INFORMATION TO USERS

This manuscript has been reproduced from the microfilm master. UMI films the text directly from the original or copy submitted. Thus, some thesis and dissertation copies are in typewriter face, while others may be from any type of computer printer.

The quality of this reproduction is dependent upon the quality of the copy submitted. Broken or indistinct print, colored or poor quality illustrations and photographs, print bleedthrough, substandard margins, and improper alignment can adversely affect reproduction.

In the unlikely event that the author did not send UMI a complete manuscript and there are missing pages, these will be noted. Also, if unauthorized copyright material had to be removed, a note will indicate the deletion.

Oversize materials (e.g., maps, drawings, charts) are reproduced by sectioning the original, beginning at the upper left-hand corner and continuing from left to right in equal sections with small overlaps. Each original is also photographed in one exposure and is included in reduced form at the back of the book.

Photographs included in the original manuscript have been reproduced xerographically in this copy. Higher quality 6" x 9" black and white photographic prints are available for any photographs or illustrations appearing in this copy for an additional charge. Contact UMI directly to order.

UMI

A Bell & Howell Information Company
300 North Zeeb Road. Ann Arbor. MI 48106-1346 USA
313/761-4700 800/521-0600

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

THEORETICAL DEVELOPMENT AND MEASUREMENT OF WORK SELF-CONCEPT: A MULTIFACETED MODEL

by

LAURIE HOPP RINDSKOPF

A dissertation submitted to the Graduate Faculty in Psychology
in partial fufillment of the requirements for the degree of
Doctor of Philosophy, The City University of New York.

1995

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

UMI Number: 9530914

Copyright 1995 by
Rindskopf, Laurie Hopp
All rights reserved.

UMI Microform 9530914
Copyright 1995, by UMI Company. All rights reserved.

This microform edition is protected against unauthorized
copying under Title 17, United States Code.

UMI

300 North Zeeb Road
Ann Arbor, MI 48103

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

(c) 1995

LAURIE HOPP RINDSKOPF

All Rights Reserved

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

This manuscript has been read and accepted for the Graduate Faculty in Psychology in satisfaction of the dissertation requirement for the degree of Doctor of Philosophy.

Apr 27, 1995 — Date
Roger E. Millsap — Chair of Examining Committee

April 27, 1995 — Date
Executive Officer

Professor Roger Millsap

Professor Kay Deaux

Professor Howard Ehrlichman

Supervisory Committee

THE CITY UNIVERSITY OF NEW YORK

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Abstract

THEORETICAL DEVELOPMENT AND MEASUREMENT
OF WORK SELF-CONCEPT: A MULTIFACETED MODEL

by

Laurie Hopp Rindskopf

Advisor: Professor Roger Millsap

This research was developed in response to the striking lack of research on self-concept in the employment setting and focuses on the theoretical development and construct validation of work self-concept. Work self-concept was theoretically derived and proposed to be a work-context form of self-concept consisting of six facets including job involvement, control, challenge, competence, boss relations, and co-worker relations. A 50-item Likert style work self-concept questionnaire was distributed to 197 employees including nurses, teachers, business managers, and technical employees in four organizations. Although the evaluation of internal construct validity evidence was emphasized, external discriminant construct validity data was also collected.

The results of this research provide support for both the internal and external validity of the theorized construct of work self-concept. The reliability of each of the subscales was moderately high and each of the subscales fit a one-factor model reasonably well. A theoretically derived second-order confirmatory factor model provides support for a multifaceted hierarchical structure of work self-concept. In

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

addition, correlations of the work self-concept subscales with job satisfaction, negative affectivity, social desirability and general self-concept were not statistically significant.

It is concluded that empirical evidence for the construct validity of work self-concept has been provided and that work self-concept should be investigated further. It is also suggested that work self-concept shows promise for improved understanding and the prediction of the relationship between job stress and outcome variables such as job dissatisfaction and health consequences among employed adults. The need for future research, particularly with respect to continuing the construct validation process, is discussed.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Acknowledgements

My deep appreciation is extended to the members of my committee, Professors Roger Millsap, Howard Ehrlichman, and Kay Deaux, for their time, inspiration and support. Professor Millsap has been the consummate major advisor, having provided me with an ideal blend of expertise, constructive criticism, and morale-boosting when needed. Professor Erhlichman has been instrumental in the completion of this dissertation; he has given me years of encouragement, friendship, and stimulating and thought-provoking conversations. Professor Deaux's own research and insightful comments about my research significantly improved my work.

I have tremendous gratitude, love, pride and respect for my parents Laurence Hopp and Barbara Stolzenberg Hopp. My father's own ground-breaking doctoral work in the area of self-concept sparked my early interest in this area. It was not until years later, in my graduate studies, that I appreciated the magnitude and importance of his original theories. But even more important than his research, my father's committment to his ideals, his sense of values and ethics, his love of education, his creativity and his incredible strength in the face of cancer and heart disease, has given me the priceless treasures -- dedication, interest, imagination, and fortitude -- that one needs to complete doctoral-level education.

My mother has been an inspirational role model. Having become a successful orthodontist, unyielding in her devotion to quality health care, especially at a time when women were shunned in the profession, my mother displayed great courage, a pioneering spirit and a love of learning that also provided me with good values and strength. All these attributes have served me well in what has been, at times, a difficult course. My incredible love for my daughter, Lindsay, has taught me about the profound love that my mother has had for me, about her pride, her fierce devotion to

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

her family, and her enthusiasm, all of which have played a pivotal role in the completion of my research.

I am very grateful to my sister and close friend Susan, for her loving support, her assistance with everyday errands and the precious time that she and my niece Sarah spent with Lindsay, so I could complete my work. Special thanks also go to my sister, Jennifer, stepmother Muriel, and father-in-law, Wallace Rindskopf, for their support and encouragement.

Deep gratitude is extended to Alan and Ellen Gross, Stephen Drummond, Joan Stuart, Wendy Williams and MaryJane Paolino for their friendship; each, in his or her own special way, profoundly affected my life and helped make this dissertation possible.

Finally, I know of no words that can adequately express my appreciation and love for my husband, David Rindskopf. Dave is a gifted teacher, brilliant scholar, perfect friend and partner, and unusually compassionate person who, years ago breathed new life into my waning motivation to pursue a doctoral degree and sparked my interest in statistics (a topic I once thought would be best approached with the proverbial "ten-foot pole"). His faith in me, many times, made the difference between my giving up -- and trying again. His confidence encouraged me to do my best. His love helped me pursue my goal, even when obstacles seemed insurrmountable. There is no doubt that without Dave I would not have fulfilled my dreams.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Table of Contents

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

List of Tables

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

List of Figures

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Theoretical Development and Measurement of Work Self-Concept: A Multifaceted Model

The basic premise of this research is that two independent streams of research -- self-concept and job stress -- can be fruitfully integrated. Each area suggests ideas for the other that promise to resolve two nagging problems: (1) there has been a striking lack of research that explores self-concept as an important variable for adults in their employment setting (exceptions include Crowder & Michael, 1989; Pierce, Gardner, Cummings & Dunham, 1989; Hines, Durham, & Geoghegan, 1991), and (2) the job stress literature has been plagued by inconsistent findings, unclear definitions, and methodological flaws (e.g., King & King, 1990; Brief & Atieh, 1987; Jackson & Schuler, 1985).

Job stress and self-concept research have each made important contributions to the conceptualization and operationalization of work self-concept. The key conceptual issues emanating from each area of research were reviewed and used to formulate the work-self concept model. Therefore, in order to clearly understand the basis for work self-concept and to recognize the theoretical and empirical problems that fueled the idea for work self-concept, the research areas of job stress and self-concept need to be examined.

Job Stress

There can be no doubt that, over the last few years, the utility of job-stress research has been called into serious question. This is made especially apparent when one considers the dramatic question of two of the leading researchers in the field: "Studying job stress: Are we making mountains out of molehills?" (Brief & Atieh, 1987). In reviewing the job stress literature, it is quickly obvious that this question

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

does not represent a voice in the wilderness. Similar sentiments are abundant as evidenced, for example, by the writings of Beehr and Franz (1987) and Burke (1987).

Ultimately, the critics of job-stress research generally conclude that job stress is most likely a "mountain" and that, in the words of Burke (1987), the magnitude and complexity of the problem warrants a continued commitment to job stress research. For the most part, the current thinking is that the prognosis for the field is hopeful, if the small advances already made in conceptualization and methodology are pursued. This research strives to address some of the widely-recognized problems and to offer one way to respond to recommendations for improving job stress research.

Role theory: A key to the problems. In a nutshell, much of job stress research has been based on the Kahn, Wolfe, Quinn, Snoek, & Rosenthal (1964) role episode model, which depicts the interpersonal process between the person in a job who receives role expectations, and those who send role expectations. In addition, the model incorporates organizational (e.g, organizational size), personality (e.g., "motives", values) and interpersonal (e.g., power to influence others) factors that affect the relationship between those who send and those who receive expectations.

Ever since role theory was proposed and elaborated (Kahn, Wolfe, Quinn, Snoek, & Rosenthal, 1964; Katz & Kahn, 1978), there has been a proliferation of studies that have investigated the use of role theory for predicting and explaining job stress (Abdel-Halim, 1980; Berkowitz, 1980; Jamal, 1984; Sawyer, 1992). For some time now, however, there has been more criticism of the field than acclaim. The most glaring problem cited in reviews of role-stress research has been the inconsistencies in reported results (King & King, 1990; Jackson & Schuler, 1985; Van Sell, Brief & Schuler, 1981). For example, Van Sell, Brief & Schuler (1981) pointed out that while most research evidence has shown role ambiguity to be negatively associated with job satisfaction, there are some studies which found no such relationship. Similarly, the findings of studies which have examined the relationship between role ambiguity and

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

performance remain inconclusive (e.g., Brief & Aldag, 1976; Szilagyi & Sims, 1975; Jackson & Schuler, 1985). These inconsistencies, among others, have resulted in the failure of research on role stress to accomplish what it had set out to do -- predict such undesirable work-related outcomes as absenteeism, turnover, poor work performance, and physiological problems.

In response to so many inconsistencies, the field of job stress research has been scrutinized and criticized. The writings of critics of the state of research on role stress are characterized by common concerns: that there is a deficient theoretical framework, conceptual omissions, failure to consider important moderator variables, inadequate linkages to related theoretical frameworks, and a lack of construct validity evidence (King & King, 1990). While these concerns have been primarily expressed in the context of discussions of role conflict and role ambiguity (the predominant subjects of job-stress research), they also represent the shortcomings of the bulk of job-stress research.

Moderator variables. Both the multidimensional and interactive nature of the role-episode model itself, and the conclusions of those reviewing the field, indicate that moderator variables are critical to our understanding of the relationship between work-related stressors and behavioral and physiological outcomes. In general terms, a moderator is a variable that affects the direction and/or strength of the relations between a predictor variable and a dependent or criterion variable. Moderation implies that the causal relation between two variables changes as a function of the moderator variable (Baron & Kenny, 1986). Although the idea of moderators in stress research is rooted in the early work of Selye (1956) on the medical approach to stress, the generic aspects of this approach have given rise to moderator variables in job stress research. Such moderators as need for achievement (Abdel-Halim, 1980), locus of control (Abdel-Halim, 1980), need for clarity (Ivancevich & Donnelly, 1974) and organizational level (Berkowitz, 1980) have been examined.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Personality. Given Kobasa's (1985) definition of personality as "a person's characteristic and general orientation toward self and world that endures across time", it seems obvious that personality variables should be important for job-stress research. Because personality shapes the appraisal that one has of a situation (Hendrix, Ovalle, & Troxler, 1985; Lazarus, 1966) and the way in which an individual copes with perceived stress (Motowidlo, Packard, & Manning, 1986), personality should be a key variable in emerging job-stress models. Quite a few personality variables have already been explored in an attempt to better understand job stress. In many of the studies investigating role conflict and role ambiguity, for example, it has been hypothesized that personality variables (need for achievement, need for clarity, locus of control; cited previously) moderate the relationship between perceived role ambiguity or role conflict and negative job outcomes (Jackson & Schuler, 1985).

Unfortunately, although the notion of personality variables as moderators is intuitively and theoretically compelling, the research results have been disappointing. There is insufficient empirical evidence to provide strong support for the validity of personality variables as predictors or moderators in the context of job-stress research (Jackson & Schuler, 1985; King & King, 1990). The most notable exceptions include the findings of studies investigating Type A behavior (Ganster, 1987; Matthews, 1982) and Hardiness (Kobasa, Maddi, & Kahn, 1982). These studies have provided some evidence that personality does act as a moderator in the relationship between stress and illness. Kobasa et al. (1982) found that Hardiness decreased the effect of stressful life events in producing illness symptoms and Ganster concluded, in reviewing the literature, that Type A's are hyper-responsive to subjective work stressors.

Despite the findings of Kobasa and Ganster, and because there has been little support for the relationship between personality and job-related outcome variables, there are still those who question the potential for personality to help explain human behavior in the employment setting (Jackson & Schuler, 1985). Not surprisingly,

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

others argue that including an individual difference variable in job-stress research is important (Locke, 1983; Motowidlo, Packard & Manning, 1986; Quick, Horn & Quick, 1988). The prevailing belief seems to be that personality variables need to be reconceptualized, not abandoned.

For example, in his recent book, Brockner (1988) highlighted the views of those who contend that the disappointing results of personality/job-stress research are mostly reflective of a conceptual failing (Jackson & Schuler, 1985; King & King, 1990). He believes that many researchers do not justify (on theoretical grounds) the expected role of the personality variable(s) included in their studies. Although Brockner recognizes that researchers cannot always have a firm theoretical basis for their work (i.e., some research is exploratory), he maintains that without a sound theoretical rationale, it will be difficult to obtain consistent or readily interpretable results.

Self-esteem. Self-esteem is a case in point. Self-esteem is defined as "the evaluation which the individual makes and customarily maintains with regard to the self: It expresses an attitude of approval or disapproval, and indicates the extent to which the individual believes the self to be capable, significant, successful and worthy" (Coopersmith, 1967, pp. 4-5). Brockner (1988) believes that employees' self-esteem may have important consequences for their work attitudes and behaviors. This is consistent with what seems to be the all-but-forgotten observation of Locke (1976) that one of the most unresearched subjects in the area of organizational research is individuals' views of themselves and the way in which this view affects them. The conclusion reached by Locke was that the concept of self-esteem is clearly a crucial factor in this regard.

Although self-esteem has been examined as a moderator variable in job-stress research (Mossholder et al., 1981), correlations which measure the relationship between self-esteem and an outcome variable have been low (Jackson & Schuler, 1985). Self-esteem has not, as hoped, been able to predict or explain either the

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

negative consequences associated with job stress, or which individuals will do well in spite of it. A likely explanation for this is that self-esteem has been conceptualized as a unidimensional construct, despite evidence to the contrary (Fleming & Courtney, 1984; Fleming & Watts, 1980; Markus & Wurf, 1987). Even Brockner (1988), while maintaining that self-esteem is an important variable for organizational research, has conceded that the assessment of self-esteem as a unidimensional construct sharply limits its predictive power. Therefore, before the utility of self-esteem as a moderator variable can be realized, researchers will need to define and explore its multidimensionality.

A related problem with existing self-esteem research is that primarily global measures of self-esteem have been used, even when it would have been more appropriate to measure a more specific type of self-esteem (Tharenou, 1979; Brockner, 1988). Global measures that require subjects to decide the meaning of each item, the situation to which it refers, and where they belong on the scale, without the benefit of situational and behavioral referents, are likely to miss their mark. This increases the error variance of the measure and makes global measures unsatisfactory.

Self-Concept

Barbara Byrne (1984) has distilled a useful definition of self-concept from a large body of literature: "In general terms, self-concept is our perception of ourselves; in specific terms, it is our attitudes, feelings, and knowledge about our abilities, skills, appearance, and social acceptability" (p. 429). Furthermore, she says that self-concept can be described as organized, multidimensional, hierarchical, stable, developmental, evaluative, and differential. With these important points, Byrne's definition captures a key distinction between self-esteem and self-concept research.

While self-esteem continues to be viewed as unidimensional, research in the area of self-concept has moved away from this perspective (Shavelson, Hubner, &

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Stanton, 1976). Empirical findings provide support for a multifaceted, hierarchical structure of self-concept (Marsh & Hocevar, 1985; Marsh & Shavelson, 1985; Marsh, Smith, Barnes & Butler, 1983). According to this model, self-concept is multifaceted in the sense that a person's perceptions of him- or herself are organized into categories (e.g., academic self-concept, social self-concept, emotional self-concept), which may be related to each other.

That self-concept is hierarchically organized means that perceptions of behavior move from inferences about self in subareas (e.g., academic - English, science, history) ultimately to inferences about self, in general. It may also mean that, at levels of the hierarchy other than general self-concept (found at the apex of the hierarchy), self-concept becomes increasingly situation-specific (Shavelson and Bolus, 1982). Marsh and Shavelson (1985) have concluded that for pre-adolescent self-concepts there is a clear hierarchy. However, it appears that for older subjects a hierarchical structure is unlikely. Conversely, facets of self-concept become more distinct with age (Marsh & O'Neill, 1984). In light of this, there is reason to believe that a facet that describes one of the primary aspects of adult life--work--ought to be defined and measured.

Many researchers recognize the importance of context in the development of a "sense of self" and the role of specific situations in shaping the way in which a person's self-concept manifests itself (Brockner, 1988; Shavelson & Bolus, 1982; Wylie 1974). Given this widely-shared belief, the absence of research on work-related self-concept is striking. There is no relevant concept for adults that is analogous to that of academic self-concept, for example, which is used to predict academic achievement. One can hardly come away from a review of the self-concept literature without asking what seems to be an obvious question: What about work self-concept?

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Work Self-concept: Theoretical Development

The justification for work self-concept is basic and compelling. Self-concept theorists believe that human behavior cannot be understood or predicted without knowledge of individuals' perceptions of their environment and of their self as they see it in relation to the environment (Wylie, 1974). The work setting is no less a unique environment than that of the home or the school. Extrapolating from Wylie's belief, one could suggest that it would be very hard to predict or explain job stress without knowing something about the individual's perception of him- or herself in relation to the work environment. Job-stress research has not yet successfully investigated a variable that captures this idea; for that matter, neither has self-concept research. If work self-concept was multifaceted, clearly conceptualized and properly measured, perhaps it could go a long way towards addressing the primary criticisms of job-stress research.

Crowder and Michael (1989) combed the self-concept literature in an effort to determine whether any research has been conducted with reference to the self-concept as an important variable for working adults in their employment setting. Their computer search, which revealed several thousand references to self-concept, uncovered no such research. As a result of their findings (or lack of them), Crowder and Michael have presented a multidimensional theory of self-concept in an employment setting. Their intention was to fill this conspicuous void in self-concept research.

Although Crowder and Michael's work has explored uncharted territory, it is based on assumptions that may fall prey to the same pitfalls that have plagued job-stress research for years: confounded measures, vague conceptualization, and faulty operationalization of the construct of interest. First, Crowder and Michael's development of an experimental test form is exclusively based upon work in the area of academic self-concept carried out by Michael and his colleagues. Their assumption is

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

that the motivational features underlying learning and achievement in the school setting do not differ appreciably from the motivational characteristics central to job performance and achievement for adults in employment settings. According to Crowder and Michael's approach, there are sufficient parallels between the self-concept of children and adults to warrant the extrapolation of the definition of work self-concept from academic self-concept.

It is hard to imagine that this is so. If Marsh and Shavelson's (1985) theory that self-concept becomes increasingly multifaceted as an individual moves from infancy to adulthood is right, then it is not plausible that the structure of self-concept is the same during adolescence and in adulthood. An analogous position has been taken by Antonovsky (1987). He presumes that an individual's sense of coherence is not fully formed until early adulthood.

Moreover, even if there was a relationship between a strong "work ethic" in the school setting and in the work setting, this would be insufficient justification for concluding that academic and work self-concept are equivalent. Academic and work settings differ in too many ways. Lawler's (1973) extensive research on motivation in work organizations can be used to illustrate the point. He has discussed the variations in opportunities for employees to satisfy important needs and to achieve important goals. An example he provided was in the form of a hypothetical case of a woman with strong social needs who was placed on a challenging and enriched job that involved social isolation. Two scenarios describing her behavior were presented: (a) that the woman quit her job because her social needs were not being met; or (b) that she stayed in the job and improved her performance in order to meet her need for achievement and compensate for unmet social needs. In contrast, the school setting does not provide such choices; unless "of age", students cannot drop out of school, although academic performance could be improved, if faced with comparable circumstances.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

While the foregoing concerns with Crowder and Michael's work might be subject to discussion, the potentially more serious problem with their research is that they have developed an instrument that appears to measure several distinct constructs, rather than several facets of a single construct. Their questionnaire consists of six constructs: level of aspiration, anxiety, job interest and satisfaction, leadership and initiative, identification versus alienation, and job stress. Most of these are the very variables for which a construct like work self-concept should be either a predictor or outcome variable. They should be part of work self-concept's nomological network; they are not plausible facets of work self-concept. Furthermore, if self-concept is an organized configuration of conscious perceptions of the self (Wylie, 1974), then items included in Crowder and Michael's scale such as "there seems to be a sense of urgency about everything" and "supervisors are reasonable and fair in the way that they rate their employees" cannot be measures of self-concept. These items could not measure the most fundamental characteristic of self-concept: self-knowledge.

