



This is to certify that the
dissertation entitled

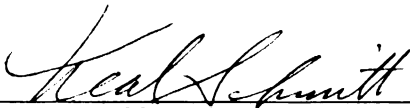
USING SELF-ENVIRONMENT PERCEPTIONS TO PREDICT
DYNAMIC GOAL COMMITMENT: PERCEIVED MET
EXPECTATIONS AND PERCEIVED P-O FIT

presented by

STEPHANIE M. MERRITT

has been accepted towards fulfillment
of the requirements for the

PH.D. degree in PSYCHOLOGY


Major Professor's Signature

8/1/07
Date

PLACE IN RETURN BOX to remove this checkout from your record.
TO AVOID FINES return on or before date due.
MAY BE RECALLED with earlier due date if requested.

DATE DUE	DATE DUE	DATE DUE

**USING SELF-ENVIRONMENT PERCEPTIONS TO PREDICT DYNAMIC GOAL
COMMITMENT: PERCEIVED MET EXPECTATIONS AND PERCEIVED P-O FIT**

By

Stephanie M. Merritt

A DISSERTATION

**Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of**

DOCTOR OF PHILOSOPHY

Department of Psychology

2007

ABSTRACT

USING SELF-ENVIRONMENT PERCEPTIONS TO PREDICT DYNAMIC GOAL COMMITMENT: PERCEIVED MET EXPECTATIONS AND PERCEIVED P-O FIT

By

Stephanie M. Merritt

In order to understand motivated behavior, many researchers have used goal setting theory. One of the most persistent findings in the goal setting literature is that difficult goals lead to higher performance than do easy goals. However, this finding is based on the assumption that goal commitment exists. The present study examines goal commitment from a person-environment interaction perspective. Existing models of goal commitment have incorporated mechanical forms of person-environment interaction but have lacked attention to the dynamic forms of person-environment interaction (Terborg, 1981), including reciprocal interactions and cognitive sensemaking effects. The present study approaches the prediction of goal commitment from a theoretical perspective focusing on reciprocal and cognitive sensemaking forms of person-environment interaction.

Two variables, perceived met expectations and perceived person-organization (P-O) fit, are employed as new predictors of goal commitment. The focus on *perceptions* of met expectations and P-O fit is consistent with the cognitive sensemaking perspective, which recognizes that different individuals will have different perceptions of the same environment (i.e., organization). Consistent with the reciprocal interactions approach, I detail the ways in which the person and the environment may affect each other over time, thereby resulting in *changes* in perceptions of met expectations, P-O fit, and goal

commitment. Also consistent with this approach, hypotheses are presented for both concurrent and longitudinal relationships among variables.

The hypotheses were tested with a three-wave longitudinal data collection. Respondents were 566 incoming college freshmen at 10 U.S. colleges and universities. A mediated latent growth model (LGM) was constructed relating both initial construct levels and construct change trajectories. The results indicated that Wave 1 levels of perceived met expectations, perceived P-O fit, and goal commitment were significantly and positively associated; and perceptions of P-O fit fully mediated the relationship between perceptions of met expectations and goal commitment. For change trajectories, a different picture emerged. Changes in perceptions of met expectations were significantly and positively associated with changes in P-O fit and changes in goal commitment; however, there was no evidence for a mediation effect. Overall, the model accounted for 19% of the variance in Wave 1 goal commitment and 77% of the variance in changes in goal commitment.

The results suggested that perceived met expectations and perceived P-O fit are useful predictors of goal commitment. Implications are that goal commitment models might benefit from additional consideration of reciprocal and dynamic forms of person-environment interaction. Researchers should also devote increased attention to the differences between concurrent and longitudinal relationships of predictors with goal commitment.

To my parents, for all of your love and support

ACKNOWLEDGMENTS

First and foremost, I would like to acknowledge the support and guidance of my committee chair, Dr. Neal Schmitt, whose expertise and patience has been and continues to be invaluable. I also thank my committee members, Drs. Dan Ilgen, Fred Oswald, Fred Leong, and Jim Dulebohn, for challenging me to make this effort the best it can be. It has been a fantastic journey from first draft to final product – thank you for keeping me on the right path.

I would also like to thank The College Board for its financial support in making this amazing dataset a possibility. To Claire, John, and Joe – thanks for all your hard work helping us keep the ship afloat. To Alyssa, Anna, Brian, Smriti, and Nancy – thanks for all the months you spent with me reading, generating measures, building the surveys, answering participant e-mails, writing tech reports, and of course...MERGING the data. This dissertation could never have been a reality without all of your efforts!

Finally, I would like to thank all of the faculty, students, and staff in the MSU I/O program for all of the gifts I've received just from being in your presence. I have learned much from every single one of you, and I feel honored to have had the privilege of studying with you.

TABLE OF CONTENTS

List of Tables	viii
List of Figures	ix
Introduction.....	1
Person-Environment Interactions.....	3
Forms of Person-Environment Interactions	5
Purpose of the Study	7
Study Overview and Roadmap	8
Goal Commitment.....	10
Goal Commitment Measurement	15
Perceived Met Expectations.....	18
Perceived Met Expectations Measurement	22
Perceived Person-Organization Fit	25
Perceived P-O Fit Measurement Issues	32
Generalizability to Student Samples.....	35
General Study Rationale	37
Hypotheses.....	39
Method	50
Initial Data Collection and Sample.....	50
Wave 1, 2, and 3 Data Collections.....	51
Measures	55
Results.....	58
Descriptive Statistics.....	58
Data Analysis Steps	61
Establishing Measurement Invariance	61
Univariate LGMs	71
Mediated LGM.....	73
Overall Model Fit.....	76
Hypotheses 1 and 2	76
Hypotheses and & 4	79
Hypotheses 5 and 6	79
Variance Accounted For	80
Partial Mediation Tests	80
Results Summary	82
Relationships with Distal Outcomes and Supplemental Analyses	83
Discussion	89
Potential Limitations.....	97
Suggestions for Future Research	101
Practical Applications	103
Conclusion	107

Appendix A: Study Information	110
Appendix B: Perceived Met Expectations Scale Items.....	112
Appendix C: Perceived P-O Fit Scale Items.....	113
Appendix D: Goal Commitment Scale Items	114
Appendix E: Correlations of Items/Parcels Used in Mediated LGM	115
Appendix F: SIMPLIS syntax: Configural invariance test	118
Appendix G: SIMPLIS syntax: Metric invariance test	120
Appendix H: SIMPLIS syntax: Uniqueness invariance test	122
Appendix I: SIMPLIS command file for fully-mediated LGM	124
References	129

LIST OF TABLES

Table 1: 5-Item HWK goal commitment scale	17
Table 2: Sample size, ethnicity, SAT/ACT z-scores, and wave 1 target variables by school	54
Table 3: Mean comparisons for final sample respondents and non-respondents	55
Table 4: Item-level descriptive statistics.....	59
Table 5: Scale means, SDs, alphas, and correlations	60
Table 6: Invariance test summary	64
Table 7: Effects of wave 1 perceived met expectations and perceived P-O fit on wave 2 goal commitment over and above institutional affiliation	85
Table 8: Goal commitment and distal outcome means, standard deviations, and intercorrelations	88
Table 9: Study information	110
Table 10: Correlations of items/parcels used in mediated LGM	115

LIST OF FIGURES

Figure 1: Hollenbeck & Klein's (1987) Goal Commitment Model	13
Figure 2: Locke, Latham, & Erez (1988) Model of Goal Commitment	13
Figure 3: Spreading Activation of Positive Evaluation to Organizational Goals	44
Figure 4: Conceptual Model of Hypotheses	49
Figure 5: Configural model of indicators - Construct relationships at all three times	65
Figure 6: Fully Constrained Invariant Model Including Completely Standardized Common Metric Estimates.....	70
Figure 7: Basic univariate LGM	72
Figure 8: Traditional mediation model	75
Figure 9: Mediated LGM	77
Figure 10: Completely standardized path estimates for intercept and slope factors - Fully mediated LGM	78
Figure 11: Partially mediated model for intercepts including completely standardized path estimates.....	81
Figure 12: Partially mediated model for slopes including completely standardized path estimates.....	82
Figure 13: Final retained model including completely standardized path estimates	87
Figure 14: Heuristic model - Combined reciprocal influences and cognitive sensemaking forms of interaction	93
Figure 15: Proposed integration of self-environment perceptions within the Hollenbeck and Klein (1987) goal commitment model	97

Introduction

Two major outcomes of interest to organizations are task performance and voluntary turnover. Performance has received perhaps the most attention in the organizational literature, including a large quantity of work on antecedents of performance (e.g., Barrick & Mount, 1991; Schmidt, Ones, & Hunter, 1992), the performance criterion itself (e.g., Austin & Villanova, 1992; Campbell, 1994; Motowidlo, 2003), and the estimation of the dollar value of performance (e.g., Orr, Sackett, & Mercer, 1989; Roth, Bobko, & Mabon, 2002). Due to the high costs of losing an employee or student, voluntary turnover is also a concern for business organizations and colleges alike. Voluntary turnover is expensive both in terms of productivity and investment lost when an individual leaves and in terms of the costs of recruiting, selecting, and training a replacement. Both performance and voluntary turnover are crucial determinants of organizational success and ultimate survival. Therefore, understanding the psychological factors contributing to these outcomes is essential.

In order to understand behavior related to these two criteria, many researchers have employed theories of motivation, including goal setting theory (Locke, 1968; Locke & Latham, 1990). In fact, it has been suggested that any discussion of motivated behavior must include goals in some capacity (Austin & Vancouver, 1996). One of the most persistent findings in the goal setting literature is that difficult goals lead to higher performance than do easy goals (e.g., Locke, Shaw, Saari, & Latham, 1981). However, this finding is based on the assumption that *commitment* to goal attainment exists (Locke, Latham, & Erez, 1988). Without commitment, goal level has no effect on performance

(Klein, Wesson, Hollenbeck, & Alge, 1999). Therefore, understanding goal commitment is important for understanding and improving job performance.

Some researchers have also examined the role of goal commitment in the voluntary turnover process. Traditionally, much of this research has focused on college student persistence – finding inverse relationships between commitment to the goal of obtaining a college degree and dropout (e.g., Getzlaf, Sedlaceck, Kearney, & Blackwell, 1984; Pascarella & Terenzini, 1983; Tinto, 1975). More recently, researchers have examined the influence of goal commitment on the attitudes of organizational newcomers (e.g., Maier & Brunstein, 2001). Because attitudes such as satisfaction and organizational commitment are thought to be central predictors of voluntary turnover (e.g., March & Simon, 1958; Mobley, 1977; Tinto, 1975), understanding the relationship of goal commitment with these attitudes is important to improving our understanding of the turnover process.

