. Both models possess advantages; each was estimated independently.

The measurement and structural components of each model were estimated separately. This strategy reduces the number of parameters to be simultaneously estimated, an important consideration in estimating complex models such as those estimated in the present study (Anderson & Gerbing, 1988; Schmitt & Bedeian, 1982). Burt (1976) has also argued that simultaneous estimation results in interpretational confounding, which he defines as "the assignment of empirical meaning to an unobserved variable which is other than the meaning assigned to it by an individual a priori to estimating unknown parameters (pg. 4)." Anderson and Gerbing (1988) noted that interpretational confounding can be minimized by the two-step process of first estimating the measurement model, then estimating the structural model; no constraints are placed on structural concepts when estimating the measurement model.

The most widely used measure of fit is the chi-square (X^2) statistic. Perhaps the most popular use of the chi-square statistic is to examine the ratio of chi-square relative to the degrees of freedom since levels of chi-square depend on the sample size (Hoetler, 1983; La Du & Tanaka, 1989; Marsh, Balla, & McDonald, 1988). Marsh and Hocevar (1985), Carmines and McIver (1981), and Hertig have (1985) suggested that a X^2/df of 2 or less suggests a good fit. This standard has subsequently been employed by recent authors (Ashforth, 1989; Brooke, Russell, & Price, 1988; Thacker, Fields, & Tetrick, 1989). Other popular fit statistics include the goodness-of-fit index, adjusted goodness-of-fit index, root-mean-square-residual, and coefficient of determination (R^2). These will be reported in this study. Goodness-of-fit indices above .70 usually imply adequate fits (Mumford, Weeks, Harding, & Fleishman, 1988; Thacker et al., 1989). When a correlation matrix is used as input, root-mean-square-residuals below .10 imply an adequate fit (Mumford et al., 1988; Rock, Bennett, & Jirele, 1988; Vance, MacCallum, Coovert, & Hedge, 1988).

RESULTS[1]

Self-report Measurement Model

When the overall measurement model, shown in Figure 2, for affective disposition, subjective well-being, and job satisfaction was estimated, inspection of the modification indices and normalized residuals revealed a substantial improvement in fit could be obtained by allowing estimation of the covariance between the error terms of the Faces scale and the Satisfaction with Life Scale. This suggested that there is variation common to these two measures not explained by the underlying content or trait construct. It is an acceptable modification to the model given the adjustment is substantively minor (Anderson & Gerbing, 1988; Lomax, 1982; Long, 1983; Young, 1977). The specific cause of the covariance is assumed to reflect life satisfaction variance shared by the Faces and Satisfaction with Life Scale but not shared with the measures of hedonic level.

The first column in Table 1 specifies the fit statistics for the self-report measurement model. All statistics indicate that the hypothesized measurement model fits the data well. Thus, the hypothesis that the measurement model, as displayed in Figure 2, provides an adequate fit to the data is supported. Table 2 provides the parameter estimates (factor loadings) of each measure on their respective constructs for the overall measurement model. All factor loadings for affective disposition, subjective well-being and job satisfaction are significant and consistent with the model. The neutral objects subscale (e.g., 8 1/2" x 11" paper, telephone number) had

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1 The correlation matrices that served as input for LISREL, and the programs used to generate the results, are available from the first author on request.

the highest loading on the disposition construct, perhaps confirming that this scale best reflects what is common to the three scales in the questionnaire. Similarly, the work satisfaction scale loads highest on the job satisfaction factor.

INSERT TABLES 1 AND 2 ABOUT HERE

Self-report Structural Model

Examination of the fit statistics provided in the second column of Table 1 reveals that the overall structural model fits the data well. The X^2/df, goodness-of-fit and adjusted goodness-of-fit indices, and root-mean-square-residual are all within the range that one would consider acceptable fits by the criteria provided earlier. 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) encourages testing of plausible alternative model(s). In many cases, that entails adding (or removing) causal links. This was done on different parts of the model. 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 causal model. The decrease in chi-square (0.09 with 1 df) was not significant. This suggests that, as hypothesized, affective predispositions influence job satisfaction only indirectly, mediated through subjective well-being.

Another alternative model is subjective well-being causes affective disposition which in turn causes job satisfaction. Such a model might be expected if affective predispositions resulted from current happiness rather than judgments of happiness deriving from affective disposition. For example, Bower (1981) found that individuals recall memories consistent with their current affective state, suggesting that affect (subjective well-being) leads to differing predispositions to respond to the environment.

The fit of this alternative model was tested. The obtained chi-square was 363 with 204 degrees of freedom. Although the difference in chi-square between two models cannot be tested, one can ask if the increase in chi-square of the alternative model is of practical significance. In this case, a chi-square increase of 14 with no increase in degrees of freedom probably implies a meaningfully different (worse) fit. Therefore, this rival model as a superior or even equivalent representation of the data is rejected. Table 1 also indicates that overall a majority of the variance in the endogenous variables is being explained in the causal model. Forty-five percent of the variance in subjective well-being was explained by the hypothesized causal influences. Fifty-six of the variance in job satisfaction was explained by its hypothesized causal influences.

<u>Test of Causal Links</u>

Figure 3 shows the parameter estimates and standard errors of the structural model alongside relevant paths. The hypothesis that affective disposition has a significant effect on subjective well-being is supported. Those predisposed to view common, neutral characteristics of the environment in a favorable light are more likely to find happiness in their lives.

INSERT FIGURE 3 ABOUT HERE

The hypothesis that subjective well-being significantly influences job satisfaction is also supported by the data. The relatively large coefficient (.41) indicates that those happy with their lives are much 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 (.34) is also found to be significant. Re-estimating the model constraining those coefficients to be equal allows one to test if these coefficients are significantly different. The difference in chi-square between two nested models is itself distributed as a chi-square. Therefore, if the increase in chi-square between the model constraining the parameters to be equal and the estimated model is significantly greater than zero, the hypothesis that the two parameters are equal would be rejected. Re-estimation of the model constraining the paths to be equal yielded a chi-square of 348.74 with 205 degrees of freedom. The difference in chi-square (348.74 - 348.52 = 0.22) with 1 degree of freedom is not significant. Thus, the coefficients are not significantly different.