Hines, Durham, and Geoghegan's (1991) effort to develop a work self-concept scale also lacks a theoretical foundation and has serious methodological flaws as well. These flaws include hard-to-interpret factors and inappropriate subjects (primarily students) for the construct being investigated. Furthermore, the critical premise for work self-concept is violated. Many of their items are not context specific (e.g., "I am trustworthy"), do not truly reflect self-knowledge (e.g., "My supervisor does not give me the credit I deserve"), and may be measuring other constructs, such as job satisfaction, rather than work-related self awareness (e.g., "I have gotten the promotions I deserve"). Along with Crowder and Michael's (1989) study, although this research has broken ground, it may have missed the mark.

Finally, Pierce, Gardner, Cummings, and Dunham (1989) introduced the construct "organization-based self esteem" (OBSE) in order to provide a construct-validated measure of self-esteem that is context specific. But again, there appear to be

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

problems with this construct, which is defined as "the degree to which organizational members believe that they can satisfy their needs by participating in roles within the context of an organization" (p.625). According to Pierce et. al (1989), organization-based self-esteem reflects the self-perceived value that individuals have of themselves as organization members. Organization-based self-esteem focuses on an individual's perception of himself as important and worthwhile in a particular job and is measured by ten items that evaluate the extent to which employees believe that they are "valuable, worthwhile, and effectual members of their employing organizations" (Pierce et al., 1989, p.634).

There are two key potential problems with OBSE. First, there is no theoretical foundation for the development of the items; items were developed from comments that the authors heard in discussions with employees, managers, and organizational experts. Examples of items included in the OBSE scale are "I count around here", "I am important", "I am trusted", and "I am helpful". Second, it is obvious that responses to any of these items are tied to the particular job that one is in, may overlap responses to job satisfaction measures, and reflect only self-evaluation, not general values or other general aspects of self-perception. Clearly, then, OBSE is not strictly a measure of self-concept, nor is it multifaceted.

Proposed facets of work self-concept. Six facets of work self-concept are being proposed which have been theoretically derived from Antonovsky's concept of sense of coherence (1987), Karasek's Job Content Questionnaire (Quinn, Magione, & Seashore, 1975), and Kobasa's theory and measure of hardiness. By addressing deficits in other stress-related models and approaches, Antonovsky, Karasek, and Kobasa have all made contributions that are relevant for this research. There are components of each of their theories which bear upon both issues of self-concept and job-stress.

Hardiness. Hardiness has been defined as "...interlocking parts of an overall orientation or style of stress resistance" (Kobasa, 1982, p.8). It represents an array of

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

personality dispositions -- commitment, control, and challenge -- that has been demonstrated to mitigate the effects of stressful life events (Kobasa & Puccetti, 1983). In conceiving of personality as a constellation of personality characteristics, Kobasa et al. have tackled, and provided a means to begin to resolve, an apparently perennial problem in job-stress research -- that various personality variables included in such research have probably been too "unidimensional" to explain what is viewed as a complex, multifaceted problem.

Commitment represents a belief in oneself and in what one is doing, as well as an awareness about one's distinctive goals and priorities. According to the theory, it is expressed as a tendency to involve oneself in whatever one is doing (Kobasa, Maddi, & Kahn, 1982). From the perspective of cognitive appraisal, committed persons are likely to experience an overall sense of purpose and to perceive the events, things, and persons of their environments as meaningful or of value. Given this definition, the commitment component of hardiness strongly resembles the substance of job involvement questions that have been cycling through the job-stress literature for some time now.

There are at least subtle differences, however, between the job involvement items being used in this study (some of which evolved out of the commitment component of the hardiness scale) and job involvement as it is generally understood. For example, there are items in Lodahl and Kejner's (1965) scale that measure satisfaction ("the major satisfaction in my life comes from my job") and how important a particular job is to the person. The items in their widely used job involvement scale do not explicitly measure the meaningfulness of the work, nor how important it is to feel like a valuable employee. Both of these notions emanate directly from the theories of hardiness and sense of coherence and are a departure from traditional job involvement measures and concepts.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Feeling committed to one's job, having perceived "worth", and a "sense of purpose" are presumed to be related to job-stress outcomes. Therefore, having self-knowledge of these things ought to be a part of work self-concept. There are two primary reasons for this: (1) if work self-concept is to be used to predict outcome variables, such as job satisfaction, then individuals need to have self-knowledge about the importance of their worth and purpose on the job (in order to evaluate whether a standard or expectation is being met), and (2) it bears upon our understanding of social support as a moderator variable in job-stress models (Kobasa & Puccetti, 1983). Measuring job involvement as conceptualized in this study may eventually shed light on the role and process of social support in such models, since poor job involvement may be indicative of, or even result in, decreased motivation and alienation, thereby interfering with an individual's ability to seek and use the support of others.

As defined by Kobasa, Maddi, and Kahn (1982), the control disposition is expressed as a tendency to believe and act as if one can influence the course of events. Although researchers have for some time paid attention to control in job stress research (e.g., Abdel-Halim, 1980; Szilagyi, Sims & Keller, 1976), the results have been disappointing. The two most likely reasons for this are that (1) locus of control as a personality variable is essentially unidimensional and cannot, by itself, account for enough variation in job stress outcomes among individuals, and (2) it has not been operationalized well in job-stress research.

Despite previous methodological and theoretical problems, there is reason to believe that control should be included in a job-stress model. For example, keeping the Kobasa et. al. (1982) definition of control in mind, it might be suggested that persons who do not believe that they can or want to influence work events would be more likely to perceive that there is little that they can do to remedy problems in a work environment. This could lead to passive strategies for coping (e.g., absenteeism,

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

quitting a job). Or, if a person believes that he or she is the helpless victim of another's actions, work performance might deteriorate.

The third component of hardiness, challenge, is expressed as the belief that change is not an unusual phenomenon in life and that anticipation of changes is an interesting incentive to growth rather than a threat to security (Kobasa et al., 1982). An individual's capacity for flexibility and feelings about change may predict how well he or she will respond to demands for readjustment, something often encountered in the work setting.

There are those (e.g., Antonovsky, 1979) who might argue that, in contrast, predictability and a person's need to perceive a structured and ordered world is an important component of stress resistance. On the surface, the two positions appear to be contradictory. However, the relationship between welcoming challenge and needing predictability may not be as incompatible as one might think. For instance, it is probably beneficial for a person to be able to predict his or her competence (i.e., feeling confident about one's skills). It should not be presumed that such predictability would diminish any positive effect of being inclined to welcome an opportunity to apply good job skills to new assignments. In any case, whether or not a person might feel nervous about a new work assignment would not, in itself, predict outcome variables like job satisfaction or health consequences. If a person who does not welcome challenge is not faced with change in his or her job, then scores on outcome variables will not be affected. On the other hand, knowing someone's score on a challenge scale might help predict how an employee will fare in a particular work context (i.e., a work environment with frequent changes in organization, technology, resources and work assignments might be result in high job stress for an individual with a low challenge score).

The conceptualization of work self-concept incorporates the three components of hardiness, and adds additional components. The fundamental reason for not just

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

using hardiness as the personality variable to be included in job stress research is that while it is a multifaceted personality variable (unlike many other personality variables), there is still reason to believe that work self-concept will tap more about personality in the work setting -- that is, more that is important for the study of job stress. While the components of hardiness have been useful predictors in the area of job stress, they are not situation-specific or comprehensive enough to address all the dimensions (e.g., competence, boss-relations, peer relations, sense of purpose) that may be important for studying job stress.

Sense of coherence. At the heart of Antonovsky's (1987) sense of coherence concept is the notion that a pathological orientation (which offers an explanation for why people get sick) fails to address the question of why people stay well, even when faced with a "high stressor load." Setting out to answer this question, Antonovsky has offered an alternative way of looking at the stress-illness relationship; he has called this perspective the salutogenic orientation, which focuses on the origins of health. The salutogenic paradigm focuses on those individuals who successfully manage stress-induced tension -- they stay healthy.

Ultimately, the sense of coherence concept became Antonovsky's answer to the salutogenic question. His formulation of the sense of coherence construct was based on the assumption that, by the time of early adulthood (around age 30), individuals develop a generalized way of looking at the world. Principally, sense of coherence is, as Antonovsky calls it, a "culling rule"; it identifies resources (e.g., ego strength, social supports, money) that facilitate making sense out of the countless stressors with which we are all constantly bombarded. Individuals who are repeatedly faced with stressors and manage the ensuing tension, develop, over time, a strong sense of coherence.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

In sum, sense of coherence is essentially cognitive in nature and is a stable, enduring, and generalized orientation to one's world. The formal definition is as follows:

> "The sense of coherence is a global orientation that expresses the extent to which one has a pervasive, enduring though dynamic, feeling of confidence that (1) the stimuli deriving from one's internal and external environments in the course of living are structured, predictable, and explicable; (2) the resources are available to one to meet the demands posed by these stimuli; and (3) these demands are challenges, worthy of investment and engagement" (Antonovsky, 1987, p. 19).

It is noteworthy that sense of coherence is a global orientation. Sense of coherence represents a way of looking at the world, a dispositional orientation rather than a response to a specific situation. Even so, Antonovsky's original question about those who "make it", against the high odds that human existence poses, is germane to job-stress research. The basic idea that every person has a way of looking at the world provides grist for job-stress research. In his discussion of "adulthood", Antonovsky is quick to point out that most adults spend more than half their waking hours, for forty or so years, in a place of employment or performing unpaid services (e.g., housework). That much time in one environment can open the door to much stress. What this probably means is that stressful events associated with work are inevitable, as is the tension produced by such events. The negative consequences of these events, however, are not inevitable. It is useful, therefore, to ask about the management of work-related tension in the same way that Antonovsky posed his fundamental question about general tension management. That is, we need to understand more about the factors that make it possible to manage tension on the job.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

While Antonovsky's general approach provides a frame of reference for thinking about job stress, it is primarily two of the three core components of the sense of coherence concept that bear directly upon this research. The *manageability component* (the extent to which one perceives that there are available resources adequate to meet demands) is primarily related to whether or not individuals believe themselves to be competent and to the notions of boss and peer support. The *meaningfulness component* (some problems are worthy of the energy needed to resolve them, are also worthy of commitment and engagement, and are welcome challenges rather than burdens), which is the motivational component of Antonovsky's theory, is most relevant for conceptualizing the work self-concept facet of job involvement. For example, questionnaire items that reflect meaningfulness measure the extent to which an individual cares about what goes on around himself, life is expected to have meaning and purpose, and believes that there is meaning in the things he or she does (Antonovsky, 1987, Appendix). In sum, meaningflness and manageability suggest ways of addressing recommended content areas for future job-stress research: how individuals confront such stress, using personal and social resources; commitment to one's job; sense of purpose; confidence in oneself to perform well; and work and family interface (Burke, 1987; King & King, 1990).

Karasek's job strain model. Karasek's (1979) model predicts that mental strain results from the interaction of job demands and job decision latitude. The model postulates that "psychological strain, and subsequent physiological illness, result not from an aggregated list of stressors, but from the interaction of two types of job characteristics" (Karasek, Baker, Marxer, Ahlbom, & Theorell, 1981). Strain, according to Karasek et al. (1981) results from the joint effects of the demands of the work situation and the range of decision-making freedom (control) available to the employee facing those demands. While there is no elaborate theory per se underlying Karasek's model, his hypotheses suggest that multiple work environment factors may

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

be involved in job strain. The implications of his findings underscore the need for further research to identify the association among job situation, psychosocial stress, and illness, such as coronary heart disease.

Karasek's work has made two contributions to the development of this research: (1) he has highlighted the need for a multidimensional approach to job-stress research and (2) his Job Content Instrument (Quinn, Magione, & Seashore, 1975) includes factors which are consistent with the current thinking on job stress. They also suggest a way to incorporate relevant job stress-related items in a self-concept framework. For example, the Job Content Instrument (Quinn et al., 1975) includes items that measure co-worker support, supervisor support, and skill, all of which continue to be included in job-stress research. Not only is there growing recognition of the importance of each of these factors in job-stress research, they are comparable to factors used in research that examines self-concept among children and adolescents. For example, coworker support might be said to correspond to "peers" and supervisor support might parallel "significant others", both of which are facets included in Marsh and Shavelson's (1985) model of self-concept.

Summary of Work Self-Concept

There has been a great deal of research concerning both the psychological construct of self-concept and the topic of job stress. However, the literature suggests that there are two key deficits in the studies done thus far. First, there is little research that examines self-concept as an important variable for working adults, and virtually none that has successfully done so (in contrast, self-concept research among children has measured academic self-concept). Second, the multifaceted nature of work stress, suggested by early work in the area of role theory, has not been explored. To date, a major criticism of the field is that most models of work stress include only unidimensional measures and test only bivariate relationships.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

These problems have given rise to the three-fold purpose of this proposed research: (1) to introduce a definition of a construct to be called work self-concept; (2) to develop an instrument to measure work self-concept; and (3) to provide some preliminary reliability and construct validity data. The form of the definition of the proposed construct bears resemblance to the structure of Marsh and Shavelson's (1985) model of self-concept (applicable to children and adolescents). The content of the definition is based on a theoretical foundation that primarily represents the integration of relevant portions of self-concept theory, current thinking about job stress (in general), and the theories of hardiness (Kobasa, 1979) and sense of coherence (Antonovsky, 1987).

Construct Validity: Overview

General concepts and definition. In their seminal work on construct validity, Cronbach and Meehl (1955) defined a construct as a "postulated attribute of people, assumed to be reflected in test performance" (p. 283). A construct has no reality outside a theoretical system, and can only be indirectly observed via the behavior of individuals or groups. Hypothetical constructs organize and summarize observed relationships (i.e., behavioral consistencies); they capture the empirical properties of real entities that cannot be directly observed (Messick, 1981).

The process of construct validation involves gathering evidence for inferring a measure's meaning. This is accomplished by linking that measure to the more general theoretical construct, such as an attribute or trait, as it is embedded in the theoretical system (King & King, 1990; Messick, 1975; Messick, 1981). According to Messick (1981), the components of the theoretical system provide ways that constructs are inferred: from consistencies in test behaviors, from consistencies in non-test behaviors, and from the relationships between the two. Each of these components of the system, and the relationships among them, can be useful for answering questions that bear upon

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

construct validation. For example, whether or not there is behavioral consistency in test performance indicates that "something" is actually being measured (Messick, 1981).

Construct validation process. In order to establish the link between the measure and the theoretical system, several steps must be taken. The first step consists of providing a clear definition of the construct which is formal and explicit. According to Shavelson, Hubner & Stanton (1976) the ideal definition would specify the features of the construct, their relationship to each other, and their connection with observable attributes of the person (the "within-construct portion" of the construct definition). The ideal definition would also identify aspects of the construct that may be related to distinctly different constructs, those that comprise the nomological network (the "between-construct portion"). In this study, the items comprising each work-self concept scale (i.e., each of the proposed facets of work self-concept) constitute the within-construct portion of the construct definition. General self-concept (as used in this study), job satisfaction, negative affectivity, and social desirability are examples of the between-construct portion.

Several works (Loevinger, 1957; Messick, 1981; Shavelson & Bolus, 1982;) indicate that the second component of the construct validation process is to address methodological considerations. The construct definition provides the blueprint to devise a measurement strategy -- a way to "observe" behavior. Most often, the measurement strategy amounts to the development of an instrument to collect data which bears upon a construct interpretation of the scores (Shavelson, Hubner & Stanton, 1976). As previously discussed, the theoretical underpinnings of work self-concept provide the basis for the items and proposed scales comprising the work self-concept instrument.

Convergent validity. The third step involves evaluating convergent and discriminant validity. In general, convergent validity is demonstrated by the agreement of multiple indicators of a construct; any two measures of the same construct should

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

correlate highly. Convergence may be demonstrated at the level of the item (e.g., correlations of pairs of items within a scale) or by examining the relationship of the mean or total of a set of items between scales, such as scales or instruments presumed to measure a single construct (Beehr's, 1976, measure of role ambiguity and the Rizzo, House, & Lirtzman, 1970, scale of role ambiguity).

Reliability. Reliability refers to test consistency. This can be assessed by computing indices of reproducibility or by computing reliability coefficients from a single test administration. One such index is Cronbach's coefficient alpha (Cronbach, 1951), which can be used to determine the internal consistency of a measure. Alpha is a function of test length and the average correlation among the items. A higher coefficient alpha is produced by higher average inter-item correlations or more items in the test (in this study, scale) being evaluated.

While internal consistency data is important for making decisions as to whether or not a scale is reliable, it is also often a prerequisite for assessing the validity of a scale. For many constructs, evidence of homogeneity within a scale is relevant in judging validity (Cronbach & Meehl, 1955). This is the case when the underlying theory of the construct being measured calls for high item inter-correlations. Since the theory of work self-concept does call for high inter-item correlations within a scale, such correlations, if found, could be used to support an inference of internal construct validity.

Discriminant validity. Some evidence for discriminant validity can also be provided at the level of the item by demonstrating that any pair of items measuring the same construct should correlate more highly than a pair of items measuring different constructs (e.g., an item measuring academic self-concept should not correlate highly with an item measuring social self-concept). Beyond the level of the item, indicators of distinct constructs should not be highly related (e.g., job satisfaction and general self-concept). Considered together, the concepts of convergent and divergent validity imply

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

that two measures of the same construct, whether the measures are items or scales, should correlate more highly than two measures of different constructs.

This study has emphasized an evaluation of the internal validity of work self-concept; this is an approach to construct validation that is encouraged by others who have completed extensive self-concept research. Marsh and Shavelson (1985) have pointed out that focusing on the internal characteristics of self-concept - its facets and organization - is a prerequisite to the study of how self-concept is related to other constructs. Fleming and Courtney (1984) and Byrne (1984) have made similar arguments; it is meaningless to compare an instrument to other instruments without internal validity evidence.

Nonetheless, the relationship between work self-concept and other constructs should be examined. The discriminant validity of the work self-concept scales can be examined by comparing them to measures of different constructs (i.e., external criteria). Measures of general self-concept, negative and positive affectivity, social desirability, and measures of job satisfaction would be appropriate constructs to provide evidence of external discriminant validity (by examining the relationship between work self-concept and these external criteria).

Negative Affectivity. Negative affectivity (NA) is viewed as a mood-dispositional dimension that reflects pervasive individual differences in negative emotionality and self-concept (Watson & Clark, 1984). According to Watson & Clark (1984), the negative mood state includes subjective feelings of nervousness, tension and worry and affective states such as guilt and self-dissatisfaction. Furthermore, NA is thought to be a very pervasive disposition that manifests itself even in the absence of any overt stress. High-NA individuals, however, do not consistently report a high level of NA. Instead, it is thought that, in any given situation, they will be more likely to experience a significant level of distress (Watson & Clark, 1984).

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Brief, Burke, George, Robinson and Webster (1988) argue strenuously for the inclusion of negative affectivity in the study of job stress. They reached this conclusion based on the finding that by controlling for NA, the hypothesized relationship between negative stress and distress or satisfaction was approximately zero; this indicated to them that substantial portions of the observed relationships between job stress and job strain were spurious. Likewise, Parkes (1990) found that NA is a significant moderator variable; in her study, high NA subjects showed greater reactivity to work demand than did low NA subjects.

In the face of growing pressure to include NA in job-stress research (especially as a moderator variable) and since NA is construed as an individual-difference variable which reflects, among other things, a predisposition to low self-esteem, it is important to discriminate NA from work self-concept. It would be difficult to make inferences about work self-concept (also an individual-difference and hypothesized moderator variable) in future job-stress research if it were not known that it measured something different than NA.

There are a number of items included in the work self-concept scales that could be accounted for by a pervasive mood disposition. This is particularly true of the Challenge scale, which includes such items as "In general, I enjoy the challenge of a change in my work routines" and "At work, I like having to learn new things." Whether or not variability in responses to such items is accounted for by the significantly higher levels of distress experienced by high NA individuals needs to be investigated.

Job satisfaction. Locke's (1976) discussion and definition of job satisfaction is frequently cited (e.g., Rice, Gentile, and McFarlin, 1991; Ironson, Smith, Brannick, Gibson, and Paul, 1989; Butler, 1983). His still authoritative definition of job satisfaction is "a pleasurable or positive emotional state resulting from the appraisal of one's job or job experiences...job satisfaction typically refers to the appraisal made by

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

a single individual of his job situation" (p.1300). It is an affective reaction that an employee has to bosses, co-workers, pay, task structure and work in general (Smith, Kendall, and Hulin, 1969).

Job satisfaction has been and continues to be one of the principal outcome variables in job stress research. In reporting the results of their meta-analysis, Jackson and Schuler (1985) noted that job satisfaction was the most frequently used consequence variable in research on the effects of role ambiguity and role conflict; it appeared in about 50 percent of all role stress studies. A key reason for all the attention given to job satisfaction is the belief that it is highly related to performance and productivity (Podsakoff & Williams, 1986). These have important implications for both employees and employers.