Given that goal commitment has been linked with such essential organizational outcomes as performance and voluntary turnover, it is crucial that researchers be able to predict and influence it. The key to doing so is identifying and understanding its antecedents. Some empirical support has been provided for models that propose both person and situation predictors of goal commitment (Hollenbeck & Klein, 1987; Klein, et al., 1999; Locke, et al., 1988), suggesting that variables related to person-environment interactions may be important influences on goal commitment. However, past research has been limited in that it tends to focus on additive or statistical interactions between individual and situational antecedents but fails to account for more complex types of relationships between these two categories of factors.

The aim of the present study is to expand existing models of goal commitment to more explicitly consider the results of embedding a person within a particular context. I propose that variables that reflect an individual's perception of him or herself with a particular situation, specifically perceptions of person-organization (P-O) fit and perceptions of met expectations, can be employed to predict goal commitment. I begin with a brief discussion of five major forms of person-environment interactions. Following that, I review the literature on goal commitment, perceived met expectations, and perceived P-O fit.

Person-Environment Interactions. One of the oldest debates in the history of psychology concerns whether a person's behavior is a function of his or her innate traits (person factors) or a function of his or her environmental context (situation factors). Most researchers acknowledge that both perspectives are to some extent correct (e.g., Caldwell & O'Reilly, 1990; Chatman, 1989; Donavan, Fang, Bendapudi, & Singh, 2004; Judge & Kristof-Brown, 2004; Lewin, 1951; Mischel, 1977). Different people may behave differently in the same situation, and the same person may demonstrate little cross-situational consistency in behavior. One can derive from this compromise position the proposition that each person/situation combination is unique, and each unique person/situation combination may elicit attitudes and behaviors different from any other person/situation combination. I refer to each individual person/situation combination as a "contextualized person."

The distinctions between contextualized persons may become more or less pronounced over time. When a person is embedded in a situation, the person and the environment exert reciprocal influences on one another that, over time, result in emergent

and flexible psychological states. In other words, characteristics of the situation influence the person's cognitions, attitudes, and behaviors, and at the same time, the person becomes an active element in the situation (e.g., Terborg, 1981). Cumulatively, these reciprocal relationships influence the psychological outcomes of the contextualized person, including perceptions and behaviors. Because this relationship is dynamic and reciprocal, it is expected that any predictors and outcomes of interest might exhibit change over time – either within persons, between persons, or both.

The notion that psychological outcomes, including behavior, are a function of the person/situation combination has been broadly accepted. For example, the fields of interactional and environmental psychology are founded on the notion that an individual's behavior is a function of both the person and the situation (Caldwell & O'Reilly, 1990; Chatman, 1989; Donavan, Fang, Bendapudi, & Singh, 2004; Lewin, 1951; Mischel, 1977; Stewart & Barrick, 2004). Researchers within the career counseling and stress and coping domains have also acknowledged the importance of studying the relationships between the person and environment, including the fit between an individual's characteristics and environmental demands (e.g., Moos & Swindle, 1990; Swindle & Moos, 1992; White, 1952). Complexity Theory endorses the notion that a dynamic environment exerts continually-changing demands upon the individual, and the individual responds to those demands in ways consistent with his or her internal characteristics (Bar-Yam, 2002). A focus on the joint effects of person and situation is also not new within the field of organizational behavior, as person-environment interactions have been acknowledged by several researchers in the past (e.g., Chatman, 1989; Judge & Kristof-Brown, 2004; Roberts, Hulin, & Rousseau, 1978).

Forms of Person-Environment Interactions

Five major forms of person-environment interactions have been identified: statistical interactions, mediation effects, independent direct effects, reciprocal effects, and cognitive sensemaking effects (Terborg, 1981). The first two forms, statistical interactions and mediation effects, refer to the multiplication of a person variable and a situation variable in order to summarize their non-additive effects. According to these types of interactions, the effects of the person variable on the outcome depend on the level of the situation variable, or vice versa. The third type of person-environment interaction is independent direct effects, wherein the person and situation variables both affect same outcome directly, but are unrelated to each other. In this case, both variables have additive, linear effects in the prediction of the outcome variable. Due to the heavy focus on data analytic techniques rather than theoretical mechanisms for person-environment relationships, Terborg (1981) refers to these three forms of person-environment interaction as “statistical and mechanistic” (pp. 572).

As opposed to the mechanical forms of interaction discussed above, the final two forms are referred to as “dynamic” due to their theoretical focus on the continuous and complex interactions between a person and his/her environment (Terborg, 1981, pp. 572). The fourth form of interaction, reciprocal interactions, incorporates the complex ways in which individuals and their environments affect each other over time. Environments affect the attitudes and behaviors of individuals, and those individuals in turn affect the nature of their environments. From this perspective, individuals, situations, and behaviors are mutually interdependent over time. Research undertaken from the perspective of reciprocal person-environment interactions, therefore, should be

longitudinal in nature, as consideration of the ways in which variables, and their relationships, change over time is essential (Terborg, 1981).

The final form of person-environment interaction, the cognitive sensemaking approach, refers to the notion that different individuals will perceive and interpret the same situation in different ways (Terborg, 1981). In this sense, between-person disagreement on the nature of a situation (e.g., organizational climate), should not necessarily be viewed as error, but instead should be incorporated as a construct of interest. Research from a cognitive sensemaking approach would tend to focus on individual differences in perceptions of situations, rather than more “objective” measures of situational differences.

In previous goal commitment research, when person-environment interactions have been considered, they have been approached primarily from the mechanical standpoint. Two major models of goal commitment have incorporated the notion of independent direct effects, and some research has incorporated the notions of mediation effects and statistical interactions (e.g., Hollenbeck & Klein, 1987; Klein & Wright, 1994; Locke, Latham, & Erez, 1988). The present study addresses whether dynamic conceptualizations of person-environment interaction might also inform our understanding of goal commitment. The present study thus focuses exclusively on variables conceptualized from the standpoint of reciprocal and cognitive sensemaking interactions.

In order to approach goal commitment from the dynamic interaction standpoint, I focus on individual differences in perceptions of the environment (cognitive sensemaking interactions) rather than on objective features of the environment. In formulating theory

and hypotheses, I focus explicitly on the ways in which the person and his/her environment may affect each other over time, and I measure the perceptual predictors and goal commitment longitudinally. Therefore, theoretical and empirical attention is devoted to the ways in which these variables may change and relate over time (reciprocal interactions).

Purpose of the Study

Two variables novel in the goal commitment literature, perceived met expectations and perceived person-organization (P-O) fit, will be examined as potential predictors of goal commitment. These two variables reflect one's perceptions of the self-environment combination, and thus, they reflect a cognitive sensemaking approach to person-environment interaction. *Perceived met expectations* refers to one's perception of the extent to which one's expectations prior to organizational entry (person factor) are compatible with what is actually experienced in the organizational environment (situation factor) at a given point in time. *Perceived P-O fit* refers to one's perception of the extent to which some personal characteristic (person factor) is similar to, or compatible with, the characteristics of the organization in which one is embedded (situation factor).

These two constructs are similar in that both reflect the perceptions of a contextualized person regarding some aspect of his or her unique person/situation combination. Thus, perceived met expectations and perceived P-O fit are both conceptualized as *perceptions* that are relevant to both the *self* and a *specific* environment (i.e., organization). It has been well-established that it is often one's perceptions and interpretations of a situation, which are usually only partially based on objective reality, that affect attitudes and behavior (e.g., Cable, Judge, Boudreau, & Bretz, 1995; Fiske &

Taylor, 1991; Kristof-Brown, Zimmerman, & Johnson, 2005; Nisbett & Ross, 1980). Therefore, knowledge of the perceptions of the contextualized person may be beneficial for accurate prediction of the person's goal commitment within a particular situation, such as one's organizational environment.

As will become evident, these conceptual similarities between perceived met expectations and perceived P-O fit have led to parallel debates in the met expectations and P-O fit literatures regarding appropriate measurement strategies for each (e.g., Edwards, 1991; Irving & Meyer, 1994; 1995). These measurement debates, and their relationships to construct definitions, will be addressed in more detail during the literature review.

Study Overview and Roadmap

The purpose of the present study is to examine the extent to which perceived met expectations and perceived P-O fit predict goal commitment for organizational newcomers. Thus, this investigation contributes to our existing knowledge of goal commitment by considering perceptions related to aspects of the specific self/situation combination relevant to the goal. I use a longitudinal sample of 566 incoming freshman students at 10 U.S. colleges and universities. (Several parallels are later drawn between college students and organizational employees in order to argue in favor of the appropriateness of this student sample). Respondents provided data on their perceptions of met expectations, perceptions of P-O fit, and commitment to the goal of obtaining their college degree at three time points over their first three academic semesters. Relationships among these constructs were analyzed using a mediated latent growth model (LGM). LGM is a data analytic technique that expands on traditional regression-

based analyses, allowing the researcher to examine the significance of the relationships between variables' change trajectories as well as the significance of Wave 1 concurrent relationships. This technique is valuable in longitudinal data analysis; however, it is important to note that it is correlational in nature. Therefore, while LGM provides an assessment of the extent to which changes in variables are significantly related, the reader should keep in mind that it does not allow causal inferences to be made.

I begin with a brief literature review of the three major constructs involved in the present study: goal commitment, perceived met expectations, and perceived P-O fit. The reviews of perceived met expectations and perceived P-O fit will include theoretical issues such as the distinction between the “objective” and “perceived” conceptualizations, and methodological issues related to that distinction. Following that literature review, I present several hypotheses. One of the basic tenants of the reciprocal form of person-environment interaction is that the person and situation influence one another reciprocally and dynamically over time. Research undertaken from this perspective must be not only longitudinal, but it must specify mechanisms for change (Terborg, 1981). Therefore, hypotheses are presented in reference to both concurrent relationships among variables and relationships in the ways in which these variables change over time.

Following the presentation of the hypotheses, I describe the study sample and procedure, followed by a presentation of the results, which will include descriptive statistics, preliminary analyses, and LGM analyses testing the hypotheses presented. Finally, I discuss implications of the study, potential limitations, and suggestions for future research.