According to Locke and Latham (1990), job-related consequences (e.g., pay, promotion) that correspond to what the individual wants or values are likely to result in greater job satisfaction. If an individual values an outcome and the outcome is achieved, the individual will be satisfied; the more important the outcome or value and the greater the degree of fulfillment, the higher the level of satisfaction. In a nutshell, after decades of research on job satisfaction, Locke and Latham (1990) have concluded that goal success produces satisfaction. This is a somewhat simplistic, although informative, statement about satisfaction. It is simplistic because there are a variety of factors (e.g., nature of the task; Stone, 1986) and complex variations (e.g., difficult goals produce higher performance than easy goals; Locke, 1965) that affect the degree of satisfaction experienced by an employee.

Individual differences (i.e., personality) may also affect job satisfaction. If it is true, as Locke (1976) has argued, that in some sense an individual's affective reactions are dependent upon an interaction between the person and his environment, then job satisfaction should not only be distinct from personality, but personality should also be useful in predicting job satisfaction. Therefore, this study should examine both the

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

relationship (covariation) between job satisfaction and work self-concept and whether they are distinct.

Conclusions about causation is another matter. With all the research on job satisfaction completed thus far it is still difficult to make inferences about causal relationships. There are two chief reasons for this. First, as Jackson and Schuler (1985) have pointed out, in all the studies of job satisfaction and role strain, a correlation was assumed to indicate that role strain led to job dissatisfaction. Such an inference about a causal relationship has been repeatedly made even though the correlation has been almost always obtained from one-shot cross-sectional studies. This is a serious shortcoming of job stress research, in general, and of job satisfaction research, in particular.

Second, most job stress research has failed to explore complete causal models (those that include all important independent and dependent variables). For example, Locke and Latham (1990) found that the effects of job satisfaction on job performance are indirect. It was their conclusion that this finding reveals why most previous studies have failed to find a consistent or meaningful association between job satisfaction and productivity. Similarly, the level of job satisfaction is likely to be affected by moderators, as well as more than one predictor variable. Without considering whether or not there are multiple predictor variables or moderators (e.g., total life stress, social support, coping skills), the hypothesized model could be incomplete. Under these conditions, and at this early stage in the research on work self-concept, it would be difficult, if not impossible, to draw conclusions about the nature of the relationship between work self-concept and job satisfaction.

Social desirability. Socially desirable responding is the tendency to give responses that, consciously or unconsciously, place a subject in a favorable light (Damarin & Messick, 1965). Responding in this manner means that general characteristics of the questionnaire, rather than specific item meaning, is represented.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Since social desirability has been considered to be a major contributor to noncontent variance (Bentler, Jackson & Messick, 1971), the presence or absence of such a response style must be determined. Without such a determination, it would be difficult to infer that a questionnaire has provided evidence for the theory (e.g., work self-concept) being measured; respondents may select responses they know to be socially desirable rather than responses that are self-descriptive (Edwards, 1957). It seems clear, therefore, that distinguishing socially desirable responding from responses that are self-descriptive or that represent an attitude or feeling is an important part of establishing the construct validity of the measure (Wylie, 1974; Shavelson, Hubner, & Stanton, 1976).

Descriptive statistics and correlations are commonly used to assess response style. A high correlation between social desirability and work self-concept could mean two things. First, it could be that social desirability responding contaminates the measure, in which case it might be suggested that the scale of interest has problems. If so, then it might be necessary to correct the scores on such scales for social desirability, perhaps by using residuals from the regression of the scale scores on social desirability.

Second, it could be that there is content overlap between social desirability and self-concept. There appear to be two views about this. One is that self-concept scales are so saturated with social desirability that there is no construct of self-concept, independent of social desirability (e.g., Walsh, 1990).

The other view is reflected in the writings of Wylie (1974). She has disputed the relevance of socially desirable responding for determining the construct validity of a self-concept measure. Basically, her argument is grounded in theoretical considerations rather than empirical ones. According to this view, the problem faced by self-concept researchers is not that tendencies to respond in a socially-desirable way may be found. Rather, Wylie argues, the problem is how to use such information. This is because

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

evidence of the response tendency would not mean that one has failed to measure self-concept. In essence, Wylie (1974) has questioned the relevance of social desirability for self-concept research on the grounds that social desirability is an inherent component of self-concept and cannot, therefore, be separated from it. This, if true, would mean that self-concept and social desirability are not necessarily independent and the self-concept measure should not automatically be corrected for social desirability. Wylie (1974) has summarized her point as follows: if a respondent's "self-reports are socially desirable, this high degree of socially desirable self-reporting does not ipso facto invalidate the report as an indicant of his phenomenal self" (p.57).

Absenteeism. Absenteeism has been commonly measured as one of the objective negative responses to role conflict and ambiguity, as well as other job stressors, that has been investigated (Van Sell, Brief, and Schuler, 1981). The relationship between absenteeism, work self-concept, as well as the other variables that were measured, provides some key information about external validity. The same caveat applies here, however, as in the previous section on job satisfaction: interpretation of the data must be limited since the relationship between work self-concept and any outcome variable can be properly explored only in a multidimensional causal model.

Hypotheses

1. Work self-concept is a construct distinct from but related to general self-concept, that represents individuals' perceptions of themselves in relation to the work environment.

2. Work self-concept is multifaceted. It is comprised of six distinct facets: Job involvement, challenge, competence, co-worker relations, boss relations, and control.

3. Work self-concept is both descriptive and evaluative; it includes both perceptions of oneself and evaluations of those perceptions.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

4. Work self-concept is distinct from but related to job satisfaction.

5. Work self-concept is different than the mood-disposition variable of negative affectivity.

6. Work self-concept is not contaminated with social desirability responding.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Method

Sample

Subjects (N = 197) were registered nurses (116) at a Veteran's Administration Medical Center in California, teachers (29) at an elementary school in Pennsylvania, staff research assistants (27) at a public agency in New York City, New York, and administrators (25) at another public agency in New York City. Subjects were obtained through contacts with acquaintances who identified potential subject pools. Education of the respondents ranged from a high school diploma to a doctoral degree, with all but one having at least some college education. All but 9 of the 155 subjects who provided demographic information were female. Approximately 80% of respondents had worked at least 2 years in their current job title and all had done so on a regular basis. All subjects were paid employees who had co-workers and bosses.

Procedure

A research proposal (Appendix A) was submitted to the Veteran's Administration Medical Center and reviewed by their Committee on Investigations Involving Human Subjects. Approval for this research in the other two settings was granted after a research abstract (Appendix B) was considered by administrators in the elementary school and public agencies. Questionnaires were then provided to each of the work settings where in-house staff distributed the surveys to employees who completed the questionnaires on a voluntary basis during their work hours.

Each employee received the questionnaire packet, a letter that explained the study and provided general instructions, and a self-addressed, stamped envelope which was returned to the Graduate Center of the City University of New York. This procedure ensured confidentiality for each of the respondents. Instructions emphasized that responses to items in the work self-concept scale should be based upon the

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

employee's views about him- or herself at work, in general, and not about his or her current job. Follow-up requests for participation in the study were distributed to the Veteran's Medical Center employees by an administrator at the VA Medical Center. Respondents who wished to be apprised of summary results were given the opportunity to provide their names and addresses without sacrificing their anonymity.

Measures

Work self-concept scale: questionnaire development. The questionnaire was designed to measure six hypothesized facets of work self-concept: job involvement, challenge, competence, co-worker relations, boss relations and control. Some of the items in the questionnaire were derived from either Antonovsky's (1987) sense of coherence questionnaire, the hardiness scale (Kobasa, Maddi, & Kahn, 1982), or Karasek's job content instrument (Quinn et al., 1975). Other items were derived from Antonovsky's (1987) salutogenic model, role theory (Katz & Kahn, 1978), or the conceptualization of hardiness (Kobasa, 1979), rather than directly from available questionnaires. All of the items were written to reflect self-knowledge. Self-knowledge was defined as perception about self, including an awareness of what is important to oneself. Several revisions of the items were made in order to adhere to this conceptualization of work self-concept. For example, one of the items was changed from "My boss is satisfied with my work performance" to "It's important to me that my boss be satisfied with my work performance." The original item was revised because it did not clearly reflect self-knowledge and might overlap the same information that is commonly measured by items on job satisfaction measures such as the job description index (JDI).

In addition, although other scales and theories provided a framework for thinking about work self-concept they could not be directly imported into the work self-concept subscales. For example, some questionnaire items were adapted from the

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

hardiness (commitment) scale to measure the job involvement facet of work self-concept: the hardiness item "most of life's activities are meaningful" became "Whatever job I have, it's important that my work activities are meaningful to me." The item was not "my work activities are meaningful to me" because such an item would most likely be job specific and tap job satisfaction rather than just work self-concept. Similarly, the work self-concept challenge scale includes the item "I like to face new challenges at work," which was adapted from the hardiness item"I often wake up eager to take up my life where it left off the day before."

Decisions about whether or not to use an item included in one of the above-mentioned instruments were based on whether or not the item was consistent with the basic criteria for the operationalization of work self-concept. This meant that questionnaire items had to (1) be consistent with the theoretical foundation of work self-concept, (2) reflect self-knowledge, (3) be context specific, although not job specific, and (4) be distinct from other related constructs, such as job satisfaction. For example, the sense of coherence scale includes this item: "I have feelings inside that are incompatible with each other." This item was not used since it was unlikely that it would represent any of the facets being measured. Similarly, Karasek's item "My supervisor is successful in getting people to work together" was not used since it could not reflect self-knowledge. Furthermore, work self-concept items could be either evaluative (e.g., I am a hard worker) or descriptive (It's important to me to work hard) in accordance with self-concept definitions (Shavelson and Bolus, 1982). The work self-concept questionnaire is in Appendix C, and the items, organized by subscale, are presented in Appendix D.

Work self-concept questionnaire: format. The work self-concept instrument includes 8 questions on job involvement, 8 questions on challenge, 9 questions on competence, 8 questions on co-worker relations, 9 questions on boss relations, and 8 questions on control.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Items are written in the form of statements about personal beliefs or feelings with respect to the workplace (approximately one-half are worded negatively). Each item was responded to on a seven-point Likert-type rating scale, with points along the scale ranging from "strongly agree" to "strongly disagree."

Social desirability. Eleven items from Crowne and Marlowe's (1960) original social desirability scale were included; a psychometrically sound short form (Reynolds, 1982) of the Marlowe-Crowne Social Desirability Scale was actually used. Eleven items were chosen from Form C (13 items), developed by Strahan and Gerbasi (1972), which had the best reliability of the short forms (.76). Items number 3 and 10 of Form C were excluded because they appeared to measure work-related constructs, other than social desirability. Items are presented in Appendix E.

General self-concept measures. Given Marsh and Shavelson's (1985) empirically-supported theory of the hierarchical nature of self-concept, general self-concept should be related to, yet distinct from, work self-concept. The correlations between general self-concept and the facets of work self-concept should be neither very high nor very low. Similarly, there should be no significant correlation between self-esteem and work self-concept. Although self-esteem and self-concept should be distinguished, they are frequently used interchangeably. In theory, self-esteem is believed to occupy only a part of our thoughts about ourselves, that is, self-evaluation. In contrast, self-concept is typically defined as the way in which individuals perceive themselves as physical, social, and spiritual or moral beings (Bhatti, Derezotes, Kim, and Specht, 1989). Self-esteem represents an evaluation of self-worth, while self-concept represents self-description (Fleming & Courtney, 1984).

Clearly, a theoretical distinction between self-esteem and self-concept is commonly made. In practice, however, such a distinction is frequently blurred. Neither the content of the items used in scales to measure each construct nor empirical evidence provide support for the theoretical distinction (Shavelson et al., 1976; Wylie,

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

1974). For example, one of the items included in the Hare Self-Esteem Scale is "People my age often pick on me" (Shoemaker, 1980) and the Piers and Harris (1964) Children's Self-Concept Scale (CSCS) includes the item "People pick on me." Neither of these comparable items (one from a self-esteem scale, one from a self-concept scale) are clearly evaluative. Conversely, both scales include typical self-esteem items: another sample item on the Hare Self-Esteem Scale is "I often feel worthless in school" and the CSCS includes "I am unhappy". Both of these are similarly evaluative.

Rosenberg Self-Esteem Scale. The content of items in the Rosenberg Self-Esteem Scale (RSE) (Rosenberg, 1965) are essentially no different than the content of items included in widely-used self-concept measures. Therefore, the RSE was used to obtain a measure of general self-concept and was correlated with the work self-concept instrument. Rosenberg's scale is comprised of ten items, which are the first ten items in Appendix F. Rosenberg's scale was selected instead of other widely-used scales such as the Tennessee Self-Concept Scale (TSCS) and Coopersmith's Self Esteem Inventory (SEI) because, as already discussed, there is little difference in item content, and because of its superior psychometric properties and methodological advantages (Wylie, 1989).

For instance, Wylie (1989, 1974) has reported that information regarding neither the convergent nor divergent validity of either the TSCS or SEI has been encouraging. At the time of her original review, Wylie reported that no item analysis or internal factor analysis had been performed by Coopersmith. Similar criticisms are presented in Bentler's (1972) evaluation of the Tennessee Self-Concept Scale, as reflected in his conclusion that the scale suffers from "two major, possibly fatal, interrelated defects" (p.366). One of these flaws is that there is virtually no information regarding the internal structure of the scale.

Rosenberg's scale has met quite a few of the general criteria for methodological adequacy and promise. First, this scale has been subjected to reliability tests which

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

have demonstrated acceptable levels of internal consistency (alpha coefficients have ranged from .72 to .87). Second, half the items are positively worded, and half are negatively worded, to control for acquiescent response set. No attempt has been made to take account of possible social-desirability in responding (Wylie, 1989). Third, indications of discriminant and convergent validity have been provided (e.g., Byrne & Shavelson, 1986; Marsh & O'Neill, 1984). Finally, Wylie (1989) has indicated that construct validity findings are reasonable.

SDQ III. Although the Rosenberg scale was used to measure general self-concept, the General-Self scale (five items) from the SDQ III, a general self-concept instrument, (Marsh & O'Neill, 1984) was also included. The primary purpose for including this additional general self-concept instrument was to empirically determine whether the Rosenberg scale is measuring the same construct as general self-concept measures. The General-Self scale is one of 13 self-concept scales included in the SDQ III; other scales include Mathematics, Verbal, Problem Solving/Creativity, Honesty/Reliability, etc. which are not appropriate to this study. The items in this scale are item 11 through 15 in Appendix F.

Positive and Negative Affectivity

Positive and negative affectivity were measured using a 20-item scale (The PANAS) developed by Watson, Clark & Tellegen (1988). This scale represents an improvement over many other mood scales that have been used to measure feelings and emotions, especially those comparable to negative affectivity. In contrast to the problems with most of the other scales, the PANAS is brief and easy to administer, has been shown to be highly internally consistent and stable over a 2-month time period, and evidence of convergent and discriminant validity has also been provided (Watson, Clark & Tellegen, 1988). The scale, which is presented in Appendix G, consists of 20 words which describe different feelings and emotions. Each item is rated using a 5-

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

point scale which indicates the extent to which a word describes how the individual feels. Instructions given to respondents were based on the "General" instructions provided by Watson, Clark and Tellegen (1988); respondents were asked to indicate to what extent "you generally feel this way, how you feel on the average."

Job Satisfaction

Four scales of the job descriptive index (JDI; Smith, Kendall, & Hulin, 1969, 1975/1985) were used: "work on present job", "supervision", "co-workers", and "job in general"). The JDI has been reported to be the most frequently used measure of job satisfaction (Ironson, Smith, Brannick, Gibson, & Paul, 1989) and has been described as a carefully developed scale, having sound psychometric properties (Vroom, 1964). The JDI was revised in 1985 (Smith, Balzer, Brannick, Chia, Eggleston, Gibson, Johnson, Josephson, Paul, Reilly, & Whalen, 1985), using item response theory as well as traditional psychometric methods. A few items were replaced. The revised version of the JDI was used in this study (scales presented in Appendix H).

Adjectives or brief phrases are presented in each scale; the respondent is instructed to indicate whether or not each describes his or her job. The scales are described as facet scales, which are used to differentiate different aspects of job satisfaction. In contrast to the general scales, these facet scales were not designed to be summed and therefore should not be used to estimate a respondent's overall feelings about his or her job (Ironson, et al., 1989). Although the newly developed Job in General Scale (JIG; Ironson, et al., 1989) may be more useful in future research (e.g., investigation of causal models), it would not provide the discriminant validity called for in this study. That is, whether or not satisfaction with coworkers and supervisors differs from self-knowledge about relationships with others, needs to be determined.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Absenteeism

Two items (which distinguished absences due to illness from other absences) were included in the questionnaire in order to measure absenteeism: "How many days were you absent from work in the last six months due to illness?" and "How many days were you absent from work in the last six months for reasons other than illness?" Absences due to vacations, family illnesses, and complications due to pregnancy or the birth of a child were not included in the analyses. This item was inadvertently omitted from the first group of questionnaires distributed (N = 42).

Analyses

Analyses were performed using SPSSX and LISREL VII at both the level of the item and using scales. Negatively-worded items were transformed so that they could be combined with other items forming each of the scales. Statistical analyses include:

(1) For each scale: Cronbach's coefficient alpha.

(2) For each item:

(2.1) Alpha for the subscale if the item would be deleted;

(2.2) The item's correlation with the total scale score (item-total correlation).

(3) Among scales:

(3.1) Correlations among work self-concept subscales;

(3.2) Correlations between work self-concept subscales and other scales

(4) Exploratory and confirmatory factor analyses.

Items were removed from the questionnaire if inclusion of the item lowered its scale's Cronbach's coefficient alpha or if it did not lower the alpha value but had an item-total correlation below .20.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Factor analysis. There are some variables that cannot be directly observed. Information about them can be obtained indirectly, however, by determining their effects on observed variables (Long, 1983). These are the fundamental ideas that underlie the factor analytic model. Basically, factor analysis is a method for summarizing the covariation among a large, or relatively large, number of observed variables by a smaller number of unobserved factors.

The items in each scale were factor analyzed using conventional (exploratory) factor analysis procedures; the SPSSX computer package was used for this purpose. The items in each scale should form a single factor, which can be tested using both informal (scree plot of eigenvalues) and formal means (chi-square goodness-of-fit test) for each scale.

Second-order factor model. A higher-order factor analysis was performed on scale scores to determine if a second-order factor accounts for relationships among the first-order factors. A second-order factor, if found, would explain covariation among the first-order factors. Such a hierarchical structure of general self-concept has been previously demonstrated for pre-adolescent children (Marsh & Hocevar, 1985; Marsh & Shavelson, 1985). On the other hand, Marsh and O'Neill (1984) found that no strong hierarchical structure underlies their 13 SDQIII factors. Although this finding cast doubt on the likelihood that such a higher-order structure exists for the self-concept factors found among late adolescents and adults, the 13 SDQ III factors span across domains, while the work self-concept scales are facets of a single domain.. It was believed possible, therefore, that a hierarchical structure of work self-concept might exist.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Results

Demographic Characteristics

The sample consisted of 25 administrators, 27 staff research assistants, 116 nurses, and 29 teachers. Due to a printing error that was not immediately detected, demographic information and data on absenteeism is available on only 145 subjects; for some of the variables not all subjects gave interpretable responses, further reducing the observed sample size slightly.

Table 1 contains marginal distributions on demographic variables and job-related information for subjects with valid responses (as mentioned previously, due to a printing error, demographic information is not available for all respondents). Most respondents on whom demographics were available were female, and had female bosses, which is not surprising given that nurses and teachers constituted the largest groups sampled. Similarly, as expected for such a group the educational level was high, though not homogenous; it ranged from high school graduate through doctoral level. Most respondents were white, and a sizable minority were Asian.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Table 1
Distribution of Demographic and Related Variables

Sex	
Male	9
Female	128
Marital Status	
Married	87
Divorced	17
Separated	3
Widowed	6
Living w/someone	8
Single	21
Ethnic/Racial Group	
Black	7
Native American	1
Asian	23
White	107
Other	5
Education	
High School	1
Some college	5
2-yr degree	24
College graduate	51
Beyond college	21
Masters	35
Doctorate	2
How steady is work	
Regular	140
Other	1
Number of people supervised	
0	56
1-4	38
5-10	27
11-20	7
>20	12

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

(Table 1 continued)

Sex of respondent's boss

male	4
female	119

Days absent, due to illness

0	40
1	34
2	32
3	16
4	7
5	2
6	2
8	2
10	2
13	1
20	2
56	1

Days absent, other than illness

0	81
1	26
2	18
3	4
4	2
5	1
6	1

Item Analysis

Subscale and scale total scores were obtained by summing the item scores for all scales except the JDI subscales. For each JDI subscale, positively worded items (e.g., "fascinating") were coded 1 for a "yes" response, and 0 for "no" or "cannot decide." Negatively worded items (e.g., "boring") were coded 1 for a "no" response, and 0 for "yes" or "cannot decide." Items in the other scales and subscales were recoded as necessary so that all items in a scale or subscale were in the same direction. In each analysis, respondents with missing data were omitted. Most respondents had no missing data; for example, the work self concept subscale with the most nonresponse (the boss subscale) had complete item responses from all but 8 individuals.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

The items from each subscale in the work self-concept scale were analyzed using the SPSS RELIABILITY procedure to determine whether all items were performing satisfactorily. Following the removal of five items with item-total correlations below .20, the items from each subscale were factor analyzed using the SPSS FACTOR procedure to determine whether each scale was unidimensional. (The items from the other scales used in this study were also subjected to item analysis using the RELIABILITY procedure; as these scales are not the major focus of this study, those results are reported in less detail than for the work self-concept subscales.)

Correlations were computed among the six work self-concept subscales, among the subscale scores for the additional scales used in the study, and between the work self-concept subscale scores and the additional scale scores. These were used for descriptive purposes, and later for second-order factor analyses of the work self-concept subscales.

Descriptive statistics for each item, organized within subscales, are in Tables 2 through 8 Many items show means of approximately 6 (each item has a maximum value of 7) and extreme negative skew.

Table 2.
Descriptive Statistics for Job Involvement Subscale Items

Variable	Mean	Std Dev	Skewness	Minimum	Maximum	N
SC1	6.35	1.42	-2.92	1	7	197
SC7	6.23	1.14	-2.56	1	7	196
SC13	6.30	.93	-1.89	2	7	197
SC22	6.48	.91	-3.37	1	7	197
SC27	5.86	1.26	-1.59	1	7	197
SC29	6.37	1.21	-2.88	1	7	196
SC39	5.98	1.48	-1.90	1	7	195
SC45	6.32	1.05	-2.88	1	7	196

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Table 3.
Descriptive Statistics for Challenge Subscale Items

Variable	Mean	Std Dev	Skewness	Minimum	Maximum	N
SC2	5.79	1.27	-1.71	1	7	197
SC8	4.75	1.64	-0.52	1	7	197
SC14	5.55	1.37	-1.18	1	7	197
SC19	6.51	.87	-3.60	1	7	196
SC26	5.69	1.17	-1.25	1	7	195
SC33	6.02	1.04	-1.66	2	7	196
SC40	4.95	1.71	-0.67	1	7	195
SC46	5.98	.90	-1.56	2	7	196

Table 4.
Descriptive Statistics for Competence Subscale Items

Variable	Mean	Std Dev	Skewness	Minimum	Maximum	N
SC3	6.55	1.24	-3.50	1	7	197
SC9	5.77	1.32	-1.56	1	7	197
SC15	6.48	1.35	-3.35	1	7	197
SC21	6.64	.59	-1.71	4	7	197
SC28	6.23	1.07	-2.76	1	7	197
SC34	6.54	.77	-3.48	1	7	196
SC37	6.13	1.10	-3.02	1	7	196
SC43	6.54	.59	-1.05	4	7	196
SC49	6.37	.63	-0.97	3	7	196

Table 5
Descriptive Statistics for Coworkers Subscale Items

Variable	Mean	Std Dev	Skewness	Minimum	Maximum	N
SC4	6.40	1.11	-3.05	1	7	197
SC11	6.09	1.51	-2.24	1	7	197
SC17	6.18	1.12	-2.31	1	7	197
SC24	6.20	.94	-2.05	2	7	197
SC30	5.74	1.29	-1.66	1	7	196
SC36	6.08	.80	-1.43	2	7	196
SC42	6.13	.83	-1.34	2	7	196
SC48	5.59	1.32	-1.19	1	7	196

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Table 6.
Descriptive Statistics for Boss Subscale Items

Variable	Mean	Std Dev	Skewness	Minimum	Maximum	N
SC5	6.08	1.12	-1.98	1	7	197
SC12	6.01	1.09	-1.82	1	7	197
SC18	6.23	1.49	-2.31	1	7	197
SC23	6.52	.67	-2.30	2	7	197
SC32	5.22	1.88	-1.01	1	7	196
SC35	6.19	.88	-1.99	2	7	196
SC38	6.29	1.08	-2.39	1	7	196
SC44	6.25	1.01	-2.28	2	7	191
SC50	5.26	1.70	-1.12	1	7	195

Table 7
Descriptive Statistics for Control Subscale Items

Variable	Mean	Std Dev	Skewness	Minimum	Maximum	N
SC6	6.21	1.11	-2.47	1	7	197
SC10	5.53	1.54	-1.33	1	7	197
SC16	4.81	1.68	-0.69	1	7	197
SC20	6.16	1.25	-2.37	1	7	197
SC25	5.88	1.23	-1.75	1	7	197
SC31	5.72	1.44	-1.64	1	7	196
SC41	5.05	1.62	-0.85	1	7	195
SC47	6.20	.87	-1.58	2	7	196

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Table 8.
Descriptive Statistics for Work Self-Concept Subscales

Variable	Mean	Std Dev	Kurtosis	Skewness	N
(Original Subscales)					
JOBINV	49.88	4.91	2.20	-1.18	193
CHAL	45.32	6.23	.71	-0.90	191
COMPET	57.29	4.53	1.35	-1.04	195
COWORK	48.38	4.77	1.01	-0.91	195
BOSS	54.29	6.52	1.39	-1.06	189
CONTROL	45.62	5.12	.26	-0.57	194
(Revised Subscales)					
JOBINV	37.54	4.07	3.41	-1.50	193
COWORK	42.19	4.44	1.01	-0.95	195
CONTROL	35.01	4.44	.62	-0.82	194

The most notable aspects of the descriptive statistics for the subscale scores is the generally high level of (negative) skew; four of the scales also have high levels of kurtosis. These indications of nonnormality are due, in turn, to the extreme skew of the individual items.

Table 9.
Item Analysis of Job Involvement Subscale.

	SCALE MEAN IF ITEM DELETED	SCALE VARIANCE IF ITEM DELETED	CORRECTED ITEM-TOTAL CORRELATION	SQUARED MULTIPLE CORRELATION	ALPHA IF ITEM DELETED
SC1	43.53	20.95	.085	.036	.640
SC7	43.64	19.54	.319	.247	.559
SC13	43.56	20.37	.342	.276	.558
SC22	43.40	19.73	.438	.282	.536
SC27	44.02	17.72	.446	.266	.516
SC29	43.50	18.73	.368	.241	.544
SC39	43.88	19.64	.174	.096	.614
SC45	43.55	19.50	.372	.176	.546

ALPHA = .5984

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Table 10.
Item Analysis for Revised Job Involvement Subscale

	SCALE MEAN IF ITEM DELETED	SCALE VARIANCE IF ITEM DELETED	CORRECTED ITEM-TOTAL CORRELATION	SQUARED MULTIPLE CORRELATION	ALPHA IF ITEM DELETED
SC7	31.30	12.25	.361	.237	.647
SC13	31.23	12.73	.432	.267	.625
SC22	31.06	12.50	.486	.280	.610
SC27	31.68	11.05	.451	.240	.614
SC29	31.17	11.77	.383	.227	.640
SC45	31.22	12.80	.337	.140	.653

ALPHA = .6735

Table 9 contains the reliability analysis for items in the job involvement subscale. The columns labeled "Scale Mean if Item Deleted" and "Scale Variance if Item Deleted" are self-explanatory. The column labeled "Corrected Item-Total Correlation" contains the correlation between the item and the total score that would be obtained from summing the remaining items in the subscale. The "Square Multiple Correlation" refers to the squared multiple correlation obtained from predicting the item score from the remaining items in the scale. The "Alpha if Item Deleted" is the value of Cronbach's coefficient alpha that would be obtained if that item were omitted from the scale.

Items 1 and 39 had low item-total correlations, and were omitted from further analyses. The remaining items had reasonably high item-total correlations and were retained in the scale. Table 10 shows the item analysis of the revised subscale. With items 1 and 39 omitted, the subscale had a reliability of .6735.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Table 11.
Item Analysis of Challenge Subscale.

	SCALE MEAN IF ITEM DELETED	SCALE VARIANCE IF ITEM DELETED	CORRECTED ITEM-TOTAL CORRELATION	SQUARED MULTIPLE CORRELATION	ALPHA IF ITEM DELETED
SC2	39.54	30.91	.439	.323	.740
SC8	40.53	27.87	.488	.331	.735
SC14	39.73	27.55	.664	.571	.696
SC19	38.81	35.96	.200	.078	.772
SC26	39.62	29.05	.669	.544	.702
SC33	39.28	31.40	.570	.532	.723
SC40	40.37	31.80	.214	.125	.799
SC46	39.32	31.39	.676	.604	.715

ALPHA = .7624

Table 11 contains the reliability analysis for items in the challenge subscale. The reliability of the challenge subscale was .76. Most items had very high item-total correlations; items 19 and 40 had only modest item-total correlations, but were retained in the subscale.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Table 12.
Item Analysis of Competence Subscale.

	SCALE MEAN IF ITEM DELETED	SCALE VARIANCE IF ITEM DELETED	CORRECTED ITEM-TOTAL CORRELATION	SQUARED MULTIPLE CORRELATION	ALPHA IF ITEM DELETED
SC3	50.74	16.70	.219	.085	.631
SC9	51.50	15.45	.321	.137	.602
SC15	50.78	16.40	.225	.103	.632
SC21	50.64	18.54	.314	.190	.608
SC28	51.05	15.54	.445	.279	.564
SC34	50.74	17.35	.391	.207	.588
SC37	51.15	16.86	.267	.193	.613
SC43	50.74	17.73	.478	.299	.584
SC49	50.91	17.78	.431	.308	.588

ALPHA = .6295

Table 12 contains the reliability analysis for items in the competence subscale. The reliability of the competence subscale was .63. The item-total correlations were all reasonably high, ranging from .22 to .48. All items were retained in this subscale for further analyses.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Table 13
Item Analysis of Coworkers Subscale

	SCALE MEAN IF ITEM DELETED	SCALE VARIANCE IF ITEM DELETED	CORRECTED ITEM-TOTAL CORRELATION	SQUARED MULTIPLE CORRELATION	ALPHA IF ITEM DELETED
SC4	41.98	18.49	.317	.152	.5875
SC11	42.30	17.36	.247	.099	.6204
SC17	42.19	19.75	.177	.057	.6254
SC24	42.17	18.06	.474	.245	.5514
SC30	42.64	17.76	.304	.146	.5927
SC36	42.30	19.45	.379	.187	.5802
SC42	42.25	19.00	.425	.212	.5693
SC48	42.79	17.14	.356	.135	.5759

ALPHA = .6199

Table 14.
Item Analysis for Revised Coworkers Subscale

	SCALE MEAN IF ITEM DELETED	SCALE VARIANCE IF ITEM DELETED	CORRECTED ITEM-TOTAL CORRELATION	SQUARED MULTIPLE CORRELATION	ALPHA IF ITEM DELETED
SC4	35.80	15.48	.345	.148	.585
SC11	36.11	14.62	.246	.099	.635
SC24	35.99	15.29	.482	.244	.550
SC30	36.45	14.98	.308	.146	.600
SC36	36.11	16.77	.357	.172	.590
SC42	36.06	16.23	.422	.209	.573
SC48	36.61	14.54	.344	.127	.587

ALPHA = .6254

Table 13 contains the reliability analysis for items in the coworkers subscale. Except for item 17, which had an item-total correlation of .18, all items in the coworkers scale had reasonably high item-total correlations, ranging from .25 to .47. Item 17 was removed from the subscale, after which the reliability was .63. Table 14 contains the item analysis statistics for the revised subscale.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Table 15
Item Analysis of Boss Subscale

	SCALE MEAN IF ITEM DELETED	SCALE VARIANCE IF ITEM DELETED	CORRECTED ITEM-TOTAL CORRELATION	SQUARED MULTIPLE CORRELATION	ALPHA IF ITEM DELETED
SC5	48.21	34.29	.523	.327	.734
SC12	48.26	35.14	.501	.370	.738
SC18	47.99	33.36	.467	.276	.742
SC23	47.76	39.65	.288	.191	.765
SC32	48.96	29.52	.503	.354	.743
SC35	48.08	36.63	.486	.389	.744
SC38	47.99	35.12	.499	.297	.739
SC44	48.01	34.85	.597	.382	.729
SC50	49.01	32.85	.361	.197	.768

ALPHA= .7669

Table 15 contains the reliability analysis for items in the boss subscale. Items on the boss subscale all had reasonably high item-total correlations, ranging from .29 to .60. The reliability of the boss subscale was .77.

Table 16
Item Analysis of Control Subscale

	SCALE MEAN IF ITEM DELETED	SCALE VARIANCE IF ITEM DELETED	CORRECTED ITEM-TOTAL CORRELATION	SQUARED MULTIPLE CORRELATION	ALPHA IF ITEM DELETED
SC6	39.41	21.55	.323	.150	.434
SC10	40.05	24.02	-0.011	.043	.561
SC16	40.82	18.58	.329	.198	.415
SC20	39.45	21.21	.296	.231	.439
SC25	39.72	20.14	.422	.243	.395
SC31	39.88	21.04	.236	.198	.460
SC41	40.58	21.96	.104	.083	.521
SC47	39.42	23.21	.259	.078	.462

ALPHA = .4976

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Table 17.
Item Analysis for Revised Control Subscale

	SCALE MEAN IF ITEM DELETED	SCALE VARIANCE IF ITEM DELETED	CORRECTED ITEM-TOTAL CORRELATION	SQUARED MULTIPLE CORRELATION	ALPHA IF ITEM DELETED
SC6	28.74	16.34	.291	.132	.582
SC16	30.15	13.00	.365	.155	.559
SC20	28.80	15.18	.356	.240	.557
SC25	29.07	14.27	.474	.251	.509
SC31	29.23	14.17	.363	.186	.554
SC47	28.75	17.87	.215	.059	.605

ALPHA = .6077

Table 16 contains the reliability analysis for items in the control subscale. In the control subscale, items 10 and 41 had low item-total correlations, and were removed from the subscale in the remaining analyses. With those items removed, the subscale consisting of the remaining 6 items had a reliability of .61, compared with .50 for the original subscale. Table 17 contains the item analysis statistics for the revised subscale.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Table 18.
Reliabilities (Cronbach's alpha) of Work Self-Concept Subscales

Subscale	Reliability
Job Involvement	.5984
Job Involvement*	.6735
Challenge	.7624
Competence	.6295
Coworker	.6199
Coworker*	.6254
Boss	.7669
Control	.4976
Control*	.6077

Note: Revised scales are denoted by asterisks

Table 18 summarizes the reliability coefficients of the original six subscales and the revised job involvement, coworker, and control subscales. The reliabilities of the revised subscales are all between .6 and .8.

Table 19.
Descriptive Statistics for Measures Other Than Work Self-Concept

Variable	Mean	Std Dev	Kurtosis	Skewness	N
ROSEN	60.46	7.56	.38	-.82	195
MARSHSDQ	28.89	4.97	.57	-.96	194
JDIW	11.59	3.72	.29	-.72	197
JDIS	12.78	4.56	.18	-.96	197
JDIC	13.16	4.25	.74	-1.10	197
JDIJ	13.81	3.95	2.63	-1.60	197
POSAFF	37.77	6.47	1.16	-0.72	190
NEGAFF	16.47	6.78	6.52	2.05	188
SD	5.93	2.73	-0.71	-0.32	197

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Table 19 contains descriptive statistics for the remaining scales used in this study. Table 20 contains the reliabilities of the remaining scales. Most of these scales have reasonably high reliabilities, and item-total correlations (not reported here) indicate that the items are performing as expected.

Table 20.
Reliability of Additional Scales

Scale	Cronbach alpha
Rosenberg Self Esteem Scale	.7969
Marsh Self Description Questionnaire	.8054
Job Description Inventory	
Work on Present Job Subscale	.8046
Supervision Subscale	.8797
Coworkers Subscale	.8750
General Subscale	.8971
Positive Affectivity Scale	.8929
Negative Affectivity Scale	.8951
Marlowe-Crowne Social Desirability Scale	.7270

Item analyses of the four Job Description Inventory subscales used in this study (work on present job, supervision, coworkers, and job in general) showed that all but a few items had reasonably high item-total correlations. Each of the subscales had high reliabilities, which ranged from .80 to .90. The item-total correlations for items in the positive and negative affectivity scales were all high, as were the reliabilities for each scale.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Table 21.
Correlations Among Work Self-Concept Subscales

	JOBINV CONTROL	CHAL	COMPET	COWORK	BOSS	
JOBINV	1.0000 (182) P= .					
CHAL	.3337 (182) P= .000	1.0000 (182) P= .				
COMPET	.5972 (182) P= .000	.3236 (182) P= .000	1.0000 (182) P= .			
COWORK	.3506 (182) P= .000	.1164 (182) P= .059	.3942 (182) P= .000	1.0000 (182) P= .		
BOSS	.4762 (182) P= .000	.2880 (182) P= .000	.4778 (182) P= .000	.5087 (182) P= .000	1.0000 (182) P= .	
CONTROL	.5432 (182) P= .000	.2988 (182) P= .000	.4880 (182) P= .000	.4020 (182) P= .000	.4626 (182) P= .000	1.0000 (182) P= .

(Coefficient / (Cases) / 1-tailed Significance)

Correlations among the work self-concept subscales range from small (.12) to moderate (.60). The sizes of these correlations suggest that while many of the subscales have something in common, each taps a somewhat different construct. The second-order factor analyses investigate this issue further.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Table 22.
Correlations Between Work Self-Concept Subscales and Other Scales

	JOBINV	CHAL	COMPET	COWORK	BOSS	CONTROL
ROSEN	.2961	.0673	.2716	.2222	.1444	.0899
	(173)	(173)	(173)	(173)	(173)	(173)
	P= .000	P= .189	P= .000	P= .002	P= .029	P= .120
MARSH	.1779	.1421	.2520	.1511	.1241	.0284
	(173)	(173)	(173)	(173)	(173)	(173)
	P= .010	P= .031	P= .000	P= .024	P= .052	P= .355
JDIW	.2326	.0554	.1390	.1075	.0933	-.0443
	(173)	(173)	(173)	(173)	(173)	(173)
	P= .001	P= .234	P= .034	P= .080	P= .111	P= .281
JDIS	.0387	.0245	.0844	.2628	.2845	.0093
	(173)	(173)	(173)	(173)	(173)	(173)
	P= .307	P= .375	P= .135	P= .000	P= .000	P= .452
JDIC	.0127	.0045	.0687	.3023	.0195	.0792
	(173)	(173)	(173)	(173)	(173)	(173)
	P= .434	P= .477	P= .184	P= .000	P= .399	P= .150
JDIJ	.1750	-.1034	.0756	.0958	.0868	-.0685
	(173)	(173)	(173)	(173)	(173)	(173)
	P= .011	P= .088	P= .161	P= .105	P= .128	P= .185
POSAFF	.3167	.2059	.3606	.2455	.3378	.2261
	(173)	(173)	(173)	(173)	(173)	(173)
	P= .000	P= .003	P= .000	P= .001	P= .000	P= .001
NEGAFF	-.0736	.0010	.0188	.0135	.1295	.0079
	(173)	(173)	(173)	(173)	(173)	(173)
	P= .168	P= .495	P= .403	P= .430	P= .045	P= .459
SD	.0349	-.0086	.0091	.0899	.0410	-.1785
	(173)	(173)	(173)	(173)	(173)	(173)
	P= .324	P= .456	P= .453	P= .120	P= .296	P= .009

(Coefficient / (Cases) / 1-tailed Significance)

Correlations between subscales of work self-concept and the remaining measures were generally low. In particular, there appears to be little overlap with the Job Description Inventory subscales. Negative affectivity is not related even moderately to any work self-concept subscale, while positive affectivity is moderately related to the

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

WSC subscales. There is no relationship between scores on the Marlowe-Crowne social desirability scale and any of the WSC subscales except control, and that correlation is low.

Table 23.
Correlations Among Measures Other Than Work Self-Concept

	ROSEN	MARSH	JDIW	JDIS	JDIC	JDIJ
ROSEN	1.0000 (185) P= .					
MARSH	.8188 (185) P= .000	1.0000 (185) P= .				
JDIW	.2717 (185) P= .000	.2540 (185) P= .000	1.0000 (185) P= .			
JDIS	.0421 (185) P= .285	.0182 (185) P= .403	.3387 (185) P= .000	1.0000 (185) P= .		
JDIC	.0489 (185) P= .255	.0137 (185) P= .427	.3266 (185) P= .000	.2737 (185) P= .000	1.0000 (185) P= .	
JDIJ	.2373 (185) P= .001	.2021 (185) P= .003	.7112 (185) P= .000	.4343 (185) P= .000	.3040 (185) P= .000	1.0000 (185) P= .
POSAFF	.4020 (185) P= .000	.3933 (185) P= .000	.2805 (185) P= .000	.0960 (185) P= .097	.0872 (185) P= .119	.1826 (185) P= .006
NEGAFF	-.2804 (185) P= .000	-.3539 (185) P= .000	-.2664 (185) P= .000	-.1041 (185) P= .079	-.1014 (185) P= .085	-.2501 (185) P= .000
SD	.3157 (185) P= .000	.3515 (185) P= .000	.2085 (185) P= .002	.1435 (185) P= .026	.0642 (185) P= .193	.1509 (185) P= .020

(Coefficient / (Cases) / 1-tailed Significance)

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

	POSAFF	NEGAFF	SD
POSAFF	1.0000 (185) P= .		
NEGAFF	-.0211 (185) P= .388	1.0000 (185) P= .	
SD	.2014 (185) P= .003	-.1573 (185) P= .016	1.0000 (185) P= .