Literature Review

Goal Commitment

In the past two decades, goal setting theory has become one of the preeminent theories of human motivation (Austin & Vancouver, 1996; Locke, et al., 1988). People in organizations may have a variety of different types of goals, including goals such as getting a promotion, learning new skills, or being well-liked. In institutions of higher learning, many students have the goals such as being on the Dean's list, being elected to student government, or successfully earning their degree.

Regardless of the nature of the goal content, one of the major findings from goal setting research has been that having a specific, difficult goal leads to higher performance than having an easy goal. However, this effect is dependent on one's goal commitment. If one is not committed to achieving the goal, the goal has no effect on behavior (Locke, et al., 1988). For this reason, goal commitment has become a major focus of research on goal setting (Klein & Wright, 1994).

Goal commitment was originally defined by Locke (1968) as one's resistance to changing one's goal over time; however, the accepted definition has become broader as research has progressed (Donovan & Radosevich, 1998). In their definition, Campion and Lord (1982) focused on the extension of effort over time as well as an unwillingness to change the goal. Locke and Latham (1990) defined goal commitment as one's determination to reach a goal, and later, Hollenbeck and colleagues (Hollenbeck & Klein, 1987; Hollenbeck, Williams, & Klein, 1989) defined goal commitment as one's determination to pursue a goal and persistence in goal pursuit over time.

More recently, DeShon and Landis (1997) defined goal commitment as, “the degree to which the individual considers the goal to be important, is determined to reach it by expending effort over time, and is unwilling to abandon or lower the goal when confronted with setbacks and negative feedback” (pp. 106). Note that this definition reflects several common themes in previous goal setting literature (e.g. Campion & Lord, 1982; Kernan & Lord, 1988; Latham & Locke, 1991; Locke, Latham, & Erez, 1988; Naylor & Ilgen, 1984; Riedel, Nebeker, & Cooper, 1988; Tubbs, 1993; Wright, O’Leary-Kelly, Cortina, Klein, & Hollenbeck, 1994) and incorporates attitudinal and behavioral components.

Some researchers have argued that goal commitment should be distinguished from goal acceptance, which is defined as initial agreement that the goal is an adequate performance standard (Hollenbeck & Klein, 1987; Tubbs & Ekeberg, 1991). This distinction is not always supported empirically (Locke & Latham, 1990; Renn, Danehower, Swiercz, & Icenogle, 1999). Some scholars have asserted that acceptance is a special case of commitment to an assigned goal (Locke et al., 1988; Locke, et al., 1981), and several researchers consider goal commitment and goal acceptance to be synonymous (e.g., Hollenbeck & Klein, 1987; Locke, et al., 1988; Tubbs & Dahl, 1991). Until more conclusive evidence is presented indicating that goal acceptance and goal commitment are, in fact, separate constructs, it is reasonable to continue the existing tradition of considering these constructs to be equivalent.

The key to understanding, predicting, and influencing goal commitment is the identification of its antecedents. Two major models of the predictors of goal commitment have been proposed. The first, and most influential, model of the goal commitment

process was proposed by Hollenbeck and Klein (1987) and is displayed in Figure 1. In this model, goal commitment is conceptualized as stemming from two proximal antecedents based in the expectancy theory framework: the *attractiveness* of goal attainment and the *expectancy* of goal attainment. Each of these proximal antecedents is proposed to be affected by the distal personal and situational antecedents, as displayed.

Many of these propositions have received empirical support (Hollenbeck, Klein, O'Leary, & Wright, 1989). A recent meta-analysis (Klein, et al., 1999) found that attractiveness, expectancy, and their interaction (termed motivational force) were significantly related to goal commitment. In addition, significant relationships were found between goal commitment and several of the proposed distal antecedents, including ability, volition/participation, affect, goal specificity, task experience, feedback provision, and feedback type. However, these relationships should be interpreted cautiously, as the number of studies examining the distal variables was relatively small (Klein, et al., 1999).

A second model of the goal commitment process was proposed by Locke and colleagues (1988). Like the Hollenbeck and Klein (1987) model, this framework incorporates internal (person) and external (situation) predictors of goal commitment. This model is displayed in Figure 2. Several of the predictors proposed in this model are also included in the Hollenbeck model, such as peer group influence, rewards and incentives, self-efficacy, and expectancy. Although the Locke, et al. (1988) model has inspired somewhat less empirical work than has the Hollenbeck and Klein (1987) model, support for the utility of these factors was provided by the Klein, et al. (1999) meta-analysis.

Figure 1
Hollenbeck & Klein's (1987) Goal Commitment Model

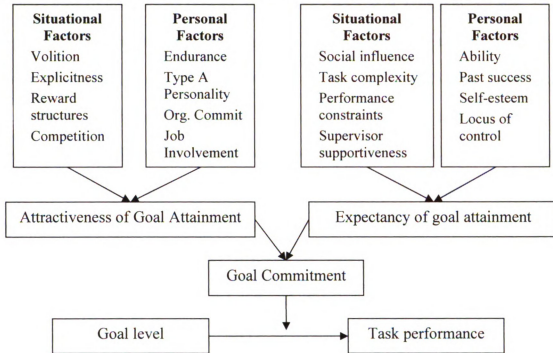
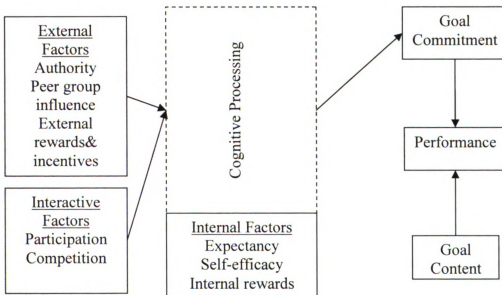


Figure 2
Locke, Latham, & Erez (1988) Model of Goal Commitment



Both the Hollenbeck and Klein (1987) and Locke, et al. (1988) models acknowledge that person-environment interactions may affect goal commitment. Both

incorporate the direct effects of person and situation factors, reflecting the “independent effects” form of interaction (Terborg, 1981). The Locke, et al. (1988) model also suggests elements of other types of interaction. For example, under the category of “interactive factors,” the model includes the extent to which the individual is permitted to participate in the setting of the goal and the extent to which there is competition for goal attainment. These factors are considered interactive in the sense that the relationship of participatory goal setting with goal commitment will depend on whether the individual’s cultural values and/or desire to participate in goal setting, and the effect of competition will depend on whether the individual desires competition (Klein & Wright, 1994; Locke, et al., 1988). These factors therefore reflect the “statistical interaction” form of person-environment interaction (Terborg, 1981).

The Locke, et al. model also briefly acknowledges the importance of cognitive processing. This is consistent with Terborg’s emphasis on the importance of the individual’s cognitive interpretation of the situation (Terborg, 1981). Although Locke, et al.’s model incorporates the “cognitive processing” box, the authors say little about the meaning or content of that box, and little subsequent attention has been paid to this more subjective element of the goal commitment process. The present study aims to address this gap in the literature by examining the extent to which perceptions of the contextualized person can be employed to predict goal commitment. More specifically, I focus on perceptions of met expectations and perceptions of P-O fit.

I proceed with the caveat that the more traditional predictors of goal commitment, including individual measures of person and situation factors, are not measured in the present study. Therefore, the extent to which perceived met expectations and perceived

P-O fit might predict additional variance in goal commitment over and above these more traditional predictors cannot be determined here. The purpose of the present study is simply to assess whether perceptions of the person/situation combination, specifically perceived met expectations and perceived P-O fit, might be useful predictors of goal commitment in and of themselves.

Goal Commitment Measurement . A 9-item self-report measure was developed by Hollenbeck and colleagues (Hollenbeck, et al., 1989; henceforth referred to as HWK). Subsequently, Tubbs and colleagues (Tubbs & Dahl, 1991; Tubbs, 1993) argued that self report measures of goal commitment in general, and the HWK scale in particular, require caution. They argued instead that goal commitment should be assessed as the discrepancy between assigned goals and self-set goals.

Research on this issue has shown that self-report and discrepancy measures of goal commitment are typically only weakly related (Donovan & Radosevich, 1998; Tubbs, 1993; Wright et al., 1994), suggesting that there may be differences in the constructs being measured. It has been suggested that self-report measures of goal commitment might actually assess three concepts: motivational force, choice of a personal goal, and maintenance of that choice (Tubbs, 1993; Tubbs & Ekeberg, 1991). As described above, motivational force is conceptualized as an antecedent of goal commitment rather than a component of goal commitment itself (Hollenbeck & Klein, 1987; Klein, et al., 1999). Therefore, this claim posed a serious threat to the validity of direct measures of goal commitment, and Tubbs and colleagues (1991) suggested that the discrepancy between commitment to a personal goal and an assigned goal be used to measure goal commitment.

The Hollenbeck camp disputed Tubbs and colleagues' suggestion that the discrepancy measure of goal commitment should be used (Wright, et al., 1994). They argued persuasively that discrepancy-based measurement of goal commitment is inappropriate for four theoretical reasons. First, Wright, et al. (1994) argued that discrepancy-based measurement is inconsistent with the definition of goal commitment as extension of effort over time and unwillingness to abandon a goal. Whereas items in a self-report measure can directly address this definition, researchers using the discrepancy measure must infer these characteristics. Second, they argued that discrepancy-based measurement is problematic in that discrepancy measures are highly related to their components. It has been found that the discrepancy between personal and assigned goals is correlated so highly with personal goal levels that they are almost indistinguishable ($r_s = .79$ and $.91$; Tubbs & Dahl, 1991). Third, Wright, et al. (1994) pointed out that the discrepancy measure as defined by Tubbs and colleagues does not consider the sign of the deviation, effectively equating positive and negative discrepancies. This, they point out, is contradictory to several motivation theories that argue that efforts to reduce negative discrepancies differ from efforts to create positive discrepancies (e.g., control theory and self-efficacy theory). Finally, they propose that the arguments in favor of the use of a discrepancy measure inappropriately over-emphasize effect size findings relative to theory as the standard for construct validity. The four points presented above strongly argue in favor of the use of self-reports measures of goal commitment as opposed to a discrepancy-based measure.

Since the arguments presented by Wright, et al., (1994), the HWK scale has become the most frequently-used method of measuring goal commitment (DeShon &

Landis, 1997; Klein, et al., 1999; Klein, Wesson, Hollenbeck, Wright, & DeShon, 2001). This scale was developed by compiling several single-item measures of goal commitment that were in use at the time of the scale's conception and writing additional items (Hollenbeck, et al., 1989). The items selected and written for this scale, therefore, were based on the definitions of goal commitment in use during the 1980s. Despite the theoretical foundation and popularity of this scale, some measurement controversy has persisted. Specifically, while some researchers presented evidence suggesting that the 9-item HWK scale was unidimensional (Hollenbeck, et al., 1989; Wright, et al., 1994), other evidence suggested that the scale might in fact represent two factors (DeShon & Landis, 1997; Tubbs & Dahl, 1991). Authors from both camps collaborated in order to identify a 5-item version of the HWK scale with strong evidence for unidimensionality (Klein, et al., 2001). These five items are displayed in Table 1, and this version of the HWK scale is the most recommended method for measuring goal commitment.