(Coefficient / (Cases) / 1-tailed Significance)

The correlation between the Rosenberg Self Esteem Scale and the Marsh SDQ was .82, indicating that these scales are probably measuring the same construct. None of the correlations between the Rosenberg or Marsh self-concept measures and the JDI subscales exceeded .3. The correlations among JDI subscales were generally modest, except for that between work on present job and job in general, which was .71. The Rosenberg and Marsh scales were moderately correlated with positive and negative affectivity, as were the JDI job in general and work on present job subscales. Both the Rosenberg and Marsh scales, as well as three of the four JDI subscales, had significant correlations with social desirability.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Table 24.
Eigenvalues for Work Self-Concept Subscales, and Tests of Fit of One-Factor Models for Each Subscale

	Job Involve	Chall	Compet	Cowork	Boss	Control
Eigen-Value						
1	2.32	3.47	2.66	2.33	3.40	2.06
2	1.08	1.03	1.16	1.01	1.10	1.11
3	.82	.97	.97	.89	1.04	.88
4	.74	.80	.94	.79	.74	.72
5	.51	.63	.80	.70	.66	.71
6	.50	.52	.73	.63	.62	.50
7		.31	.70	.61	.58	
8		.23	.51		.45	
9			.47		.37	
LR	36.22	82.36	47.42	12.50	73.82	24.60
df	9	20	27	14	27	9
p	.000	.000	.009	.566	.000	.003
S-L	.129	.122	.062	.000	.098	.099
GFI	.94	.91	.95	.98	.92	.96
AGFI	.86	.84	.92	.96	.86	.90
RMS Resid	.07	.06	.06	.04	.07	.06

Note: The row labeled LR is the likelihood-ratio chi-square statistic for testing a one-factor model for each subscale; df is the degrees of freedom, and p is the associated probability level. Other measures of fit are S-L, the Steiger-Lind index, GFI, the Goodness-of-Fit index, AGFI, the Adjusted Goodness-of-Fit Index, and RMS Resid, the Root-Mean-Square Standardized Residual.

One-factor models. Maximum likelihood factor analysis was used to fit a one-factor model to the items in each of the six subscales. Because most of the items were heavily skewed, the validity of the likelihood-ratio test of the model is suspect. As shown in Table 24, for only one of the subscales, coworkers, did the one-factor model fit the data well by this criterion. Other measures of fit are also presented in Table 24; these are likewise affected by the nonnormality of the items, but should provide useful information. Even when the distributions of the variables is normal, each of these indices must be interpreted somewhat subjectively. A Steiger-Lind index of less than .05 is considered to show excellent fit; between .05 and .10 is good; and over .10 the

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

fit is questionable. If the GFI or AGFI is less than .90, the fit can often be improved. The root-mean-square residual is a measure of the average difference between an observed correlation and the correlation predicted by the model; values under .05 are usually considered very good, and values under .10 are often considered acceptable. Given the relatively large values of the GFI, and small values of the residuals, along with the nonnormality of the variables, the one-factor model does not appear to be seriously wrong for any of the six scales, although the challenge and job involvement scales have somewhat low Steiger-Lind and AGFI indices.

Another useful indicator of the dimensionality of the subscales is the set of eigenvalues of the correlation matrix among the subscale items. The eigenvalues for each subscale are displayed in Table 24. In each case, the first eigenvalue is much larger than the second, and the second through last form a shallow sloping scree line. This indicates that there is one dominant factor in each subscale, although in some cases there may be one or more additional factors of relatively minor importance.

Second-Order Factor Analyses

The work self-concept subscale scores were factor analyzed using the SPSS FACTOR procedure; as with the analysis of subscale items, maximum likelihood estimation (ML) was used. The eigenvalues are displayed in Table 25, and the factor loadings and communalities for a one-factor model are displayed in Table 26.

The likelihood ratio statistic indicates that a one-factor model would be rejected at the .05 level; there is only moderate skew in the subscale totals (as opposed to the individual items), so this result must be taken seriously. The eigenvalues, however, are consistent with a one-factor model; the first eigenvalue is much larger than the second, and the second through sixth show a shallow scree line.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Table 25
Exploratory Second-Order Factor Analysis of Work Self-Concept Subscales

Factor	Eigen value	Pct of Var	Cum Pct
1	3.07081	51.2	51.2
2	.91399	15.2	66.4
3	.65321	10.9	77.3
4	.51910	8.7	86.0
5	.45838	7.6	93.6
6	.38450	6.4	100.0

Table 26
Factor Loadings for One-Factor Exploratory Factor Analysis of Work Self-Concept Subscales

Subscale	Loading	Communality
JOBINV	.755	.466
CHAL	.414	.164
COMPET	.740	.441
COWORK	.551	.315
BOSS	.677	.408
CONTROL	.694	.391

Note: Test of fit of a one-factor model: Chi-square Statistic = 19.2282, df =9, p = .0233

A two-factor model was fit to see if an additional factor would lead to an interpretable result. Although the likelihood ratio statistic was small (1.5552, df = 4, p = .8168), indicating a good fit, the loadings (even after rotation) were not consistent with two clear factors. Instead, five of the scales loaded on one factor, while the coworker subscale had a low loading on that factor. The coworker subscale had a high loading on the second factor, while the other variables had low loadings on the second factor. Therefore the coworker subscale was removed, and the remaining five subscales were factor analyzed. The likelihood ratio statistic was 1.5022 with 5 degrees of freedom (p =.9128), indicating an excellent fit of the one-factor model to the five subscales. The factor loadings for this model are presented in Table 27.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Table 27
Factor Loadings for One Factor Model of Work Self-Concept Subscales, Omitting Coworker Subscale

Subscale	Loading	Communality
JOBINV	.784	.615
CHAL	.434	.188
COMPET	.745	.555
BOSS	.636	.404
CONTROL	.686	.471

In order to determine whether work self-concept is distinct from general self-concept, a factor analysis was performed using the five work self-concept subscales that fit a one factor model, along with the two measures of general self-concept (the Rosenberg and Marsh scales). A test of the one-factor model for all seven scales was rejected (Likelihood-ratio statistic = 188.69, df=14, $p < .001$); a two-factor exploratory model fit well (Likelihood-ratio statistic = 12.31, df = 8, p = .134). The parameter estimates after an oblique rotation (OBLIMIN on SPSS) are presented in Table 28.

Table 28
Two-factor Solution for Five Work Self-Concept Subscales and Two General Self-Concept Scales

Variable	Loadings 1	2	Communality
Job Involvement	.75	.11	.62
Challenge	.45	-0.03	.19
Competence	.71	.11	.55
Boss	.64	-0.03	.40
Control	.71	-0.08	.48
Rosenberg	.02	1.00	1.00
Marsh SDQ	-0.01	.80	.64

Note: The correlation between the factors was .22.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

The results are clearly consistent with the theory that work self-concept is distinct from general self-concept. There are two factors, with the work self-concept scales loading on one factor, and the general self-concept scales loading on the other factor. The low correlation between the factors shows that the two constructs are not strongly related. The only puzzling part of the factor solution is that the loading of the Rosenberg scale on the general self-concept factor was (within rounding error) 1.00, as was the communality. This is inconsistent with the fact that the reliability of the Rosenberg scale was .80, well below 1.

The analyses reported above are, in effect, second-order factor analyses because each observed work self-concept subscale score is estimating a latent construct, and each of these, in turn, is measuring a higher-order construct of generalized work self-concept. If there were two or more measures of each work self-concept subscale, then an overall analysis could be done to test the model shown in Figure 1.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

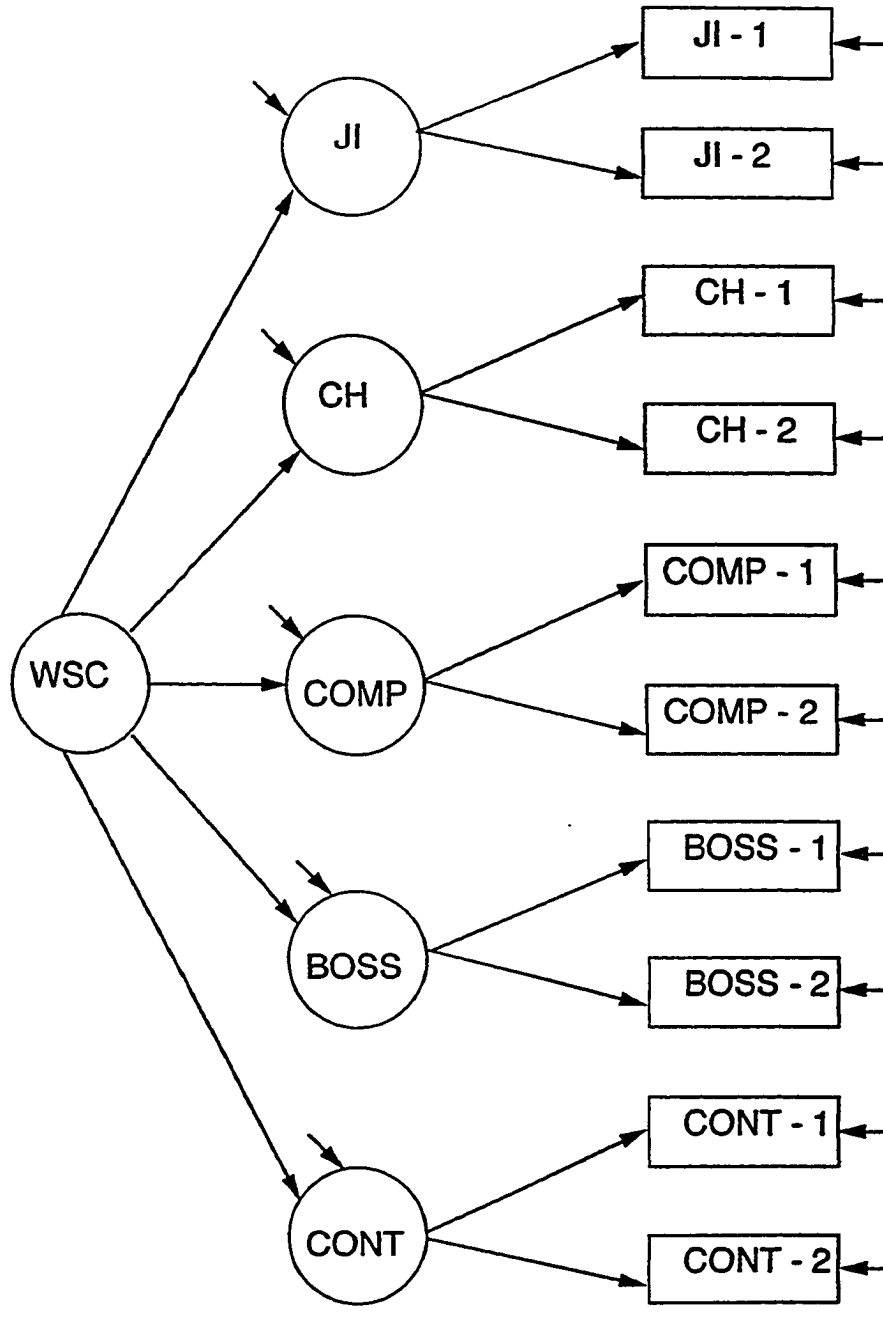

Figure 1. Proposed second-order factor analysis with subscale items split to form two measures of each subscale

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

In this figure, circles represent latent (unobserved) variables, and squares represent observed variables. One advantage of such a model is that it enables the analysis of the variance of each observed variable into three parts: (a) variance due to a general work self-concept factor, (b) variance due to a specific component of work self-concept (job involvement, challenge, etc.), and (c) error variance (see Rindskopf & Rose, 1988). This decomposition can also be used to estimate the extent to which each component of work self-concept is distinct, and also the extent to which each component is merely measuring the more general higher-order work self-concept factor.

One way to estimate such a model is to divide the items in each subscale into two sets. Unfortunately, the skewness of the items, and the small number of items for each subscale, made this impractical. A second strategy was followed, using each subscale score as the only indicator of the corresponding first-order factor. In this model, the unique variance in each first component factor and the residual variances of the observed variables are not estimable. To solve this problem, the proportion of variance assigned as the error variance for each component of work self-concept was estimated by 1 minus the reliability of the subscale. The confirmatory model, diagrammed in Figure 2, corresponding to the exploratory model was tested using the LISREL computer program. The input for this program is contained in Appendix I.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

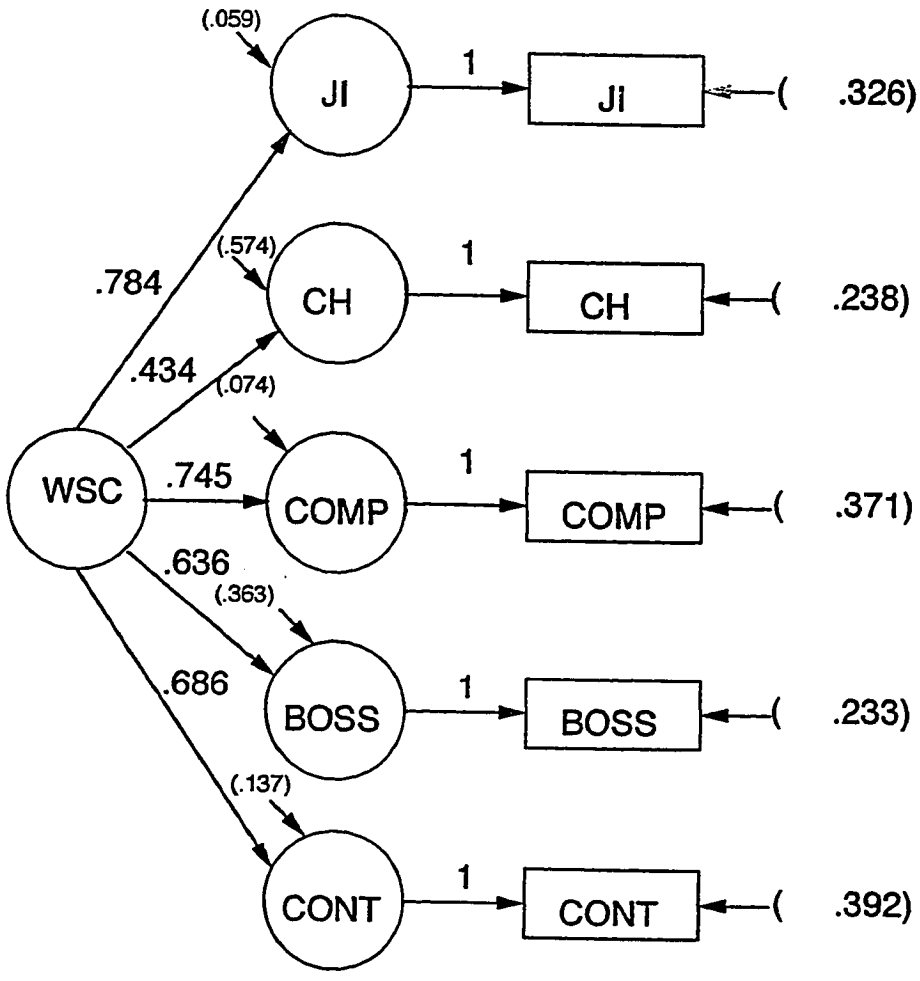

Figure 2. Actual second-order factor analysis using subscale scores as only indicators of corresponding first-order factor, and error variance fixed at one minus reliability

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

The results of this confirmatory second-order factor analysis are contained in Table 29. The model fits quite well: the likelihood-ratio chi-square is 1.66 (df = 5, p = .894), and the adjusted goodness-of-fit index is .990. The values in the column labeled "Beta" are the loadings of the first-order factors on the second-order factor. The column labeled "Measure Validity" (Rindskopf & Rose, 1988) contains the proportion of total variance of each observed variable due to the second-order factor alone; these values are the squares of the factor loadings. (Note also that these are the same as the communalities in the analysis reported in Table 27.) If, for variable i, T(i) represents the total variance, G(i) represents the variance due to the second-order (general) work self concept construct, S(i) represents the variance due to the specific work self-concept construct, and E(i) represents the error variance, then the measure validity is computed as G(i)/T(i).

The column labeled "Reliability" is the proportion of total variance of each observed variable due to either the first-order factor or second-order factor; here the reliabilities are not estimated, but are fixed because the error variances were fixed. The reliability is computed as (G(i) + S(i))/T(i). The column labeled "Method Validity" (Rindskopf & Rose, 1988) contains the proportion of variance of each first-order factor due to the second-order factor, and is computed as G(i)/(G(i) + S(i)). The method validities tell how well each first-order factor measures the second-order factor; that is, it answers the question: How well does the first-order factor measure the second-order factor?

The method validities range from a low of .247 for challenge to a high of .914 for job involvement. This indicates that some work self-concept subscales are measuring mostly unique aspects of the component construct, while others are mainly tapping the more general second-order construct. Another perspective on this issue is obtained through an examination of the correlation matrix among the factors, shown in the bottom part of Table 29. The correlations between the general second-order work self-

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

concept factor (labeled WORK S C in the table) and three subscales (job involvement, competence, and control) are very high, while the analogous correlation for the challenge and boss subscales are somewhat lower. The correlation of .90 between the job involvement and competence factors shows that these constructs are not clearly separated in this group of respondents (which is why they are highly correlated with the second-order factor). Some other correlations among the factors are high but well below 1, indicating that many of the constructs are distinct from each other. (The correlations among first-order factors are equivalent to correlations corrected for attenuation.)

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Table 29
Second-Order Confirmatory Factor Analysis Results

Factor	Beta	Measure Validity	Reliability	Method Validity
JOBINV	.784	.615	.674	.914
CHALL	.434	.188	.762	.247
COMPET	.745	.555	.629	.882
BOSS	.636	.404	.767	.528
CONTROL	.686	.471	.608	.775

Correlations Among Factors

	JOBINV	CHALL	COMPET	BOSS	CONTROL	W S C
JOBINV	1.000					
CHALL	.475	1.000				
COMPET	.898	.467	1.000			
BOSS	.694	.361	.682	1.000		
CONTROL	.841	.438	.827	.639	1.000	
WORK S C	.956	.497	.939	.726	.880	1.000

Note: The labels for variables are defined as follows:
JOBINV: Job Involvement
CHALL: Challenge
COMPET: Competence
BOSS: Boss
CONTROL: Control
WORK S C: General work self-concept

One shortcoming of the second-order model described above is that it involves only five of the six work self-concept subscales. A second model was devised and tested that involves all six subscales. The model has two second-order factors, which can be described as primarily representing Antonovsky's meaningfulness and manageability components. The meaningfulness component can be described generally as those subscales that involve the internal environment: job involvement, challenge,

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

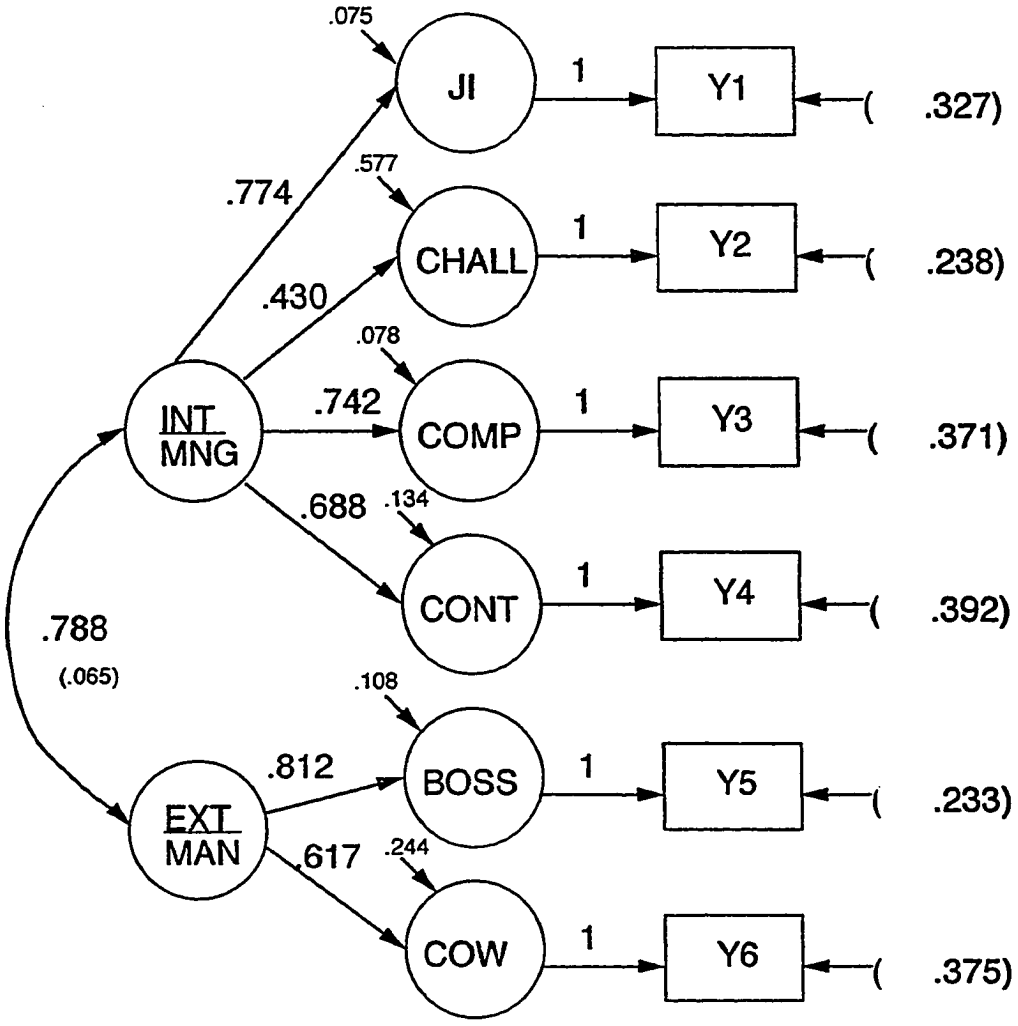

Figure 3. Revised second-order factor analysis model

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

competition, and control. The manageability component emphasizes stimuli produced by the external environment: the boss and coworker subscales measure this component.

The model is diagrammed in Figure 3. The second-order factor loadings and correlation are contained in Table 30. The loadings are all relatively high. The correlation between factors, while high, is significantly lower than 1; thus the factors are distinct. The fit of the model is excellent.

Table 30
Second-Order Factor Loadings for Confirmatory Model 2

	2nd-Order Factor	
1st-Order Factor	MEAN	MNGE
JOBINV	.774	.000
CHALL	.430	.000
COMPET1	.742	.000
CONTROL	.688	.000
BOSS	.000	.812
COWORK	.000	.617

Notes: Factor correlation = .778;
Likelihood-Ratio Goodness-of-Fit = 7.02 (df = 8; p = .534)

The decomposition of the variance of each observed measure is presented in Table 31. The first-order factors of job involvement, competence, and control are relatively pure measures of the second-order factor, while challenge is clearly distinct from the second-order factor. Some of these results can be seen more clearly in the correlations among factors, shown in Table 32. The correlations between the second-order factor and the first-order factors of job involvement, competence, and control are close to 1, while that for challenge is relatively low.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Table 31
Variance Decomposition for Second-Order Factor Analysis Model 2

Measure	B	B^2	U	E	REL	METH
JOBINV	.774	.599	.075	.327	.674	.889
CHALL	.430	.185	.577	.238	.762	.243
COMPET1	.742	.551	.078	.371	.629	.875
CONTROL	.688	.473	.134	.392	.608	.780
BOSS	.812	.659	.108	.233	.767	.860
COWORK	.617	.381	.244	.375	.625	.609

Note: B is the loading of the first-order factor on the second-order factor; B-squared is the measure validity, U is the unique (specific) variance of the first-order factor; E is the measurement error variance; REL is the reliability of the observed measure; METH is the method validity (see text for explanation).

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Table 32
Correlations Among Factors for Second-Order Factor Model 2

Correlations Between First-Order Factors and Second-Order Factors

	2nd-Order Factor	
1st-Order Factor	MEAN	MNGE
JOBINV	.943	.734
CHALL	.493	.383
COMPET	.936	.728
CONTROL	.883	.687
BOSS	.722	.927
COWORK	.608	.780

Correlations Among First-Order Factors

	JOBINV	CHALL	COMPET	CONTROL	BOSS	COWORK
JOBINV	1.000					
CHALL	.464	1.000				
COMPET	.882	.461	1.000			
CONTROL	.832	.435	.826	1.000		
BOSS	.680	.356	.675	.637	1.000	
COWORK	.573	.299	.568	.536	.724	1.000

Relationship Between Work Self-Concept and Other Variables

Analyses of variance were performed to see whether work self-concept was related to any of the categorical demographic variables. Multivariate analyses of variance were initially performed, using the six work self-concept scales as dependent variables. There was no significant effect for sex, marital status, number of people supervised, or education. Significant effects for occupational group (i.e., nurse, teacher, etc.) and ethnicity were followed up by univariate tests. For group, only job involvement was significant, while for ethnic status, no subscale reached significance. The small number of significant results, together with a lack of pattern for those that were

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

significant, suggests that there are no major differences in work self-concept across a number of demographic characteristics.

Table 33 contains the correlations between the scores on the six work self-concept subscales and age, length of time working in the current job title (labeled WORK1 in the table), length of time employed (WORK2), days absent from work due to illness (ILLNESS), and days absent from work for reasons other than illness (ABSENT). Only two out of 30 correlations was significant (a correlation of approximately .19 would be significant at the .05 level). This is barely above the 5 percent of such correlations that would be expected by chance to be significant if all population values were zero.

Table 33
Correlations Between Work Self-Concept Subscales and Other Variables

	AGE	WORK1	WORK2	ILLNESS	ABSENT
JOBINV	.029	-0.039	-0.016	.025	.057
CHAL	-0.272*	-0.149	-0.221*	-0.123	-0.035
COMPET	-0.130	-0.039	-0.026	-0.100	.078
COWORK	-0.018	-0.108	-0.032	.021	-0.022
BOSS	-0.041	-0.051	-0.003	.058	.009
CONTROL	-0.076	-0.080	.022	.072	-0.113

N of cases: 118; 1-tailed Signif: * - .01; ** -.001

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Discussion

The results of this research provide strong support for each of the hypotheses, although the factor structure of work self-concept may be different than originally proposed. Work self-concept has been demonstrated to be a theoretically derived and multifaceted construct that is distinct from job satisfaction, negative affectivity, social desirability, and general self-concept. The results also provide empirical evidence that there is no substantive difference in what is being measured by general self-concept and self-esteem measures; this provides empirical support for the use of the Rosenberg self-esteem scale as a general self-concept measure in this study.

Internal Validity

Reliability. Most of the work self-concept scales have moderately high reliabilities (Cronbach's alpha), ranging from .62 to .77. This indicates that the items are generally performing as intended, although the extreme negative skew among the responses to most of the items reveals that the research participants tended to respond to items at the top end of the scale. Such a response tendency is typically indicative of social desirability; however, all but one of the work self-concept scales are not correlated with the Crowne-Marlowe social desirability scale. Since almost everyone scored at the high end of the scales, there are no apparent patterns among the characteristics of the participants that might explain the negative skew of the subscale scores. I suspect that the respondents are probably a highly motivated and self-aware group, which may account for the generally high scores.

This explanation may be rooted in the predominantly well educated, and apparently career-oriented, female sample. Research on dual-career couples (Rapoport & Rapoport, 1972) provides evidence that suggest that women tend to be highly committed and involved in their jobs as an antidote to dilemmas of identity that typify

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

working women. Rapoport and Rapoport (1972) state that dilemmas of identity stem from the socio-cultural definitions of work and family as intrinsically masculine and feminine and that "femininity" is centered on domestic-related responsibilities. Although much has changed since 1972, a general review of the literature in this area indicates that women still struggle with multiple role stresses and role conflict (Barnett & Baruch, 1985). Women who have attained a high level of education and are in career jobs (as opposed to factory and other similar work) may tend to be those who have at least partially counteracted, with strong positive work self-concepts, the typical forces that work against them.

There is another issue regarding gender differences that warrants discussion. Since the sample used for this study was mostly female, a question arises with respect to whether there might be significant differences in the structure of men and women's work self-concept. Based on a review of the general self-concept literature (Wylie, 1974; Marsh, Barnes, Cairns, & Tidman, 1984) there appears to be neither a theoretical reason nor an empirical basis to expect a gender difference in the structure of work self-concept.

Whether or not there might be a significant gender effect on mean differences in general work self-concept as well as subscale scores is not related to the hypotheses underlying this research and is harder to predict; relevant research findings in this area are inconclusive. Feingold (1994) completed a meta-analysis of gender differences in personality and found no consistent overall sex difference in locus of control and only a very small effect size for mean differences in self-esteem. On the other hand, Marsh, Barnes, Cairns, and Tidman (1984) found sex differences among preadolescent children for two factors included in the Shavelson et al. (1976) multifaceted model of self-concept (boys' self-concepts were higher in physical abilities; girls were higher in reading). Overall, this does not directly translate into any prediction about work self-concept differences among men and women, especially since differences in context

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

(work versus school) and social and cognitive development are likely to affect work self-concept. Future research on work self-concept, which should include more equivalent representation of male and female workers, could provide the empirical evidence still needed in this area.

Subscales. Correlations among the work self-concept scales indicate that, as expected, the scales are primarily moderately related, but distinct from each other. Since each of the scales is measuring an aspect of a single construct, there should be some relationship among them. On the other hand, it was proposed that the scales measure distinct components of work self-concept; hence, only low to modest correlations among the work self-concept scales were anticipated. It was also expected and empirically demonstrated that there is primarily one dominant factor in each subscale, although in this sample, the job involvement, control, and competence facets are measuring essentially the same second-order factor. Evidence for multiple facets of work self-concept is consistent with one of the fundamental premises of this research, which emanated from the theoretical work of Marsh and Shavelson (1985); they defined self-concept as multifaceted in that people categorize information that they have about themselves. Marsh and Shavelson (1985) also provided empirical evidence to support the separation of self into categories and, therefore, the multifaceted interpretation of self-concept.

Structure of work self-concept. The results provide strong support for a second-order factor structure, although only tentative conclusions about the structure of work self-concept are warranted. One of two second-order confirmatory factor analyses (model presented in Fig. 3) indicated that job involvement, competence, and control are clearly measuring the same second-order factor. The facet of challenge, although it is moderately related to the first second-order factor, appears to be also measuring something unique, in addition to the second-order factor in the model. The

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

boss relations and co-worker facets had fairly high correlations with a different second-order factor.

The identification of a probable two-factor second-order factor structure does not mean that the facets of job involvement, control, competence, and challenge should be collapsed and measured as a single variable, nor that the challenge, boss, and co-worker facets should be so measured. Rosenberg (1979) has noted that specific components of self-concept, even those that form global self-concept, will usually more effectively predict behavior than will global self-regard. Although this view has been somewhat controversial, compelling research (Fleming & Watts, 1980; Shavelson & Bolus, 1982; Marsh & Shavelson, 1985) supports it. Marsh & Shavelson (1985) have effectively cast doubt on research that describes self-concept with a single score that is called overall or general self-concept. They concluded that the use of general self-concept, rather than self-concept facets, has led to many of the contradictory findings that abound in self-concept research. Corresponding wake-up calls exist in the job stress literature with respect to the use of unidimensional personality constructs (Jackson & Schuler, 1985). Based on the relevant conclusions of others and the empirical support provided by this research, the multidimensionality of work self-concept should be incorporated in future research.

Structure: integrating theory and results. Two categories of explanation for the apparent factor structure are possible. The cornerstone of both explanations is the manner in which theory was applied to the development of the subscales; mostly, there are differences in emphasis. First, the boss and co-worker scales, although they reflect self-knowledge of the importance, beliefs, and evaluation of oneself, may stress different aspects (than job involvement, competence or control) of the theory that underlies this research. Antonovsky (1987) made a distinction between an individual's internal and external environments. The internal environment primarily includes self-concept, health status, and functioning factors, while the external environmental system

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

is mainly comprised of physical, suprapersonal and social climate factors. Self-knowledge about social acceptability and social competence (important aspects of self-concept according to Byrne, 1984), or the boss and co-worker facets of work self-concept, may primarily represent self-knowledge with respect to one's "external environment", while job involvement, control, and competence may chiefly reflect one's "internal environment".

Antonovsky (1987) also stated that one's sense of coherence partially derives from the extent to which one has a pervasive, enduring, though dynamic, feeling of confidence that one's internal and external environments are structured, predictable, and explicable. Therefore, self-knowledge and perception about all of the proposed facets of work self-concept are still proposed to be important for understanding job stress, although the originally proposed factor structure of the construct may need some revision. Future research should explore this.

Second, the job involvement, control, and competence subscales are mostly consistent with Antonovsky's manageability and meaningfulness components of sense of coherence. In contrast, the boss and co-worker subscales were primarily derived from the manageability component of Antonovsky's theory, in that they are related to self-knowledge about resources both under one's control and the control of legitimate others. Boss and co-worker items also measure self-knowledge consistent with Karasek's Job Content Instrument that was designed to measure, among other things, Karasek's (1979) model of job strain. Work self-concept items developed for the boss and co-worker subscales reflect, in part, issues relevant to work demands that are associated with job dissatisfaction and cardiovascular disease (Karasek, 1981).

While aspects of hardiness, sense of coherence and the job strain model (mostly the Job Content Instrument was used) all contributed to the development of work self-concept, there are variations in theoretical emphasis among the work self-concept facets. This provides a basis for understanding why job involvement, control and

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

competence clearly cohere and form one second-order work self-concept factor (similar to the centrality of "meaningfulness" for Antonovsky), while the boss and co-worker subscales are related to another second-order factor. Also, according to the second confirmatory factor analysis (Fig. 3), challenge may be a distinct, although related, facet of work self-concept.

The facet of challenge is puzzling. The relationship of the work self-concept facets to Antonovsky's components of sense of coherence may provide some insight into why challenge, although it has a moderate association with the "meaningfulness" second-order factor, may represent a unique first-order factor. Again, this is consistent with the previous theoretical discussion of this research in which the compatibility of challenge (change as an interesting incentive) and the need for predictability was compared. Although Antonovsky (1987) emphasized the importance of seeing the world as ordered, predictable, and explicable, Kobasa's (1985) concept of challenge, as originally presented and used in this research, stresses an orientation to change. Combining the somewhat incompatible meanings of Antonovsky's "comprehensibility" component of sense of coherence and Kobasa's "challenge" component of hardiness may have muddied the waters of challenge when it was operationally defined as a facet of work self-concept -- the hybrid subscale may be less correlated with the second-order factor because it represents dueling theories. In contrast, the subscales for job involvement, competence and control reflect the compatible components of Kobasa's theory of hardiness and Antonovsky's theory (e.g., commitment is similar to meaningfulness) and appear to be all measuring one of the two second-order factors, although to varying degrees.

Beyond issues of structure, both initial theoretical concerns (the apparent conflict between aspects Kobasa's theory of hardiness and components of Antonovsky's theory of sense of coherence), as well as the results of this research, have raised questions that spark further theoretical contemplation with respect to challenge. An

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

additional interpretation of the two partially discrepant theoretical views and the results of this research is that although challenge is a distinct facet, it may vary as a function of other facets of work self-concept. That is, it is possible that whether an individual generally welcomes change and views it as an opportunity (i.e., challenge) might depend upon other facets of work self-concept. For example, whether change is viewed as an opportunity might depend upon an individual's ability to predict their competence. Or, applying Antonovsky's (1987) framework, response to change may depend upon the extent to which one feels that life makes sense emotionally (meaningfulness) and the extent to which one perceives that adequate resources to meet demands are at one's disposal (manageability).

This proposed relationship between challenge and the other facets of work self-concept is not only grounded in the theoretical foundation for this research, but also bears resemblance to findings in the area of self-efficacy. As discussed by Zimmerman (1995), perceived self-efficacy has been found to be positively correlated with the likelihood that students will undertake difficult tasks and have intrinsic interest in learning activities. Similarly, welcoming new opportunities at work, that is, responding to change as an incentive for growth rather than as a threat to security, may depend upon facets of work self-concept that are analogous to self-efficacy. Future research should explore the relationship of challenge to other work self-concept facets and its predictive value in job stress models.

Discriminant Validity

The evidence for homogeneity within each work self-concept subscale and the fit of a one-factor model for each subscale provided a solid basis for studying how work self-concept is related to other constructs. Since it would have been virtually meaningless to explore the external validity of work self-concept without having established its internal validity, these results were critical. Discriminant validity was

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

clearly demonstrated by the very low correlations between work self-concept subscales and each of the other measures included in the study; there was little to no relationship between any of the work self-concept subscales and the Job Description Inventory subscales, negative affectivity, social desirability or the general self-concept measures.

Other constructs. The results suggest that work self-concept is more clearly an independent construct than any of the other constructs included in the study. It is notable that the general self-concept scales were moderately correlated with the positive and negative affectivity scales and that three of the four Job Description Inventory subscales had significant correlations with social desirability . This was not the case with the work self-concept subscales which all had no relationship with the Crowne-Marlowe social desirability scale. Work self-concept may be less correlated than job satisfaction with other variables since a strong effort was made to prevent work self-concept items from measuring aspects of a particular job.

Furthermore, Job Description Inventory subscales are more highly correlated with negative affectivity than are the work self-concept scales. This is not surprising since job satisfaction represents a feeling about one's particular job which is more likely to vary as a function of the relationship between mood disposition and characteristics of a particular job. In contrast, work self-concept is believed to represent a relatively stable personality variable, which is mostly cognitive in nature, and reflects self-knowledge about the kind of person one is, what is important to oneself, and what one cares about with respect to the work environment. Although an individual may be inclined to a positive or negative mood, there should be no more than a small to modest effect of positive or negative mood (emotionality) on relatively stable self-knowledge (beliefs and values). This expected relationship was supported by the findings of this research.

There is a slightly stronger relationship, although still modest, among the work self-concept scales and positive affectivity. The explanation for this may be the same

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

as for why responses to work self-concept subscales were so highly skewed. The sample used in this research may be a strongly motivated, positive-feeling group. Therefore, those who tend to score high on the work self-concept scales are also likely to have high scores on the positive affectivity scale. Future research should further investigate the relationship between work self-concept and positive affectivity, especially to determine if there is any regular covariation between the constructs. Nonetheless, this research clearly indicates that work self-concept and negative affectivity measure different things.

Social desirability. The primary reason for including a measure of social desirability in this study was to provide additional discriminant validity evidence. In order to accomplish this, the social desirability score was correlated with each of the six work self-concept scales. Since these correlations were quite low (ranging from -.18 to .09) this provides further evidence of discriminant validity. Furthermore, given the low correlations between social desirability and the work self-concept subscales, there is no need to revise the subscales in order to prevent social desirability responding from contaminating the instrument.

Summary: discriminant validity. By measuring general self-concept, negative affectivity, job satisfaction, and absenteeism, as well as social desirability, interesting and useful discriminant validity information has been provided. The case for this is bolstered by the evidence for the internal construct validity of work self-concept. Concluding that good progress towards the completion of the external validity portion of the construct validity process has been completed is consistent with the reasoning of Marsh and Shavelson (1985). They have argued that "the identification of theoretically consistent and distinct facets of self-concept and their structure is, at least initially, prerequisite to the study of how self-concept is related to other constructs." Unless the internal validity of the work self-concept instrument had been established, the

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

relationship between work self-concept and each of the other constructs would have been difficult to fruitfully explore.

Nomological Validity

The matter of internal validity also bears upon nomological validity, the final step of the construct validation process. In evaluating nomological validity, the network of relations derived from the formal theory of the construct, such as those represented in causal models, is assessed (Messick, 1975). This can only take place after the internal, as well as the external validity of the construct has been demonstrated.

Investigation of causal models which include work self-concept was, therefore, beyond the scope of this study. In order to assess whether or not work self-concept predicts an outcome variable, and whether moderator variables affect such covariation, there ought to be some confidence in the belief that the measure of work self-concept actually measures a distinct construct. If the constructs included in a causal model are not valid, then the model cannot have any value. As Hogan and Nicholson (1988) have said, research is likely to be called into question when substantive hypotheses are tested with homemade and unvalidated scales. Therefore, establishing the internal validity of work self-concept and identifying the relationship between work self-concept and other measures (external validity) has gone a long way towards establishing nomological validity.

Absenteeism was measured in order to take a preliminary look at the relationship between work self-concept and outcome measures. As can be seen from Table 1, most subjects were absent from zero to three days (due to illness) and from zero to two days (due to reasons other than illness), over a six-month period. This finding is generally consistent with the overall responses to the work self-concept scales, suggesting that the sample was a highly motivated, and apparently healthy

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

group. There was no relationship between any of the facets of work self-concept and absenteeism (correlations were all insignificant). Given that the relationship between job stress and outcome variables is probably a complex one (King & King, 1990; Jackson & Schuler; 1985), a simple correlation between any two job stress variables is unlikely to yield predictive information about the relationship between the variables. The investigation of causal models which includes appropriate predictor and moderator variables is likely to produce the most useful information about job stress.

Future Research

The strong evidence provided by this research for internal validity and external discriminant validity suggests that work self-concept shows promise for better understanding and predicting the relationship between job stress and outcome variables such as job dissatisfaction and health consequences among employed adults.

Future research should investigate a causal model which includes previously explored and important job stress variables such as social support, life stress, coping styles, job satisfaction, and other outcome variables such as turnover, illness, and performance. In addition, further construct validity studies are needed to determine if the multifaceted, hierarchical structure identified by this research holds. Future research that includes more heterogeneous samples and diversified occupational groups would be useful for firmly establishing the generalizability of work self-concept. Ultimately, perhaps with a further refined questionnaire and with a clearer understanding of the structure of work self-concept, and by including work self-concept in job stress research, inconclusive and conflicting evidence about job stress will begin to be a thing of the past.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Appendix A

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Laurie H. Rindskopf
September 5, 1992

Theoretical Development and Measurement of Work Self-Concept: A Multifaceted Model

1. FACILITIES (where the study will be carried out): VA Medical Center, San Diego, California.

2. DURATION: The duration will be one month from the time the questionnaires are distributed to the subjects. The study should begin as soon as possible.

3. SUBJECT POPULATION: The population will consist of full-time and part-time nurses, they will be primarily, but not necessarily, psychiatric nurses having various amounts of education.