Table 1
5-Item HWK Goal Commitment Scale

1.	It's hard to take this goal seriously (R)
2.	Quite frankly, I don't care if I achieve this goal or not (R)
3.	I am strongly committed to this goal
4.	It wouldn't take much to make me abandon this goal (R)
5.	I think this is a good goal to shoot for

Summary. Goal commitment has been found to predict two of the most important organizational outcomes: performance and voluntary turnover. Therefore, predicting and understanding goal commitment is essential. Although several person and situation factors have been linked to goal commitment via direct effects, the perceptions arising from the dynamic and reciprocal relationship between a person and his/her context have been neglected in the goal commitment literature. I next discuss two such perceptions

that are examined in the present study: perceptions of met expectations and perceptions of person-organization fit.

Perceived Met Expectations

Typically, the voluntary turnover rate tends to be higher for new organizational members than for those with longer tenure, regardless of whether the organization in question is business-related or academic in nature (e.g., ACT, 2004; Gerdes & Mallinckrodt, 1994; Helland, Stallings, & Braxton, 2001-2002; Mallinckrodt & Sedlacek, 1987; Shaw, 1968). Also regardless of the type of organization, research has suggested that individuals' pre-entry expectations about various aspects of organizational membership are often unrealistically high (Haynes, Ruthig, Perry, Stupinsky, & Hall, 2006; Wanous, 1977). The combination of these findings has led to the met expectations hypothesis, which states:

The concept of met expectations may be viewed as the discrepancy between what a person encounters on the job in the way of positive and negative experiences and what he [sic] expected to encounter. Thus, since different employees can have quite different expectations with respect to payoffs or rewards in a given organizational or work situation, it would not be anticipated that a given variable (e.g., high pay, unfriendly work colleagues, etc.) would have a uniform impact on withdrawal decisions. We would predict, however, that when an individual's expectations – whatever they are – are not substantively met, his [sic] propensity to withdraw would increase. (Porter & Steers, 1973, pp. 152)

According to this met expectations hypothesis, the negative effects of an unfavorable organizational situation, such as an unjust supervisor or professor, will be attenuated if the individual has realistically negative expectations for fairness. Conversely, the positive attitudinal effects of bonus pay or a scholarship will be attenuated if the individual had expected a larger bonus or scholarship than received.

Since this original statement, researchers have acknowledged that the direction of the discrepancy from expectations is meaningful. More specifically, a positive discrepancy (i.e., experiences exceed what was expected) is considered to be different than a negative discrepancy (i.e., experiences fall short of expectations). Met expectations, then, can fall on a linear scale ranging from “unmet expectations” to “met expectations” to “exceeded expectations” (e.g., Major, Kozlowski, Chao, & Gardner, 1995). Therefore, although the term used here is “met expectations,” my conceptualization of the construct includes the notion that expectations can be exceeded, and exceeded expectations are considered to be more positive than expectations that are simply met.

Research on met expectations has generally found significant relationships between the extent to which pre-entry expectations have been met or unmet and several attitudes and behaviors, including turnover. A meta-analysis by Wanous, Poland, Premack, and Davis (1992) directly examined the met expectations hypothesis and found that across a sample of 31 studies and 17,241 participants, met expectations were positively related to a number of attitudes and behaviors, including job satisfaction ($r = .39$), organizational commitment ($r = .39$), intent to remain with the organization ($r = .29$), and turnover ($r = -.19$).

This consistent finding linking met expectations to attitudes and turnover has inspired practical applications, such as realistic job previews (RJPs). RJPs are interventions designed to provide job applicants with more realistic expectations for what actual work experiences will entail. Based on research suggesting that the expectations of incoming organizational members are usually inflated (Wanous, 1977), RJPs typically

provide applicants with realistically negative information about the job in order to deflate their unrealistically high expectations prior to acceptance or organizational entry. Several reviews of the literature on RJPs have been conducted (e.g., Premack & Wanous, 1985; Wanous, 1977; Wanous & Colella, 1989). In general, these reviews have found that RJPs are successful in lowering applicant expectations and that RJPs are linked with decreased intent to turnover and improved attitudes in organizational newcomers.

In the present study, I am concerned with *perceptions* of met expectations. I define *perceived* met expectations as the extent to which an individual believes that the expectations he or she had prior to organizational entry have been met. Note then, that a person's *perception* of met expectations may differ from any objective measure of the degree to which pre-entry expectations have been met. This perspective is somewhat different from the way in which met expectations has been characterized in the past. Traditionally, met expectations has been viewed as a discrepancy-related construct that remains relatively fixed upon organizational entry (e.g., Dabos & Rousseau, 2004; Hom, Griffeth, Palich, & Bracker, 1998; Ilgen & Seely, 1974; Major, et al., 1995). When we consider *perceived* met expectations, a more complex picture is revealed. This picture involves a construct representing a person's perceptions regarding the context in which he or she is embedded, regardless of whether those perceptions are true to organizational reality. This focus on *perceived* met expectations is consistent with the cognitive sensemaking approach to person-environment interactions, which suggests that individuals will interpret the same situation in different ways (Terborg, 1981).

In addition, one's perceptions of met expectations may change over time. As suggested for researchers approaching person-environment interactions from the

reciprocal interactions standpoint (Roberts, et al., 1978; Terborg, 1981), I specify several theoretical mechanisms by which perceptions of met expectations may change over time.

Changes in perceptions of met expectations might very well reflect real changes occurring in the organization. For example, an employee's job requirements or group of coworkers might change, altering the experiences portion of the comparison. Parallels in an academic setting might be a new semester of coursework or new roommates.

Regardless of whether the context is business or academic in nature, to the extent that people perceive that the changes have occurred, their perceptions of met expectations are likely to change. Furthermore, because people are active agents in their environments, they may be able to actively change the nature of their environment to more closely meet their expectations, which is also likely to affect perceptions of met expectations.

Alternatively, changes in perceptions of met expectations may occur independently of any real changes in the organizational context. For example, organizational socialization processes could affect the person's *perception* of the extent to which the situation is discrepant from expectations. These changes in perceptions could occur without a change in any objective aspect of the person or the situation. Over time, the influence of the situation may even change the person's memory of what his or her initial expectations were prior to organizational entry, thereby affecting perception of the degree to which those expectations have been met.

In summary, as a perception, perceived met expectations represents the individual's cognitive interpretation of the complex, reciprocal, and dynamic interplay of person and situation. Changes in these perceptions over time may or may not reflect actual changes in the degree to which one's pre-entry expectations have truly been met.

The focus on *perceived* met expectations has implications for an ongoing discussion of measurement issues related to the met expectations construct (e.g., Irving & Meyer, 1994, 1995).

Perceived Met Expectations Measurement. Drawing on a critique of the methodology used in the literature on person-job fit (Edwards, 1991), Irving and Meyer (1994) presented a critique of several methods used to assess met expectations, including both discrepancy-based and direct measures. Irving and Meyer contend that direct measures of met expectations, in which respondents directly report the degree to which their expectations have been met by actual work conditions, are problematic in that researchers are unable to assess the separate and combined effects of pre-entry expectations and post-entry experiences. In other words, they argue that when using direct measures, researchers are unable to say with confidence that it is met expectations, rather than only expectations or only organizational experiences, that affects the outcome of interest. In addition, when direct measures are used, the effects of expectations and experiences are weighted by each individual who responds to the survey items according to his or her individualized preferences. Therefore, a standardized weighting of the effects of each component is not possible using the direct measurement method.

However, in the present study, I do not hypothesize any relationships involving “objective” met expectations. Instead, I focus on *perceptions* of met expectations, which is a subjective construct. Given this perspective, it makes theoretical and practical sense to use direct measures of perceived met expectations. From the reciprocal and cognitive sensemaking interaction perspectives, no prescriptive scheme exists for the weighting of the person and situation effects. Instead, individual differences should exist in both the

importance of various expectations relative to one another and in the effects of the degree of perceived violation of any particular expectation. Prior research suggests that people weight some dimensions of their experiences more heavily than others when rating their perceptions of met expectations (Irving & Meyer, 1995). These differences are consistent with the cognitive sensemaking interactional perspective and therefore, direct measures are appropriate when measuring *perceived* met expectations. From this standpoint, individual differences in weighting are theoretically expected and should not be viewed as measurement error but should instead be considered part of the construct variance.

The focus on the *perception* of met expectations also eliminates a second potential cause for worry when direct measures are used: memory biases. Some scholars have raised concerns regarding the potential for memory distortions to affect direct ratings of met expectations (Irving & Meyer, 1995). However, when one views met expectations as a perception, this concern become less troubling. Because the interest here is in *perceived* met expectations, accurate recollection of expectations prior to organizational entry is not necessary. Instead, the ways in which a person's organizational experiences affect his/her memory as time passes (which might occur naturally or through the socialization process) become theoretically interesting. The psychological state that is characterized by the perceived met expectations variable is a perception of reality, and while this perception is almost certainly influenced by objective reality, it is the perception and not the reality that is of theoretical interest in the present study.

Finally, the reciprocal interactive perspective on perceived met expectations allows for the possibility that perceptions of met expectations could be, and should be, measured repeatedly over time. A study that is theoretically based on the reciprocal

influences form of interaction should conceptualize relationships in a longitudinal sense (Terborg, 1981). As discussed previously, changes in perceptions of met expectations over time could theoretically result from changes in actual organizational experiences, changes in perceptions independent of actual changes in experiences, or both. Such an interest in changes in perceptions of met expectations essentially demands direct measurement of met expectations, as is demonstrated by the following scenario. Imagine a situation in which a researcher collected pre-entry expectations data and a series of three waves of post-entry work experiences measures. Assume for the purpose of this example that equal weighting of expectations and experiences is valid, and the researcher calculates discrepancy scores between pre-entry expectations and actual experience at each wave of data collection. Because the pre-entry expectations remain constant over time, the discrepancy score essentially reflects only changes in experiences. In this case, the discrepancy method of measuring met expectations would reflect actual work experiences subtracted from a constant and would be essentially useless in a longitudinal data collection. Instead, the reciprocal influences approach demands that perceptions of met expectations be measured repeatedly so that changes in the construct can be assessed.