4. PURPOSE OF PROJECT AND BACKGROUND: The basic premise of this research is that two independent streams of research -- self-concept and job stress -- can be fruitfully integrated. Each area suggests ideas for the other that promise to resolve two nagging problems: (1) there have been few attempts to explore self-concept as an important variable for adults in their employment settings, and (2) the job stress literature has been plagued by inconsistent findings (e.g., King & King, 1990; Brief & Atieh, 1987; Jackson & Schuler, 1985).

One of the major flaws in job-stress research has been a failure to adequately define or demonstrate the effects of moderator variables (e.g., need for achievement, locus of control, organizational level) (Jackson & Schuler, 1985). Nonetheless, even though past research has yielded disappointing results, there is still widespread support for including personality (i.e., individual-difference) variables in job-stress research (Quick, Horn, & Quick, 1987). The prevailing belief seems to be that personality variables need to be reconceptualized, not abandoned.

Work self-concept is such an individual difference variable, which is based on the idea that self-concept is multifaceted (Marsh & Shavelson, 1985). Although a multifaceted self-concept model has been widely researched among children (e.g., Marsh & Hocevar, 1985; Marsh & O'Neill, 1984), there has been virtually no such research conducted among adults. According to Marsh & Shavelson's model, self-concept is multifaceted in the sense that a person's perceptions of him- or herself are organized into categories (e.g., academic self-concept, social self-concept, emotional self-concept), which may be related to each other.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

In addition , there are many researchers who recognize the importance of context in the development of a "sense of self" and the role of specific situations in shaping the way in which a person's self-concept manifests itself (Shavelson & Bolus, 1982; Wylie, 1974). Given this widely-shared belief, the dearth of research on work-related self-concept is striking. For example, there is no adequately conceptualized construct for adults that is analogous to that of academic self-concept, which is used to predict academic achievement.

The basic research hypothesis is that an individual does not have just a general work self-concept; rather, each person's work self-concept is organized into distinct categories. The proposed categories include job involvement, control, challenge, competence, boss, and co-workers. It is believed that these categories either taken together or individually will eventually be useful in predicting absenteeism, turnover, job satisfaction and health problems that may be related to job stress.

The purpose of this research is to conduct a construct validation study of the hypothesized construct of work self-concept (defined as a person's perception of himself or herself in the work environment). This study will emphasize the evaluation of the internal validity of work self-concept. In addition, there will be a preliminary examination of the relationship between work self-concept and other constructs (Negative Affectivity, Job Satisfaction, General Self-Concept) in order to provide some evidence of discriminant external validity. There will be no attempt to provide evidence of convergent external validity since there is no instrument believed to be similar to the one being used to measure Work Self-Concept.

5. PROJECT PROTOCOL: The researcher will establish telephone contact with the appropriate person(s) to introduce the research and to establish dates and procedures for the distribution of the questionnaires. The questionnaires will be forwarded by mail to the appropriate contact person(s) and will be returned to the researcher in stamped, self-addressed envelopes. A cover letter, briefly explaining the research, will be provided to each subject. Subjects' participation in the study will be strictly on a voluntary basis.

The instruments to be included are:

- Work Self-Concept Questionnaire (consists of six subscales; a total of 60 items). A preliminary form of the Work Self-Concept Questionnaire has been administered to police officers. Results of this pilot indicate that the reliability of each scale is reasonably high. Reliabilities range from .66 to .88. The corrected item-total correlations are also reasonably high for all but a few items. There are four items out of 60 with item-total correlations below .2. The rest of the items generally range from .25 to .70, with most between .4 and .7.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

A few items used in the pilot were deleted for empirical reasons; most were revised for theoretical reasons.

- Rosenberg Self-Esteem Scale (10 items). This scale has been widely used since 1965. Reliability tests have demonstrated acceptable levels of internal consistency (alpha coefficients have ranged from .72 to .87).

- Tennessee Self-Concept Scale (5 items). This study will include only a small subscale of this widely used self-concept measure. The 5 items measure general/overall self-concept. This is being included primarily to empirically compare this measure with the Rosenberg Self-Esteem Scale, as well as to compare each with the Work Self-Concept Questionnaire.

- PANAS (Positive and Negative Affectivity Scale; 20 items) This scale consists of 20 words which describe different feelings and emotions. Each item is rated using a 5-point scale which indicates the extent to which a word describes how the individual feels.

- Job Description Index. Four subscales will be used: "Work on Present Job", "Supervision", "Coworkers", and "Job in General" (a total of 72 single word or brief phrase items). The JDI has been reported to be the most frequently used measure of job satisfaction (Ironson, Smith, Brannick, Gibson, & Paul, 1989) and has been described having sound psychometric properties (Vroom, 1964). The JDI was revised in 1985 (Smith, Balzer, Brannick, Chia, Eggleston, Gibson, Johnson, Josephson, Paul, Reilly, & Whalen, 1985) using item response theory as well as traditional psychometric methods. The revised version of the JDI will be used in this study.

- One question about absenteeism

- A set of seven demographic data items

6. POTENTIAL RISKS: Confidentiality of the questionnaires will be ensured and there are no risks to the subjects. None of the items could or would be used to identify illegal behavior, mental illness, or highly personal information.

7. RISK MANAGEMENT PROCEDURES: The questionnaires will be sealed in envelopes by the subjects and mailed directly to the researcher. Only this researcher will review the raw data. All data will be reported only in aggregate form.

8. POTENTIAL BENEFITS: There are no immediate direct benefits to the subjects. However, if the research hypothesis is confirmed and construct validity evidence is provided for the Work Self-Concept Questionnaire, the causes and processes of job

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

stress may be better understood. Methods of prevention and intervention related to job stress may also be developed based on the research findings.

9. RISK-BENEFIT RATIO: The benefits exceed the risks since there are no risks to the subjects.

10. EXPENSE TO SUBJECT: The approximate time needed to complete the questionnaires is 20-30 minutes.

11. INFORMED CONSENT: Subjects will not be asked to sign a consent form; completion of the instruments constitutes consent. This study meets the criteria for an expedited review.

References

Brief, A. P., & Atieh, J. M. (1987). Studying job stress: Are we making mountains out of molehills? Journal of Occupational Behavior, 8, 115-126.

Jackson, S. E., & Schuler, R. S. (1985). A meta-analysis and conceptual critique of research on role ambiguity and role conflict in work settings. Organizational Behavior and Human Decision Processes, 36, 16-78.

King, L. A., & King, D. W. (1990). Role conflict and role ambiguity: A critical assessment of construct validity. Psychological Bulletin, 107, 48-64.

Marsh, H. W., & Hocevar, D. (1985). Application of confirmatory factor analysis to the study of self-concept: First and higher order factor models and their invariance across groups. Psychological Bulletin, 97, 562-582.

Marsh, H. W., & O'Niell, R. (1984). Self Description Questionnaire III (SDQ III): The construct validity of multidimensional self-concept ratings by late-adolescents. Journal of Educational Measurement, 21, 153-174.

Marsh, H. W., & Shavelson, R. (1985). Self-concept: Its multifaceted, hierarchical structure. Educational Psychologist, 20, 107-123.

Quick, J. D., Horn, R. S., & Quick, J. C. (1987). Health consequences of stress. In Ivancevich, J. M., & Ganster, D. C. (1988), Job stress: From theory to suggestion. New York: The Haworth Press.

Shavelson, R. J., & Bolus, R. (1982). Self-concept: The interplay of theory and methods. Journal of Educational Pyschology, 74, 3-17.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Smith, P. C., Kendall, L. M., & Hulin, C. L. (1985). The Job Descriptive Index (Rev. ed.). Bowling Green, OH: Department of Psychology, Bowling Green State University. (Original work published 1975).

Vroom, V. (1964). Work and motivation. New York: Wiley.

Wylie, R. C., (1974). The self-concept (rev. ed., Vol. 1). Lincoln, NE: University of Nebraska Press.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Appendix B

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Laurie Hopp Rindskopf
June 3, 1992

RESEARCH ABSTRACT

The purpose of the proposed research is to investigate the hypothesized construct of work self-concept. Thus far, there has been almost no research on such a construct. The basic research hypothesis is that an individual does not have just a general work self-concept (defined as a person's perceptions of himself or herself in the work environment); rather, each person's work self-concept is organized into distinct categories. The proposed categories include job involvement, control, challenge, competence, boss, and co-workers. The categories and the whole notion of a context-specirfic form of self-concept (that is, self-concept related to work) have been developed in response to an extensive review of the job stress literature, which indicates that predictions about who is adversely affected by job stress have not been reliable.

One of the major flaws in past theory and research is a failure to adequately define an individual-difference variable (i.e., a type of personality variable) that could help explain such relationships. It is proposed that work self-concept may fill this void. Work self-concept may predict or affect the relationship between job stressors and work outcomes (e.g., health problems, absenteeism, job satisfaction). Most likely, this relationship is a complex one: this means that the relationship between work self-concept and work outcomes are probably also affected by such things as social support, stressors outside the work environment, and coping skills. These more complicated relationships will be investigated in future research, although this proposed study will yield some prelimimary results.

The primary purpose of this study is to find out if work self-concept is what we think it is. This means that we need to determine if there really are six distinct categories of self-perception about work. In addition, it will be determined if a person's work self-concept is different than job satisfaction, general self-concept, general mood disposition, and impression management (trying to look good to others).

In order to accomplish this, employees will be needed to complete the following:

1. the work self-concept questionnaire
2. a measure of job satisfaction
3. a measure of general self-concept
4. a measure of negative mood-disposition (tendency towards subjective feelings of nervousness, tension, and worry, and affective states such as guilt and self-dissatisfaction).

The instruments should take no longer than 30 minutes to complete and, in order to ensure confidentiality, can be returned in stamped, addressed envelopes. Summary data will be provided (upon request) to the organization and individual employees; there will be no release of data that might reveal the identity of an individual.

In order to make sure that the findings are not limited to a single occupational group, employees in several occupational groups will be needed to complete the survey. Optimally, these groups should include clerical, professional, and technical employees, first-line supervisors, and middle managers.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Appendix C

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

RINDSKOPF WORK SELF-CONCEPT QUESTIONNAIRE

Instructions: On the following pages are a series of statements describing how you think and feel about yourself in the workplace. There are no right or wrong answers; the only correct responses are those that are true for you.

Following each statement there are seven categories. Please indicate the extent to which you agree or disagree with each statement by circling a number from 1 to 7 in the space provided.

1 means STRONGLY DISAGREE
2 means DISAGREE
3 means SLIGHTLY DISAGREE
4 means UNCERTAIN; NEITHER AGREE NOR DISAGREE
5 means SLIGHTLY AGREE
6 means AGREE
7 means STRONGLY AGREE

Please keep in mind that you should think about your views about yourself at work, in general, and not how you feel about the particular job you are in. For example, if you strongly agree with the statement "A good company cafeteria is important to me," then you should say so, even if your company has no cafeteria, or has a bad cafeteria.

The wording of some statements is very similar to the wording of other statements. Each statement is attempting to assess a particular aspect about how you feel about yourself in the workplace. Please evaluate each statement independently of your responses to other statements.

1. Feeling like I am a valuable employee does not matter to me.	1 2 3 4 5 6 7
2. In general, I enjoy the challenge of a change in my work routines.	1 2 3 4 5 6 7
3. Doing a good job at work is not important to me.	1 2 3 4 5 6 7
4. In any job, knowing that my co-workers believe they can count on me is important.	1 2 3 4 5 6 7
5. In any job, getting along with my boss is important to me.	1 2 3 4 5 6 7
6. It's important to me to feel free to decide how I do my work.	1 2 3 4 5 6 7
7. In general, I need to believe that going to work is worthwhile.	1 2 3 4 5 6 7
8. Overall, I don't like my job duties to be changed.	1 2 3 4 5 6 7
9. It's important to me to work hard.	1 2 3 4 5 6 7
10. I'm the kind of person who finds it difficult to overcome problems at work.	1 2 3 4 5 6 7

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

1 means STRONGLY DISAGREE
2 means DISAGREE
3 means SLIGHTLY DISAGREE
4 means UNCERTAIN; NEITHER AGREE NOR DISAGREE
5 means SLIGHTLY AGREE
6 means AGREE
7 means STRONGLY AGREE

11. It's not important to me to get along well with my co-workers.	1 2 3 4 5 6 7
12. In general, I need to know I can turn to my boss for help.	1 2 3 4 5 6 7
13. Whatever job I have, it's important that my work activities are meaningful to me.	1 2 3 4 5 6 7
14. I prefer not to be given new assignments at work.	1 2 3 4 5 6 7
15. Overall, I don't really care about the quality of my work.	1 2 3 4 5 6 7
16. I'm the kind of person that feels frustrated if I can't control things that affect me at work.	1 2 3 4 5 6 7
17. In general, I'm the kind of person who tends to feel uneasy around co-workers.	1 2 3 4 5 6 7
18. It is not important to me that my boss respects me.	1 2 3 4 5 6 7
19. Completion of a difficult work assignment is rewarding to me.	1 2 3 4 5 6 7
20. Overall, I don't care if my actions influence what happens at work.	1 2 3 4 5 6 7
21. I am a hard worker.	1 2 3 4 5 6 7
22. It is important to me to feel proud of my work.	1 2 3 4 5 6 7
23. I'm the kind of employee that bosses can count on.	1 2 3 4 5 6 7
24. Being comfortable around the people I work with is important to me.	1 2 3 4 5 6 7
25. Feeling like I can influence what happens at work is important to me.	1 2 3 4 5 6 7
26. I'm the kind of person who welcomes new work assignments.	1 2 3 4 5 6 7
27. My job is an important part of my life..	1 2 3 4 5 6 7

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

1 means STRONGLY DISAGREE
2 means DISAGREE
3 means SLIGHTLY DISAGREE
4 means UNCERTAIN; NEITHER AGREE NOR DISAGREE
5 means SLIGHTLY AGREE
6 means AGREE
7 means STRONGLY AGREE

28. Having up-to-date job skills is important to me.	1 2 3 4 5 6 7
29. I do not care if I feel good about what I do at work.	1 2 3 4 5 6 7
30. It is important to me that my co-workers recognize my ability to do my job well.	1 2 3 4 5 6 7
31. Having control over what gets done at work is not important to me.	1 2 3 4 5 6 7
32. As long as I know I do a good job, it doesn't matter whether or not my boss respects me.	1 2 3 4 5 6 7
33. At work, I like having to learn new things.	1 2 3 4 5 6 7
34. Overall, I am a competent employee..	1 2 3 4 5 6 7
35. Being able to express myself to my boss is important to me.	1 2 3 4 5 6 7
36. I'm the kind of person that others like to work with.	1 2 3 4 5 6 7
37. In general, when I am assigned to do something, I feel certain that I can get the job done.	1 2 3 4 5 6 7
38. Overall, I don't care whether my boss trusts me to get the job done.	1 2 3 4 5 6 7
39. Having a successful career is not important to me.	1 2 3 4 5 6 7
40. I would rather be told how to do something than have to figure it out myself.	1 2 3 4 5 6 7
41. I don't like my work to be closely monitored.	1 2 3 4 5 6 7
42. In any job, feeling like I can turn to a co-worker for support is important to me.	1 2 3 4 5 6 7
43. It's important to me to have good job skills.	1 2 3 4 5 6 7
44. It's important to me that my boss be satisfied with my work performance.	1 2 3 4 5 6 7

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

1 means STRONGLY DISAGREE
2 means DISAGREE
3 means SLIGHTLY DISAGREE
4 means UNCERTAIN; NEITHER AGREE NOR DISAGREE
5 means SLIGHTLY AGREE
6 means AGREE
7 means STRONGLY AGREE

45. It does not matter to me whether or not I enjoy going to work.	1 2 3 4 5 6 7
46. I like to face new challenges at work.	1 2 3 4 5 6 7
47. It's important to me to be able to work independently.	1 2 3 4 5 6 7
48. I prefer not to feel close to my co-workers.	1 2 3 4 5 6 7
49. Overall, my work skills are quite good.	1 2 3 4 5 6 7
50. I would be unhappy if I didn't get along with my boss.	1 2 3 4 5 6 7

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Appendix D

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Revised Work Self-Concept Questionnaire
(Items organized within scale)

JOB INVOLVEMENT

1. Feeling like I am a valuable employee does not matter to me.

7. In general, I need to believe that going to work is worthwhile.

13. Whatever job I have, it's important that my work activities are meaningful to me.

22. It is important to me to feel proud of my work.

27. My job is an important part of my life.

29. I do not care if I feel good about what I do at work.

39. Having a successful career is not important to me.

45. It does not matter to me whether or not I enjoy going to work.

CHALLENGE

2. In general, I enjoy the challenge of a change in my work routines.

8. Overall, I don't like my job duties to be changed.

10. I'm the kind of person who finds it difficult to overcome problems at work.

14. I prefer not to be given new assignments at work.

19. Completion of a difficult work assignment is rewarding to me.

26. I'm the kind of person who welcomes new work assignments.

33. At work, I like having to learn new things.

40. I would rather be told how to do something than have to figure it out myself.

46. I like to face new challenges at work.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

COMPETENCE

3. Doing a good job at work is not important to me.

9. It's important to me to work hard.

15. Overall, I don't really care about the quality of my work.

21. I am a hard worker.

28. Having up-to-date job skills is important to me.

34. Overall, I am a competent employee.

37. In general, when I am assigned to do something, I feel certain that I can get the job done.

43. It's important to me to have good job skills.

49. Overall, my work skills are quite good.

CO-WORKER RELATIONS

4. In any job, knowing that my co-workers believe they can count on me is important.

11. It's not important to me to get along well with my co-workers.

17. In general, I'm the kind of person who tends to feel uneasy around co-workers.

24. Being comfortable around the people I work with is important to me.

30. It is important to me that my co-workers recognize my ability to do my job well.

36. I'm the kind of person that others like to work with.

42. In any job, feeling like I can turn to a co-worker for support is important to me.

48. I prefer not to feel close to my co-workers.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

BOSS RELATIONS

5. In any job, getting along with my boss is important to me.

12. In general, I need to know I can turn to my boss for help.

18. It is not important to me that my boss respects me.

23. I'm the kind of employee that bosses can count on.

32. As long as I know I do a good job, it doesn't matter whether or not my boss respects me.

35. Being able to express myself to my boss is important to me.

38. Overall, I don't care whether my boss trusts me to get the job done.

44. It's important to me that my boss be satisfied with my work performance.

50. I would be unhappy if I didn't get along with my boss.

CONTROL

6. It's important to me to feel free to decide how I do my work.

16. I'm the kind of person that feels frustrated if I can't control things that affect me at work.

20. Overall, I don't care if my actions influence what happens at work.

25. Feeling like I can influence what happens at work is important to me.

31. Having control over what gets done at work is not important to me.

41. I don't like my work to be closely monitored.

47. It's important to me to be able to work independently.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Appendix E

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

PERSONAL REACTION INVENTORY

Listed below are a number of statements concerning personal attitudes and traits. Read each item, and decide whether the statement is *true* or *false* as it pertains to you personally. If it is true, put a T in the space next to the statement; if it is not true of you, put an F in the space.

____ 1. I sometimes feel resentful when I don't get my way.

____ 2. There have been times when I felt like rebelling against people and authority, even though I knew they were right.

____ 3. No matter who I'm talking to, I'm always a good listener.

____ 4. There have been occasions when I took advantage of someone.

____ 5. I'm always willing to admit it when I make a mistake.

____ 6. I sometimes try to get even rather than forgive and forget.

____ 7. I am always courteous, even to people who are disagreeable.

____ 8. I have never been annoyed when people expressed ideas very different my own.

____ 9. There have been times when I was quite jealous of the good fortune of others.

____ 10. I am sometimes irritated by people who ask favors of me.

____ 11. I have never deliberately said something that hurt someone's feelings.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Appendix F

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

GENERAL FEELINGS ABOUT YOURSELF

Listed below are a series of statements expressing how you think and feel about yourself. Unlike previous items, these are NOT specifically related to your job or work environment. Please indicate the extent to which each statement is generally true of you by circling a number from 1 to 7 in the space provided.

1 means STRONGLY DISAGREE
2 means DISAGREE
3 means SLIGHTLY DISAGREE
4 means UNCERTAIN; NEITHER AGREE NOR DISAGREE
5 means SLIGHTLY AGREE
6 means AGREE
7 means STRONGLY AGREE

1. I feel that I'm a person of worth, at least on an equal plane with others.	1 2 3 4 5 6 7
2. I have a number of good qualities.	1 2 3 4 5 6 7
3. All in all, I am inclined to feel that I am a failure.	1 2 3 4 5 6 7
4. I am able to do things as well as most other people.	1 2 3 4 5 6 7
5. I do not have much to be proud of.	1 2 3 4 5 6 7
6. I have a positive attitude about myself.	1 2 3 4 5 6 7
7. On the whole, I am satisfied with myself.	1 2 3 4 5 6 7
8. I wish I could have more respect for myself.	1 2 3 4 5 6 7
9. I feel useless at times.	1 2 3 4 5 6 7
10. At times I think I am no good at all.	1 2 3 4 5 6 7
11. I have a lot of respect for myself.	1 2 3 4 5 6 7
12. I lack self-confidence.	1 2 3 4 5 6 7
13. I am pretty accepting of myself.	1 2 3 4 5 6 7
14. I do a lot of things that are important.	1 2 3 4 5 6 7
15. I have pretty negative feelings about myself.	1 2 3 4 5 6 7

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Appendix G

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

SCALE OF FEELINGS AND EMOTIONS

This scale consists of a number of words that describe different feelings and emotions. Read each item and then mark the appropriate answer in the space next to that word. Indicate to what extent you generally feel this way, that is, how you feel on the average.