Summary. Perceived met expectations represent the degree to which one believes that his or her pre-entry expectations have been met. These perceptions are subjective and may or may not reflect “objective” met expectations. Although concerns have been raised regarding the construct validity of direct measures of met expectations (Irving & Meyer, 1994; 1995), when researchers are interested in *perceptions* of met expectations, direct measures are theoretically and practically appropriate. The focus on perceptions of met expectations allows for individual differences in the weighting of various expectations

relative to each other as well as for individual differences in the weighting of the effects of violations of these expectations.

The second potential predictor of interest in the present study is perceived person-organization (P-O) fit. The concerns raised regarding direct measurement of P-O fit parallel those presented against direct measurement of met expectations. Similarly, I will argue that because the focus in the present study is on *perceptions* of P-O fit, the construct is best assessed via direct measurement.

Perceived Person-Organization Fit

Consistent with the interactive perspective, the concept of fit stems from the idea that many outcomes are a function of the combination of characteristics of a person and characteristics of his or her environment (Chatman, 1989). The person-organization (P-O) fit construct reflects the extent to which a person is compatible with the characteristics of his or her organization. Thus, it considers the *combination* of a person's characteristics and the characteristics of his/her organizational environment. P-O fit has been distinguished from other forms of person-situation fit, such as person-group fit, person-job fit, and person-vocation fit (Kristof, 1996) and has been conceptualized in several ways, including similarity, need-satisfaction, and demand-ability match (Kristof-Brown, et al., 2005).

In the past decade, a general consensus has emerged that there are two general types of P-O fit. The first type, supplementary congruence, refers to the extent to which the person and the organization are similar on some dimension (Kristof, 1996). For example, supplementary congruence would occur if the person and the organization as a whole both valued diversity, both preferred competition to collaboration, or both

endorsed work-life balance. The second type of P-O fit, complementary congruence, refers to the extent to which the person and the organization contribute to one another's needs (Kristof, 1996). Complementary congruence does not imply similarity, but instead denotes a symbiotic relationship between person and organization. For example, imagine a person who is highly creative but weak on ability to follow through on his or her ideas. An organization might provide this person with a structured environment in order to facilitate follow through. Complementary congruence would be achieved in that the organization benefits from the individual's creativity and the individual benefits from the organization's structure and resources.

Although both supplementary and complementary congruence are generally accepted as valid forms of P-O fit and are both compatible with the person-environment interaction perspective, most empirical research has focused on supplementary fit (Kristof-Brown, et al., 2005). Hypotheses concerning the supplementary form of P-O fit (which focuses on similarity), have largely grown from Schneider's (1987) Attraction-Selection-Attrition (ASA) framework. The ASA model proposes that certain types of people are *attracted* to organizations where they perceive the organization and its people as being similar to themselves in some way; that organizations *select* applicants who they feel are similar to current members; and finally, that selected members who perceive that they are dissimilar to the majority of organizational colleagues will *attrit*, or leave the organization. The result of this process is a relatively homogeneous group of people within the organization, as well as the formation of an aggregate organizational "personality."

Person-organization similarity could occur on several dimensions, including goal congruence (e.g., Vancouver & Schmitt, 1991) or personality-climate congruence (e.g., Christiansen, Villanova, & Mikulay, 1997; Ryan & Schmit, 1996). By far, the most commonly-used dimension on which P-O fit is assessed is values congruence (Kristof, 1996; Verquer, Beehr, & Wagner, 2003). This emphasis on values can be largely attributed to Chatman's (1989) influential theory of P-O fit, as well as to the validation of a values-based P-O fit measure, the Organizational Culture Profile (O'Reilly, Chatman, & Caldwell, 1991; Kristof-Brown, et al., 2005). With some exceptions (e.g., Cable & Judge, 1996; 1997), many researchers have recently defined P-O fit as synonymous with value congruence (e.g., Cable & DeRue, 2002; Cable & Parsons, 2001; Chatman, 1989; Kristof, 1996). Empirical support for this conceptualization is provided by Cable and Judge (1996), who found that values similarity was significantly related to P-O fit, but demographic similarity was not.

Consistent with the ASA framework (Schneider, 1987), P-O fit has been linked with several positive organizational outcomes, including organizational commitment, satisfaction, lower intent to turnover, willingness to recommend the organization to others, and citizenship behavior (e.g., Judge & Bretz, 1993; Cable & DeRue, 2002; Cable & Judge, 1996; Chatman, 1989; Goodman & Svyantek, 1999; Meglino, Ravlin, & Adkins, 1989; O'Reilly & Chatman, 1986; O'Reilly et al., 1991; Verquer, et al., 2003; Westerman & Cyr, 2004). Attitudes and intent to turnover are the most frequently studied outcomes of P-O fit (Verquer, et al., 2003), and meta-analyses have generally found significant relationships between P-O fit and attitudinal outcomes. Verquer and colleagues (2003) found significant overall mean correlations between value congruence

and satisfaction ($r = .31$), organizational commitment ($r = .30$), and intent to turnover ($r = -.43$). A more recent meta-analysis conducted by Kristof-Brown and colleagues (2005) found significant latent relationships between P-O fit (defined as values congruence) and satisfaction ($r = .50$), organizational commitment ($r = .65$), intent to turnover ($r = -.35$), task performance ($r = .13$), contextual performance ($r = .27$), and strain ($r = -.27$). Thus, P-O fit has been consistently linked with several positive outcomes for organizational members.

P-O fit has been shown to have positive outcomes for applicants as well as for current organizational members. For example, P-O fit has been linked to applicant job choice decisions (Cable & Judge, 1996) and interviewer job offer recommendations (Adkins, Russell, & Werbel, 1994; Cable & Judge, 1997; Rynes & Gerhart, 1990). The Kristof-Brown, et al., (2005) meta-analysis supported these conclusions, finding significant relationships between P-O fit and organizational attraction ($r = .46$), job acceptance ($r = .24$), intent to hire ($r = .61$), and job offers ($r = .32$). These findings are consistent with the proposals of the ASA model (Schneider, 1987) and with research indicating that applicants prefer organizations which are perceived as being similar to themselves (Cable & Judge, 1994; Chatman, 1989; Judge & Bretz, 1992). In addition, applicants who place more weight on P-O fit during the organizational selection process have higher P-O fit perceptions after organizational entry, and post-entry P-O fit perceptions are in turn linked to higher satisfaction and commitment (Cable & Judge, 1996). Overall, research supports the proposition that P-O fit is influential in the organizational selection process as well as after organizational entry.

Given the strength of the evidence supporting relationships between P-O fit and a wide array of positive outcomes, we might next ask what the antecedents of P-O fit might be. Most research has focused on selection and socialization processes as the two main factors that affect P-O fit. In each case, attention has been focused on both individual differences and characteristics of the organization.

Much research has assumed that applicants affect their future P-O fit by selecting organizations where they believe they will fit well and by self-selecting out of selection processes for organizations where they do not believe they will fit (e.g., Bowen, Ledford, & Nathan, 1991; Schneider, 1987). Some empirical research has supported this proposition, generally using a policy-capturing approach in which participants make judgments about the attractiveness of hypothetical organizations (Bretz, Ash, & Creher, 1989; Burke & Deszca, 1982; Cable & Judge, 1994; Judge & Bretz, 1992; Turban & Keon, 1993). In addition, Cable and Judge (1996) found that applicants who reported placing greater emphasis on P-O fit concerns during selection report experiencing higher levels of P-O fit after organizational entry. Cumulatively, this research supports the notion that P-O fit can be affected by individuals' efforts to select organizations in which they believe they will fit.

P-O fit can be affected by organizations as well as by individuals. Cable and Judge (1997) found that interviewers were able to make accurate judgments about the extent to which applicant and organizational values were congruent and that these judgments significantly affected the interviewers' recommendations. The emerging consensus, therefore, is that P-O fit is a concern of both applicants and organizations, and

that decisions made during the selection process affect subsequent P-O fit. Clearly, P-O fit is a function of both individual and organizational influences in the selection process.

P-O fit can also be affected after organizational entry during the socialization process. Because one of the major goals of the socialization process is to encourage the continuation of important organizational values (Jones, 1986; Van Maanen & Schein, 1979), and because P-O fit is often conceptualized as value congruence, one could say that one of the major purposes of the socialization process is to ensure P-O fit. It has been suggested that when individuals enter an organization, they often experience “reality shock” characterized by high uncertainty, anxiety, and differences between their expectations about the organization and organizational reality (Jones, 1986; Louis, 1980; Van Maanen & Schein, 1979). Research has shown that socialization techniques can significantly improve P-O fit by changing the individual’s values (Cable & Parsons, 2001). In these ways, the organizational environment influences P-O fit.

Although the majority of socialization research has centered on the extent to which the organization actively influences P-O fit, it has also been proposed that P-O fit can be improved through individual efforts to change the organization. Research has shown that people can and do actively change their organizational situations (e.g., Kohn & Schooler, 1978; Meyerson & Scully, 1995; Miner, 1987). Although such bottom-up effects may be weaker or slower to emerge than the top-down effects that the individual has on the organization, these individual efforts may result in shifting norms and may eventually have large effects on the organizational climate. It has been recommended that researchers consider the possibility of such individual influences on P-O fit (Chatman, 1989).

In the present study, consistent with the cognitive sensemaking perspective on person-environment interaction, I am interested in *perceptions* of P-O fit. The perceptions perspective allows for P-O fit to exist as long as it is perceived to exist, regardless of the actual degree of fit (Kristof, 1996). Like perceived met expectations, perceived P-O fit may or may not mirror the “objective” nature of the situation. In other words, an individual may perceive value congruence even when the discrepancy between the individual’s values and separately-assessed measures of the organization’s values is large.

I also consider the ways in which changes in perceived P-O fit might occur. Changes in perceptions of P-O fit may or may not reflect actual value change on the part of either the individual or the organization. Some preliminary research has focused on the extent to which the organization can affect individual perceptions of P-O fit. For example, research has shown that socialization techniques can significantly improve P-O fit by changing the individual’s values (Cable & Parsons, 2001). Actual changes in the individual’s values should often be related to changes in perceptions of person-organization value congruence. However, it is also possible that the socialization process might result in increased *perceptions* of the extent to which the individual’s values match those of the organization without creating any actual change in individual values.

It has also been suggested that perceptions of P-O fit can be improved through individual efforts to change the organization. Research has shown that people can and do actively change their organizational situations (e.g., Kohn & Schooler, 1978; Meyerson & Scully, 1995; Miner, 1987), and it seems reasonable to believe that these actual changes may be correlated with changes in perceptions of the situation. In summary,

research suggests that one's perceptions of P-O fit can change over time and can be affected by both the organization's influences on the individual and the individual's influence on the organization.

Perceived P-O Fit Measurement Issues. Several methods for measurement and computation of P-O fit have been proposed. Direct, or subjective, P-O fit measures directly ask respondents to report how well they think their characteristics match the organization's characteristics. Indirect measures ask respondents to rate both themselves and the organization on dimensions such as values. For indirect measures, the ratings of the organization's characteristics can be provided either by the individual or a separate rater, or an aggregate of numerous responses may be used. Using indirect measures, the degree of fit is then computed using, for example, a difference score, interaction, correlation coefficient, or polynomial regression.

P-O fit has been the subject of measurement discussion that is largely parallel to the issues discussed relevant to met expectations (Edwards, 1991; Irving & Meyer, 1994; 1995; Kristof-Brown, et al., 2005; Meglino & Ravlin, 1998; Verquer, et al., 2003). The concerns raised regarding direct measurement of P-O fit (e.g., Edwards, 1991) largely parallel those raised by Irving and Meyer (1994, 1995) regarding direct measurement of met expectations. Edwards (1991) argued that direct measures of P-O fit are problematic in that they do not allow researchers to distinguish between the effects of personal values and organizational values and that unless the specific values or other dimensions to be considered are specified, researchers cannot ensure that commensurate dimensions are being used when respondents estimate fit. In addition, direct measures have been criticized to the extent that significant relationships between scores on these measures

and responses on job attitude measures may be created by respondents' desire to be cognitively consistent (Salanick & Pfeffer, 1977).

Other P-O fit researchers have responded to these claims by arguing convincingly that direct and indirect measures may, in fact, be tapping different constructs (Kristof-Brown, et al., 2005). Research suggests that direct and indirect measures of P-O fit are only weakly related (Cable & Judge, 1997; Kristof-Brown & Stevens, 2001). It has been proposed that the weak correspondence between these two types of measures might be due either to individuals' failure to interpret characteristics of the environment accurately or failure to accurately self-assess (French, Rogers, & Cobb, 1974). These two errors would cause one's perception of the fit between oneself and the environment to differ from the objective discrepancy between personal and organizational values.

Several studies have supported the notion that discrepancy scores and direct measures of P-O fit may not be measuring the same construct. First, as mentioned above, these measures tend to be only weakly correlated (Cable & Judge, 1997; Kristof-Brown, et al., 2005). Second, research has found that these two types of measures are differentially related to outcomes. For example, Cable and Judge (1997) found that perceived values congruence was significantly related to interviewers' hiring recommendations and organizational hiring decisions, whereas actual values congruence was not. A study undertaken to explicitly examine the relationship of discrepancy and direct measures of P-O fit found that discrepancy scores do not relate to perceived P-O fit in the expected manner, and it was suggested that fit discrepancy and perceived fit be considered distinct constructs (Edwards, Cable, Williamson, Lambert, & Shipp, 2006). The consensus, then, is that perceived P-O fit is not the same thing as objective P-O fit,

and when researchers are interested in assessing *perceptions* of P-O fit, direct measures are appropriate (Cable, et al., 1995; French et al., 1974; Kristof, 1996; Kristof-Brown, et al., 2005).

In the present study, I am interested in *perceived* P-O fit. Because the cognitive sensemaking approach to person-environment interaction specifies that individuals should be expected to perceive situations in unique ways, it allows for P-O fit to exist as long as it is perceived to exist, regardless of the actual degree of fit (Kristof, 1996; Terborg, 1981). In addition, when direct measures of perceived P-O fit are used, respondents are able to weight various factors as appropriate for their perceptions, allowing for individual differences in the salience of various dimensions (Kristof-Brown, et al., 2005). In support of the idea that perceptions are stronger drivers of attitudes and behaviors than are objective realities, research has shown that direct measures of P-O fit perceptions tend to be more strongly predictive of several outcomes than are objective fit measures (Kristof-Brown, et al., 2005). Theoretically, direct measurement is more appropriate than discrepancy-based measurement when researchers are interested in *perceived* P-O fit.

Summary. Several of the theoretical and measurement concerns raised in the literature regarding met expectations have also been raised regarding P-O fit. These concerns are based on issues regarding the construct definition of these variables – more specifically, the distinction between “actual” met expectations or “actual” P-O fit and *perceptions* of these constructs. In the case of both perceived met expectations and perceived P-O fit, it is clear that the perceptions of a contextualized person, who both

influences and is influenced by his or her environment, are more adequately assessed via direct measurement than by discrepancy scores.

Generalizability to Student Samples

In the previous sections, I have reviewed the literature on goal commitment, perceptions of met expectations, and perceptions of P-O fit. This review focused primarily on research from the organizational literature. In the present study, I use a sample of undergraduate college students. Because the generalizability of findings from a student sample to organizational employees (and vice versa) may be a concern for some readers, I now present several arguments in favor of the appropriateness of the student sample used in this study.

First, it is important to note that the hypotheses tested here are high-level in nature and are proposed to reflect broad psychological processes that function in equivalent ways in multiple situations. Because the perceptions addressed here refer to one's perception of one's relationship with a particular environment, the nature of the specific environment (e.g., organizational or academic) is taken into account. The individual "objective" features of the environment that affect one's construction of perceptions of met expectations or P-O fit may vary between academic and organizational environments (just as they are expected to vary across persons). However, I propose that once those perceptions have been constructed, the high-level psychological process by which those perceptions are related to one another and to goal commitment is likely to apply regardless of the specific nature of the individual's environment.

Furthermore, several similarities between student and employee populations have been identified that will be relevant to the hypotheses presented here. These four

similarities support the use of the student sample in the present study. First, both students and employees accept offers to enter their organizations based on expectations about what organizational life will be like. This has been found to be true for both high school seniors accepting college admission offers (Braxton, Vesper, & Hossler, 1995; Chapman, 1981) and for job applicants (Cable & Judge, 1994; Cable & Judge, 1996; Judge & Cable, 1997). Second, on average, both incoming college students and new organizational employees tend to have unrealistically inflated expectations that are often unmet upon entry (ACT, 2004; Buckley, 1971; King & Walsh, 1972; Lauterbach & Vielhaber, 1966) and lead to high initial turnover rates (Gerdes & Mallinckrodt, 1994; Helland, et al., 2001-2002; Mallinckrodt & Sedlacek, 1987; Shaw, 1968).

Third, college students and employees hold personal goals and vary in their commitment to those goals. Much research on the types of goals individuals hold has focused on achievement goals, and this research suggests that both college students and organizational employees hold varying levels of achievement goals (e.g., Button, Mathieu, & Zajac, 1996). Research on more specific types of goals, including individually-selected personal work goals for organizational employees and the goal of college degree obtainment for college students, supports the inference that people have goals to which they are committed in varying degrees, and that those goals are related to important outcomes such as attitudes, performance, well-being, and retention (e.g., Allen & Nora, 1995; Kaufman & Creamer, 1991; Maier & Brunstein, 2001; Moore & Davidson, 2006; Roberson, 1990).

Finally, research suggests that both students and employees care about P-O fit. Fit or perceptions of fit have been related to several important student outcomes,

including GPA, attitudes, and turnover intentions (Cabrera, Nora, & Castaneda, 1993; Pascarella, Smart, & Ethington, 1986; Schmitt, Oswald, Friede, Imus, & Merritt, 2007); as well as for similar employee outcomes including performance, attitudes, and turnover intentions (Kristof-Brown, et al., 2005; Sims & Kroeck, 1994).

The arguments presented above suggest that college students and employees may experience similar psychological processes involving perceptions of met expectations, perceptions of fit, and goal commitment following organizational entry. In the present study, I hypothesize that perceived met expectations and perceived P-O fit will be significant predictors of goal commitment. Furthermore, because perceptions are proposed to change over time as the person and situation exert reciprocal influences on one another (Terborg, 1981), the relationship between changes in these factors over time and changes in goal commitment over time will be examined.

General Study Rationale

Research has not yet directly incorporated self-environment perceptions in the prediction of goal commitment. However, there is some evidence that suggests that consideration of the interaction between person and situation may contribute to the prediction of goal commitment. For example, Klein and Wright (1994) found that the multiplicative interaction of self-esteem and normative information about peers' performance and the interaction of self-esteem and rewards captured 14% of the variance in goal attractiveness over and above the direct effects of these variables. Because goal attractiveness has been shown to be a proximal antecedent of goal commitment, a possible effect of the interaction on goal commitment itself can be inferred. In addition, Hollenbeck et al. (1989) found that the interaction of need for achievement and goal

origin (self-set or assigned) significantly added to the prediction of goal commitment. These studies suggest that person and situation factors may combine to affect goal commitment and that further investigations of such relationships may be fruitful.

Additional evidence that interactive constructs may be significant predictors of goal-related constructs was provided by Kristof-Brown and Stevens (2001). These authors studied goal congruence (mastery and performance goals) in project teams. It was hypothesized that when an individual team member perceives that other team members share his or her goals, he or she might believe that the team is more likely to support the attainment of valued outcomes. In other words, they hypothesized that perceived goal congruence would affect team member expectancy for goal attainment. They found that perceived goal congruence among team members was significantly related to increased team member satisfaction and increased work-related contributions to the team project. Kristof-Brown and Stevens (2001) did not explicitly measure expectancy, nor did they assess the extent to which team member goals affected and were affected by other team members throughout the 7-week task. However, their study points to the potential contribution of perceptions of met expectations and perceptions of P-O fit in predicting goal-related attitudes and behaviors.

In summary, the present study contributes to the literature by investigating the extent to which perceptual variables based theoretically in the dynamic forms of person-environment interaction are significant predictors of goal commitment. Although previous studies have considered the possibility that the mechanical forms of person-environment interaction might relate to goal commitment, research has yet to consider

variables based in the reciprocal influences and cognitive sensemaking forms of interaction.