1	2	3	4	5
very slightly	a little	moderately	quite a bit	extremely or not at all

_____ interested	_____ irritable
_____ distressed	_____ alert
_____ excited	_____ ashamed
_____ upset	_____ inspired
_____ strong	_____ nervous
_____ guilty	_____ determined
_____ scared	_____ attentive
_____ hostile	_____ jittery
_____ enthusiastic	_____ active
_____ proud	_____ afraid

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Appendix H

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

JOB DESCRIPTION INVENTORY

For the items on this page, think of the work you do at present. How well does each of the following words or phrases describe your current work? In the blank beside each word, write

Y for "Yes" if it describes your work

N for "No" if it does NOT describe it

? if you cannot decide

. . . . . .

WORK ON PRESENT JOB

_____ Fascinating
_____ Routine
_____ Satisfying
_____ Boring
_____ Good
_____ Creative
_____ Respected
_____ Uncomfortable
_____ Pleasant
_____ Useful
_____ Tiring
_____ Healthful
_____ Challenging
_____ Too much to do
_____ Frustrating
_____ Simple
_____ Repetitive
_____ Gives sense of accomplishment

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

For the items on this page, please think of the kind of supervision that you get on your current job. How well does each of the following words or phrases describe this? In the blank beside each word below, write

Y for "Yes" if it describes the supervision you get on your job

N for "No" if it does NOT describe it

? if you cannot decide

. . . . . .

SUPERVISION

_____ Ask my advice
_____ Hard to please
_____ Impolite
_____ Praises good work
_____ Tactful
_____ Influential
_____ Up-to-date
_____ Doesn't supervise enough
_____ Has favorites
_____ Tells me where I stand
_____ Annoying
_____ Stubborn
_____ Knows job well
_____ Bad
_____ Intelligent
_____ Poor planner
_____ Around when needed
_____ Lazy

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

For the items on this page , please think of the majority of the people that you work with now or the people you meet in connection with your current work. How well does each of the following words or phrases describe these people? In the blank beside each word below, write

Y for "Yes" if it describes the people you work with

N for "No" if it does NOT describe them

? if you cannot decide

. . . . . .

COWORKERS

_____ Stimulating
_____ Boring
_____ Slow
_____ Helpful
_____ Stupid
_____ Responsible
_____ Fast
_____ Intelligent
_____ Easy to make enemies
_____ Talk too much
_____ Smart
_____ Lazy
_____ Unpleasant
_____ Gossipy
_____ Active
_____ Narrow interests
_____ Loyal
_____ Stubborn

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

For the items on this page, please think of your current job in general. All in all, what is it like most of the time? In the blank beside each word below, write

Y for "Yes" if it describes your job

N for "No" if it does NOT describe it

? if you cannot decide

. . . . . .

JOB IN GENERAL

_____ Pleasant
_____ Bad
_____ Ideal
_____ Waste of time
_____ Good
_____ Undesirable
_____ Worthwhile
_____ Worse than most
_____ Acceptable
_____ Superior
_____ Better than most
_____ Disagreeable
_____ Makes me content
_____ Inadequate
_____ Excellent
_____ Rotten
_____ Enjoyable
_____ Poor

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Appendix I

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

LISREL Commands for Second-Order Factor Analysis
Model 1

```
self140.lis:  second order factor analysis of 5 subscales
  (coworker scale omitted);
  1 - reliability used as (fixed) error variance estimate,
  since only one observed measure of each 1st-order factor is used.

  correlation input is from self116b.spc

  5 bad items were removed prior to calculations

data  ni=5  no=197  ma=km
km
        1.00000
        .33373  1.00000
        .59725  .32361  1.00000
        .47623  .28805  .47777  1.00000
        .54324  .29876  .48803  .46264  1.00000
la
'jobinv'  'chall'  'compet'  'boss'  'control'
mo ny=5 ne=6  be=fu,fi   ps=di,fr  ly=fu,fi  te=sy,fi
fr be 1 6  be 2 6  be 3 6  be 4 6  be 5 6
fi ps 6 6
va 1. ly 1 1 ly 2 2 ly 3 3 ly 4 4 ly 5 5
va 1. ps 6 6
va  .3265 te 1 1
va  .2376 te 2 2
va  .3705 te 3 3
va  .2331 te 4 4
va  .3923 te 5 5
st  .5  be 1 6  be 2 6  be 3 6  be 4 6  be 5 6
st  .5  ps 1 1 ps 2 2 ps 3 3 ps 4 4 ps 5 5
ou  ns ss
```

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

References

Abdel-Halim, A. A. (1980). Effects of person-job compatibility on managerial reactions to role ambiguity. Organizational Behavior and Human Performance, 26, 193-211.

Antonovsky, A. (1979). Health, stress, and coping. San Francisco: Jossey-Bass.

Antonovsky, A. (1987). Unraveling the mystery of health: How people manage stress and stay well. San Francisco: Jossey-Bass.

Barnett, R.C., & Baruch, G.K. (1985). Women's involvement in multiple roles and psychological distress. Journal of Applied Psychology, 68, 43-48.

Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. Journal of Personality and Social Psychology, 51, 1173-1182.

Beehr, T. A. (1976). Perceived situational moderators of the relationship between subjective role ambiguity and role strain. Journal of Applied Psychology, 61, 35-40.

Beehr, T. A., & Franz, T. M. (1987). The current debate about the meaning of job stress. In J. M. Ivancevich & D. C. Ganster (Eds.), Job stress: From theory to suggestion (pp. 5-18). New York: Haworth.

Bentler, P. M. (1972). [Review of Tennessee Self Concept Scale]. In O. K. Buros (Ed.), The seventh mental measurements yearbook (Vol. 1, pp. 366-367). Highland Park, NJ: Gryphon.

Bentler, P. M., Jackson, D. N. & Messick, S. (1971). Identification of content and style: A two-dimensional interpretation of acquiescence. Psychological Bulletin, 76, 186-204.

Berkowitz, E. N. (1980). Role theory, attitudinal constructs, and actual performance: A measurement issue. Journal of Applied Psychology, 65, 240-245.

Bhatti, B., Derezotes, D., Kim, S., & Specht, H. (1989). The association between child maltreatment and self-esteem. In A. M. Mecca, N. J. Smelser, & J. Vasconcellos (Eds.), The social importance of self-esteem. Berkeley, CA: University of California.

Brief, A. P., & Aldag, R. J. (1976). Correlates of role indices. Journal of Applied Psychology, 61, 468-472.

Brief, A. P., & Atieh, J. M. (1987). Studying job stress: Are we making mountains out of molehills? Journal of Occupational Behavior, 8, 115-126.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Brief, A. P., Burke, M. J., Goerge, J. M., Robinson, B. S., & Webster, J. (1988). Should negative affectivity remain an unmeasured variable in the study of job stress? Journal of Applied Psychology, 73, 193-198.

Brockner, J. (1988). Self-esteem at work: Research, theory, and practice. Lexington, Mass.: Lexington.

Burke, R. J. (1987). The present and future status of stress research. In J. M. Ivancevich & D. C. Ganster (Eds.), Job stress: From theory to suggestion (pp. 249-267). New York: Haworth.

Butler, J.K., Jr. (1983). Value importance as a moderator of the value fufillment-job satisfaction relationship: group differences. Journal of Applied Psychology, 68, 420-428.

Byrne, B.M. (1984). The general/academic self-concept nomological network: a review of construct validation research. Review of Educational Research, 54, 427-456.

Byrne, B. M., & Shavelson, R. J. (1986). On the structure of adolescent self-concept. Journal of Educational Psychology, 78, 474-481.

Coopersmith, S. (1967). The antecedents of self-esteem. San Francisco: W. H. Freeman.

Cronbach, L.J. (1951) Coefficient alpha and the internal structure of tests. Psychometrika, 16, 297-334.

Cronbach, L. J., & Meehl, P. E. (1955). Construct validity in psychological tests. Psychological Bulletin, 52, 281-302.

Crowder, B., & Michael, W. B. (1989). The measurement of self- concept in an employment setting. Educational and Psychological Measurement, 49, 19-31.

Crowne, D. P., & Marlowe, D. (1960). A new scale of social desirability independent of psychopathology. Journal of Consulting Psychology, 24, 349-354.

Damarin, F., & Messick, S. (1965). Response styles as personality variables: A theoretical integration of multivariable research. National Institute of Mental Health, United States Public Health Service, Research Grant M-2878. Princeton, NJ: Educational Testing Service.

DeMeuse, K.P. (1986). A compendium of frequently used measures in industrial/organizational psychology. The Industrial-Organizational Psychologist, 23(2), 53-59.

Edwards, A. L. (1957). The social desirability variable in personality assessment and research. New York: Dryden.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Feingold, A. (1994). Gender differences in personality: a meta-analysis. Psychological Bulletin, 116, 429-456.

Fleming, J. S., & Courtney, B. E. (1984). The dimensionality of self-esteem: II: Hierarchical facet model for revised measurement scales. Journal of Personality and Social Psychology, 46, 404-421.

Fleming, J. S., & Watts, W. A. (1980). The dimensionality of self-esteem: Some results for a college sample. Journal of Personality and Social Psychology, 39, 921-929.

Ganster, D. C. (1987). Type A behavior and occupational stress. In J. M. Ivancevich & D. C. Ganster (Eds.), Job stress: From theory to suggestion (pp. 61-84). New York: Haworth.

Hendrix, W. H., Ovalle, N. K., & Troxlwe, R. G. (1985). Behavioral and physiological consequences of stress and its antecedent factors. Journal of Applied Psychology, 70, 188-201.

Hines, L. L., Durham, T. W., & Geoghegan, G. G. (1991). Work self-concept: The development of a scale. Journal of Social Behavior and Personality, 6, 815-832.

Hogan, R., & Nicholson, R. A. (1988). The meaning of personality test scores. American Psychologist, 43, 621-626.

Ironson,G. H. Brannick, M. T. Smith , P. C. Gibson, W. M., & Paul, K. B. (1989). Construction of a job in general scale: A comparison of global, composite, and specific measures. Journal of Applied Psychology, 74, 193-200.

Ivancevich, J. M., & Donnelly, J. H., Jr., (1974). A study of role clarity and need for clarity for three occupational groups. Academy of Management Journal, 17, 28-36.

Ivancevich, J. M., & Ganster, D. C. (1988). Job stress: From theory to suggestion. New York: Haworth.

Jackson, S. E., & Schuler, R. S. (1985). A meta-analysis and conceptual critique of research on role ambiguity and role conflict in work settings. Organizational Behavior and Human Decision Processes, 36, 16-78.

Jamal, M. (1984). Job stress and job performance controversy: An empirical assessment. Organizational Behavior and Human Performance, 33, 1-21.

Kahn, R.L., Wolfe, D.M., Quinn,R.P., Snoek, J.D., & Rosenthal, R.A. (1964). Occupational stress: Studies in role conflict and ambiguity. New York:Wiley.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Karasek, R. A. (1979). Job demands, job decision latitude, and mental strain: Implications for job redesign. Administrative Science Quarterly, 24, 285-308.

Karasek, R. A. (1981). Job socialization and job strain: The implications of two related psychosocial mechanisms for job design. In B. Gardell & G. Johansson (Eds.), Working life. New York: John Wiley & Sons.

Karasek, R., Baker, D., Marxer, F., Ahlbam, A., & Thorell, T. (1981). Job decision latitude, job demands, and cardiovascular disease: A prospective study of Swedish men. American Journal of Public Health, 71, 694-705.

Katz, D., & Kahn, R. L. (1978). The social psychology of organizations (2nd Ed.) New York: John Wiley & Sons.

King, L. A., & King, D. W. (1990). Role conflict and role ambiguity: A critical assessment of construct validity. Psychological Bulletin, 107, 48-64.

Kobasa, S. C. (1979). Stressful life events, personality, and health: An inquiry into hardiness. Journal of Personality and Social Psychology, 37, 1-11.

Kobasa, S. C. (1982). The hardy personality: Toward a social psychology of stress and health. In Sanders, G. S., and Suls, J. (Eds.), Social psychology of health and illness. Hillsdale, New Jersey: Lawrence Erlbaum Associates.

Kobasa, S. C. (1985). Longitudinal and prospective methods in health psychology. In P. Karoly (Ed.), Measurement strategies in health pyschology. New York: John Wiley.

Kobasa, S., C., & Maddi, S. R., & Kahn, S. (1982). Hardiness and health: A prospective study. Journal of Personality and Social Psychology, 42, 168-177.

Kobasa, S. C., & Puccetti, M. C. (1983). Personality and social resources in stress resistance. Journal of Personality and Social Psychology, 45, 839-850.

Lawler, E. E. (1973). Motivation in work organizations. Belmont, CA: Wadsworth.

Lazarus, R. S. (1966). Psychological stress and the coping process. New York: McGraw-Hill.

Locke, E. A. (1965). The relationship of task success to task liking and satisfaction. Journal of Applied Psychology, 49, 379-385.

Locke, E. A. (1976). The nature and causes of job satisfaction. In M. D. Dunnette (Ed.), Handbook of Industrial and Organizational Psychology. Chicago: Rand McNally.

Locke, E. A., & Latham, G. P. (1990). Work motivation and satisfaction: Light at the end of the tunnel. Psychological Science, 1, 240-246.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Lodahl, T. M., & Kejner, M. (1965). The definition and measurement of job involvement. Journal of Applied Psychology, 49, 23-33.

Loevinger, J. (1957). Objective tests as instruments of psychological theory. Psychological Reports, 3, 635-694. (Monograph Supplement 9)

Long, J. S. (1983). Confirmatory factor analysis: A preface to LISREL. Beverly Hills: Sage.

Markus, H., & Wurf, E. (1987). The dynamic self-concept: A social-psychological perspective. Annual Review of Psychology, 38, 299-337.

Marsh, H. W., Barnes, J., Cairns, L., & Tidman, M. (1984). Self description questionaire: Age and sex effects in the structure and level of self-concept for pre-adolescent children. Journal of Educational Psychology, 76, 940-956.

Marsh, H. W., & Hocevar, D. (1985). Application of confirmatory factor analysis to the study of self-concept: First and higher order factor models and their invariance across groups. Psychological Bulletin, 97, 562-582.

Marsh, H. W., & O'Neill, R. (1984). Self Description Questionnaire III (SDQ III): The construct validity of multidimensional self-concept ratings by late-adolescents. Journal of Educational Measurement, 21, 153-174.

Marsh, H. W., & Shavelson, R. (1985). Self-concept: Its multifaceted, hierarchical structure. Educational Psychologist, 20, 107-123.

Marsh, H. W., Smith, I. D., Barnes, J., & Butler, S. (1983). Self-concept: Reliability, stability, dimensionality, validity, and the measurement of change. Journal of Educational Psychology, 75, 772-790.

Matthews, K. A., (1982). Psychological perspectives on the Type A behavior pattern. Psychological Bulletin, 91, 293-323.

Messick, S. (1975). The standard problem: Meaning and values in measurement and evaluation. American Psychologist, 30, 955-966.

Messick, S. (1981). Constructs and their vicissitudes in educational and psychological measurement. Psychological Bulletin, 89, 575-588.

Mossholder, K. W., Bedeian, A. G., & Armenakis, A. A. (1981). Role perceptions, satisfaction, and performance: Moderating effects of self-esteem and level. Organizational Behavior and Human Performance, 28, 224-234.

Motowildlo, S. J., Packard, J. S., & Manning, M. R. (1986). Occupational stress: Its causes and consequences for job performance. Journal of Applied Psychology, 71, 618-629.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Parkes, K. R. (1990). Coping, negative affectivity, and the work environment: Additive and interactive predictors of mental health. Journal of Applied Psychology, 75, 399-409.

Pierce, J. L., Gardner, D. G., Cummings, L. L., & Dunham, R. B. (1989). Organization-based self-esteem: Construct definition, measurement, and validation. Academy of Management Journal, 32, 622-648.

Piers, E. V., & Harris, D. B. (1964). Age and other correlates of self-concept in children. Journal of Educational Psychology, 55, 91-95.

Podsakoff, P. M., & Williams L. J. (1986). The relationship between job performance and job satisfaction. In E. A. Locke (Ed.), Generalizing from laboratory to field settings. Lexington, MA: Lexington.

Quick, J. D., Horn, R. S., & Quick, J. C. (1988). Health consequences of stress. In Ivancevich, J. M., & Ganster, D. C. Job stress: From theory to suggestion. New York: Haworth.

Quinn, R.P, Magione, T.W, Seashore, S.E. (1975). Quality of Employment Survey (codebook). Ann Arbor: Institute for Social Research.

Rapoport, R., & Rapoport, R. N. (1972). The dual career family: A variant pattern and social change. In C. Safilios-Rothschild (Ed.), Toward a sociology of women. Lexington, MA: Xerox.

Reynolds, W.M. (1982). Developement of reliability and valid short forms of the Marlowe-Crowne social desirability scale. Journal of Clinical Psychology, 38, 119-125.

Rice, R. W., Gentile, D. A., & McFarlin, D. B. (1991). Facet importance and job satisfaction. Journal of Applied Psychology, 76, 31-39

Rindskopf, D., & Rose, T. (1988). Some theory and applications of confirmatory second-order factor analysis. Multivariate Behavioral Research, 23, 57-67.

Rizzo, J. R., House, R. J., & Lirtzman, S. I. (1970). Role conflict and ambiguity in complex organizations. Administrative Science Quarterly, 15, 150-163.

Rosenberg, M. (1965). Society and the adolescent child. Princeton: Princeton University.

Rosenberg, M. (1979). Conceiving the self. New York: Basic Books.

Sawyer, J. E. (1992). Goal and process clarity: Specification of multiple constructs of role ambiguity and a structural equation model of their antecedents and consequences. Journal of Applied Psychology, 77, 130-142.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Selyc, H. (1956). The stress of life. New York: MacGraw-Hill.

Shavelson, R. J., & Bolus, R. (1982). Self-concept: The interplay of theory and methods. Journal of Educational Psychology, 74, 3-17.

Shavelson, R. J., Hubner, J. J., & Stanton, G. C. (1976). Validation of construct interpretations. Review of Educational Research, 46, 407-441.

Shoemaker, A. L. (1980). Construct validity of area-specific self-esteem: The Hare Self-Esteem Scale. Educational and Psychological Measurement, 40, 495-501.

Smith, P. C., Balzer, W., Brannick, M., Chia, W., Eggleston, S., Gibson, W., Johnson, B., Josephson, H., Paul, K., Reilly, C., & Whalen, M. (1987). The revised JDI: A facelift for an old friend. The Industrial-Organizational Psychologist, 24, 31-33.

Smith, P. C., Kendall, L. M., & Hulin, C. L. (1969). The measurement of satisfaction in work and retirement. Chicago: Rand McNally.

Smith, P. C., Kendall, L. M., & Hulin, C. L. (1985). The Job Descriptive Index (Rev. ed.). Bowling Green, OH: Department of Psychology, Bowling Green State University. (Original work published 1975).

Stone, E. F. (1986). Job scope-job satisfaction and job scope-job performance relationships. In E. A. Locke (Ed.), Generalizing from laboratory to field settings. Lexington, MA: Lexington.

Strahan, R., & Gerbasi, K.C.(1972) Short homogeneous versions of the Marlowe-Crowne social desirability scale. Journal of Clinical Psychology, 28, 191-193.

Szilagyi, A. D., & Sims, H. P., Jr. (1975). Locus of control, role dynamics, and job behavior in a health care institution. In J. G. Hunt (Ed.), Proceedings of the Midwest Division of the Academy of Management.

Szilagyi, A. D., Sims, H. P., Jr., & Keller, R. T. (1976). Role dynamics, locus of control, and employee attitudes and behavior. Academy of Management Journal, 19, 259-279.

Tharenou, P. (1979). Employee self-esteem: A review of the literature. Journal of Vocational Behavior, 15, 316-346.

Van Sell, M., Brief, A. P., Schuler, R. S. (1981). Role conflict and role ambiguity: Integration of the literature and directions for future research. Human Relations, 34, 43-71.

Vroom, V. (1964). Work and motivation. New York: Wiley.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Walsh, J. A. (1990). Comment on social desirability. American Psychologist, 45, 289-290.

Watson, D., & Clark, L. A. (1984). Negative affectivity: The disposition to experience aversive emotional states. Psychological Bulletin, 96, 465-490.

Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. Journal of Personality and Social Psychology, 54, 1063-1070.

Wylie, R. C., (1974). The self-concept (rev. ed., Vol. 1). Lincoln, NE: University of Nebraska.

Wylie, R. C. (1989). Measures of self-concept. Lincoln, NE: University of Nebraska.

Zimmerman, B. J. (1995) Self-efficacy and educational development. In A. Bandura (Ed.) Self-efficacy in changing societies. New York: Cambridge University.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.