Hypotheses

The first two hypotheses concern the relationship between perceived met expectations and perceived P-O fit. According to the ASA model (Schneider, 1987), individuals are attracted to organizations that they perceive as being similar to themselves on the things they value. This proposition has been supported empirically by studies finding that interviewers make offers, and applicants make acceptance decisions, based in part on P-O fit concerns (e.g., Arthur, Bell, Villado, & Doverspike, 2006; Cable & Judge, 1996, 1997). These findings could be interpreted as suggesting that interviewers and applicants make decisions based on *expectations* about P-O fit. In other words, an applicant selects an organization in which he or she believes that he or she will achieve the greatest degree of fit on the values that are most important to that individual applicant, whatever those values might be. Once the individual has entered the organization, the extent to which he or she believes that these pre-entry expectations are being met is likely to be related to the degree to which P-O fit is perceived.

For example, an individual who values autonomy is likely to accept membership in an organization which he or she believes will provide him or her with some sufficient degree of autonomy. Following organizational entry, the extent to which his or her expectations regarding autonomy are perceived as being met is likely to be related to the extent to which congruence on the value of autonomy is perceived. For example, if a student is enrolled in classes that assign points for daily attendance (thereby limiting his

or her autonomy to make decisions about class attendance), s/he is likely to perceive that while he or she values autonomy, the organization does not.

Hypothesis 1: Perceived met expectations will be positively related to perceived P-O fit.

Because perceptions of met expectations and P-O fit are likely to be constructed as a function of both the person and the environment, any changes in perceptions of the self or the environment are likely to result in changes in the constructs over time.

Changes in perceptions of met expectations may occur as a result of changes in beliefs about what one's pre-entry expectations were or changes in one's perceptions of the environment. It is likely that the former would be caused by memory distortion or cognitive dissonance, whereas the latter is likely to be related to actual changes in work experiences.

Regardless of whether or not changes in perceptions are related to actual changes in the work situation, the change trajectories of perceived met expectations and perceived P-O fit are expected to work in tandem. For example, memory bias may affect one's beliefs about pre-entry expectations such that the expectations are remembered as higher than they actually were. As long as the organizational situation is perceived as remaining constant, perceptions of met expectations should then decrease. Because the individual believes that he/she entered the organization expecting to fit into a more positive environment than the one actually experienced, reports of perceived P-O fit should also decrease.

Relatedly, one's memory of his or her pre-entry expectations may remain constant, but one's perceptions of the environment might change. Following the example

regarding autonomy presented previously, if one values autonomy yet perceives a decrease in the amount of autonomy that one has, one might experience decreased perceptions of the extent to which the organization values autonomy (i.e., decreased perceptions of value congruence). Therefore, we would expect to see both a decrease in perceptions of met expectations and a decrease in perceptions of P-O fit.

Hypothesis 2: Changes in perceptions of met expectations will be positively related to changes in perceived P-O fit.

Hypotheses 3 and 4 concern the relationship between perceived P-O fit and goal commitment. The Hollenbeck and Klein (1987) model proposes that some attitudinal constructs, including job involvement and organizational commitment, are antecedents of goal commitment. Some research has begun to provide empirical support for these proposed relationships (e.g., Maier & Brunstein, 2006); however, no research has, to my knowledge, directly linked perceived P-O fit with goal commitment. One might question why this link would be expected. Whereas a relationship between perceived P-O fit and *institutional* commitment would be somewhat commonsense, a relationship between perceptions of P-O fit and goal commitment may seem counterintuitive, particularly in the academic domain. Why would poor fit at one school cause a student to be less likely to complete a degree? Why would it not result in a transfer to a different school?

Perceived P-O fit is hypothesized to be significantly associated with goal commitment for three reasons. First, recall that perceived P-O fit represents the degree of perceived similarity between individual values and organizational values. To the extent that there is value congruence, the goals the individual sets for him or herself are likely to be in line with organizational values. Self-set goals that are aligned with organizational

values are more likely to further organizational objectives and be rewarded by the organization. The increased potential for rewards related to goal attainment should increase goal attractiveness, which has in turn been linked to goal commitment (Klein, et al., 1999).

Second, and perhaps more importantly, when there is perceived value congruence, the goals that the organization assigns to its members are less likely to violate individual values. For example, an organization that values competition would be more likely to assign an individual the goal of outperforming other employees or classmates. An individual being assigned this goal is likely to have more commitment to this goal to the extent that he or she also values competition. Therefore, perceived P-O fit is likely to be significantly related to goal commitment, particularly for assigned goals.

The third reason to hypothesize a relationship between perceptions of P-O fit and goal commitment stems from recent work in the social cognition literature and is displayed in Figure 3. The rationale presented here implies a causal relationship and is presented with an acknowledgment that the causal mechanism discussed is not tested in the present study. It is merely discussed as rationale for the hypothesis relating perceptions of P-O fit and goal commitment. The foundation of the argument to be presented is the basic notion that perceived P-O fit represents perceptions of similarity (i.e., congruence) between the self and the organization. The combination of two findings from research on mental networks supports the hypothesis that perceived P-O fit will affect goal commitment, as discussed below.

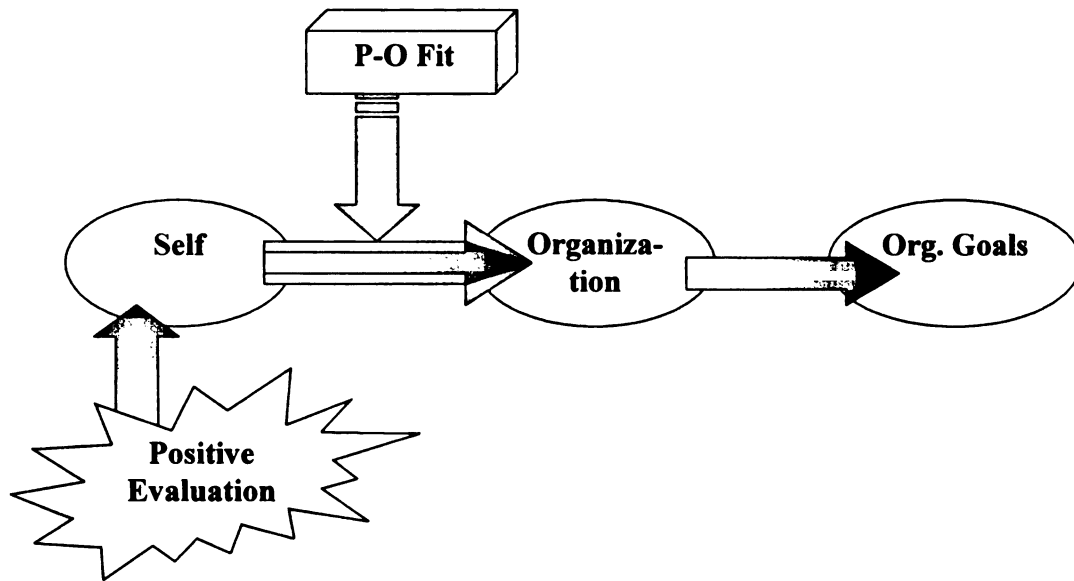
The first relevant finding is that research has shown that most people tend to hold positive evaluations of themselves (Bosson, Swann, & Pennebaker, 2000; Greenwald &

Farnham, 2000; Koole, Dijksterhuis, & Van Knippenberg, 2001). Therefore, attitude objects that are more closely associated with the self should be evaluated more positively than attitude objects that are viewed as more distal from the self. Because perceptions of P-O fit are conceptualized in terms of congruence between the self and the organization, greater perceptions of P-O fit should be represented in the form of stronger mental links between the self and the organization. In contrast, any perceived mis-fit between the self and the organization should lead to weaker mental links between the self and the organization. Because activation spreads more reliably through stronger mental links than through weaker ones, the positive association with the self should spread through the strong link to the organization when perceptions of P-O fit are strong. Therefore, perceived P-O fit is proposed to affect the extent to which the positive evaluation associated with the self transfers, via spreading activation, to a positive evaluation of the organization.

The second relevant finding is that when the organization concept becomes mentally activated, any concepts strongly related to the organization will also become activated. This is likely to include any goals related to the organization. These goals may be either self-set (e.g., career goals) or assigned. However, it is likely that organization-assigned goals may be particularly strongly associated with the organization in memory. Some portion of any positive evaluation that has become associated with the organization through high perceptions of P-O fit is now likely to spread to the goal itself. This positive evaluation should increase the degree to which the goal is perceived as attractive. Because goal attractiveness has been established as a proximal determinant of goal commitment (Hollenbeck & Klein, 1987; Klein, et al., 1999), increased goal

attractiveness should lead to increased goal commitment. Therefore, increased P-O fit perceptions should be related to increased goal commitment via its effects on goal attractiveness.

Figure 3
Spreading Activation of Positive Evaluation to Organizational Goals



The three arguments presented above provide the logic for the hypothesis that...

Hypothesis 3: Perceived P-O fit will be positively related to goal commitment.

The theoretical discussion presented regarding Hypothesis 3 also implies that changes in perceptions of P-O fit will relate to changes in goal commitment over time. The concept of changes in goal commitment is not problematic, as goal commitment is not defined as a constant, unchanging construct (Hollenbeck, et al., 1989). Instead, goal commitment is theoretically seen as a state-like construct that can change as efforts to achieve the goal are implemented and evaluated. According to the Hollenbeck and Klein (1987) model, goal commitment may change either as a function of changes in the attractiveness or the expectancy of goal attainment.

The rationale behind the relationship between changes in perceptions of P-O fit and changes in goal commitment parallels that for Hypothesis 3. First, regardless of the reason for changes in perceived P-O fit, decreases in these perceptions will be associated with an increased likelihood that the individual's goals will not reflect organizational values or that the goals assigned to the individual by the organization will be incompatible with the individual's values. In both cases, these mismatches are expected to relate to decreased attractiveness of goal attainment. In this way, changes in perceptions of P-O fit should relate to commitment to newly set and assigned goals over time.

Furthermore, changes in perceptions of P-O fit are expected to be associated with changes in commitment to the same goal over time. It has recently been proposed that strengthening the link between the self and an attitude object will cause evaluations of that object to become more positive (Walther, Nagengast, & Traselli, 2005). As perceived P-O fit increases, the strength of the mental link between the self and the organization increases, leading to more positive evaluations of the organization. As discussed above, the stronger that link becomes, the more positive the evaluation of the organization and its associated goals is expected to become. In this manner, as perceived P-O fit increases, the attractiveness of organizational goals is expected to increase. This, in turn, leads to increased goal commitment.

Hypothesis 4: Changes in perceived P-O fit will be positively related to changes in goal commitment.

The hypotheses, as stated above, imply that perceptions of P-O fit will mediate the relationship of perceived met expectations and goal commitment. In

other words, it is expected that some portion of the effects of perceived met expectations on perceived P-O fit will be transferred onto goal commitment, such that perceived met expectations will have a significant indirect effect on goal commitment. Likewise, I expect that some portion of the effects of changes in perceptions of met expectations will be transferred onto changes in goal commitment via their effects on changes in perceived P-O fit. Therefore, I present Hypotheses 5 and 6:

Hypothesis 5: Levels of perceived P-O fit will mediate the relationship between levels of perceived met expectations and levels of goal commitment.

Hypothesis 6: Changes in perceived P-O fit will mediate the relationship between changes in met expectations and changes in goal commitment.

In summary, it is hypothesized that two specific perceptions, perceived met expectations and perceived P-O fit, are predictors of goal commitment, as shown in Figure 4. These hypotheses contribute to the previous models of goal commitment in an important way. Although past goal commitment theory and research have considered mechanical forms of person-environment interaction, including independent directs and statistical interactions, research has largely failed to incorporate the dynamic forms of interaction. Personal factors such as ability, task experience, and affect have been shown to affect goal commitment, as have situational factors including goal specificity, participation, and feedback (Klein, et al., 1999). However, the literature is lacking an examination of the cognitive processing elements of the Locke, et al. (1988) model, including perceptual constructs. Because people' perceptions of situations are the driving

force behind their reactions to them (e.g., Fiske & Taylor, 1991; Nisbett & Ross, 1980), consideration of the perceptions arising from the combination of a unique person with a particular situation has on the individual's perceptions is essential.

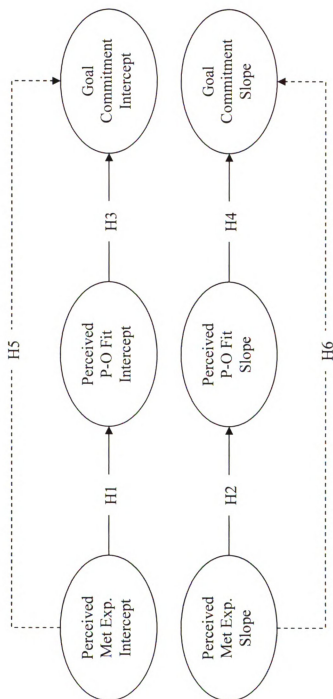
The present study represents a preliminary step in addressing this gap in the literature. The predictor variables incorporated here represent the perceptions of the contextualized person, and as such, they are dynamic constructs that represent something more than a simple, mechanical combination of person and situation factors (Edwards, et al., 2006; Terborg, 1981).

Some past research has suggested that perceptions of the self-environment relationship may be more strongly predictive of outcomes than are such simple mathematical combinations of person and situation factors (Kristof-Brown, et al., 2005). However, in the present study, I did not have the data necessary to compare the relative effect sizes of person, situation, and perceptual variables. Therefore, the present study simply seeks to provide evidence regarding the extent to which perceived met expectations and perceived P-O fit in and of themselves can be used to predict goal commitment. Although the results of the present study cannot speak to the question of "value added," they can provide evidence regarding the extent to which perceptions representing the reciprocal and cognitive sensemaking approaches might be useful individual predictors of goal commitment.

In addition to this theoretical contribution to the goal commitment literature, the present study provides a demonstration of a relatively new methodological technique – mediated latent growth modeling using three latent

intercept and three latent slope terms. This technique allows the researcher to statistically test the extent to which changes in a variable have indirect effects on the change trajectory of another variable. The ability to test this indirect effect is central to the evaluation of Hypotheses 5 and 6. The mechanics of this technique will be described in the following section, following a description of the study sample, procedure, and measures used.

Figure 4
Conceptual Model of Hypotheses



Method

The hypotheses presented above were tested using an existing dataset obtained with the support of The College Board. The data collection procedure, sample characteristics, and descriptive statistics are described below. Following that discussion, I describe the results of the hypothesis tests.

Data Collection Procedure

The dataset used in the present study was collected in three waves following a larger, initial data collection effort. Participants were incoming students at ten U.S. colleges and universities, including Michigan State University, Winston-Salem State University, California State University-Fullerton, Indiana University, Ohio State University, Spelman College, University of Iowa, University of Chicago, University of Michigan, and Virginia Polytechnic Institute and State University. The procedures for the initial data collection and the subsequent three waves of data collection are described below.

Initial Data Collection and Sample

The initial data collection effort was coordinated by researchers from Michigan State University and was conducted on-site by representatives from each of the participating colleges and universities. A variety of techniques were used to recruit participants for this data collection effort according to the preferences of each school. Appendix A contains study information by school including recruitment methods, location of sessions, number of sessions, and the number of proctors used during the data collection sessions. Participants were paid \$40 to complete questionnaires for a two-hour time period, with the exception of students from the University of Chicago, who were

paid \$50 at the recommendation of organizational representatives. This data collection took place in late summer/early fall 2004, as students participated in orientations and began classes in their first semester. The total sample size across all ten schools was 2771. The average age of participants was just over 18 years; over 97% of the sample was either 18 or 19 years of age. Sixty-four percent of the sample was female, 96% were U.S. citizens, and 94% indicated that English was their native language. Ethnically, this sample was 55% Caucasian, 25% African-American (due to intentional oversampling of this subgroup), 6 % Hispanic, 7% Asian, and 7% other ethnicities.

Wave 1, 2, and 3 Data Collections

As described above, 2771 incoming college freshmen participated in the initial data collection in summer/fall 2004. Of these participants, 2631 (95%) granted the researchers permission to re-contact them in order to solicit their participation in future paid research studies. These 2631 participants were contacted to participate in the Wave 1, 2, and 3 data collections, which formed the dataset to be used in this study. All recruiting and data collection for these three waves were conducted via e-mail. For each administration, three to four e-mail communications were sent to the e-mail address provided by participants on their “permission to recontact” forms. The first e-mail was a pre-notice advising participants that they would be receiving a formal invitation to participate in research in the near future. The second e-mail was the research invitation giving details about the survey and compensation, and the third and fourth e-mails were reminders about the survey.

The Wave 1 data collection took place in winter 2004, at the end of the participants’ first semester. This timing allowed respondents to have sufficient experience

with their organizations to effectively rate themselves on the variables of interest at the first Wave. The Wave 2 and 3 data collections took place near the end of the respondents' second and third semesters, respectively. Administering Waves 2 and 3 in the students second and third semesters provided them chances to respond to the different experiences inherent in having different coursework and professors across semesters. Therefore, I expect that one data collection per semester should be sufficient time for changes in the constructs of interest to emerge.

In order to facilitate data collection at the 10 participating institutions, an Internet-based survey was created. Participants could complete this survey from any computer with access to the Internet. All aspects of the experimental process, including consent, measures, and debriefing, were completed via this web survey. As compensation for completing each wave, participants received an electronic gift certificate for \$20, redeemable at Amazon.com®. In addition, for each wave, all participants were entered into a drawing for a \$100 cash prize. Of the 2631 initial participants who granted us permission to re-contact them, 1234 (47%) students provided useable data in Wave 1, 1044 (40%) provided useable data in Wave 2, and 904 (34%) provided useable data for Wave 3. Complete data for purposes of analyses to be conducted in this study were obtained from 566 students.

The average age of this sample of 566 respondents was just over 18 years; over 97% of our sample was either 18 or 19 years of age. Sixty-five percent of the sample was female, 93% were U.S. citizens, and 93% indicated that English was their native language. Ethnically, this sample was 68% Caucasian, 7% African-American, 4% Hispanic, 13% Asian, and 9% other ethnicities.

Table 2 breaks down the sample descriptive statistics, including racioethnicity, gender, average z-transformed SAT score, and average scores on Wave 1 target variables, by school. To provide information regarding the sample representativeness within school, the overall school's gender and racioethnic percentages and average z-transformed SAT score for the Fall 2004 incoming class are also displayed. SAT scores were z-transformed using national norms for the 2004 year. Note that for the University of Chicago, racioethnicity statistics for the Fall 2004 incoming class were not available; therefore, 2006 statistics were used (the admissions office indicated that no major changes in racioethnic profile had occurred between 2004 and 2006). Ns for some institutions (e.g., Spelman College and Winston-Salem State University) are low, reflecting difficulties retaining these participants throughout the waves of data collection. Some of these difficulties may have related to students providing us with generic e-mail addresses at the beginning of the study (i.e., yahoo or hotmail addresses) but later perhaps switching to school e-mail addresses (i.e., .edu addresses), making sustained contact difficult. Participants from the schools with higher Ns tended to provide us with .edu e-mail addresses initially.

As the table indicates, participants in the sample generally had higher SAT scores than did non-participants, and females were over-represented in the sample. Racioethnically, the samples from some schools overrepresented Whites, while the sampling at other schools overrepresented Blacks. Hispanic participants were generally underrepresented, and Asian participants were generally representatively sampled with the exception of the University of Chicago, in which they were oversampled.

Table 2

Sample Size, Ethnicity, SAT/ACT z-scores, and Wave 1 Target Variables by School

School	N	% White	% Black	% Hispanic	% Asian	% Male	SAT/ACT z-score	Perceived Met Exp.	Perceived P-O Fit	Goal Com.
Fullerton	20	40 (45)	0 (3)	15 (25)	25 (23)	30 (40)	.31 (-.18)	3.08	3.56	4.34
Michigan St.	105	81 (79)	6 (9)	0 (2)	4 (5)	38 (45)	.89 (.57)	3.17	3.91	4.53
U. Chicago†	78	16 (47)	9 (6)	15 (8)	49 (15)	37 (49)	1.73 (1.72)	3.51	3.95	4.61
Winston-Salem	3	33 (17)	33 (81)	0 (1)	0 (1)	0 (32)	-.17 (-.69)	3.33	4.00	5.00
Spelman	10	0 (3)	100 (95)	0 (0)	0 (0)	0 (0)	.62 (.26)	3.38	4.33	4.80
Iowa	96	89 (90)	1 (2)	1 (2)	1 (3)	13 (46)	.92 (.75)	2.93	3.70	4.56
Indiana	32	66 (86)	19 (4)	9 (2)	0 (3)	22 (48)	.10 (.39)	3.11	3.62	4.55
Ohio State	115	77 (80)	2 (7)	4 (3)	11 (6)	46 (52)	1.29 (.75)	3.23	3.95	4.61
Michigan	92	76 (69)	4 (8)	1 (5)	13 (13)	37 (49)	1.56 (1.28)	3.07	3.77	4.63
VA Tech.	15	80 (82)	7 (6)	0 (2)	7 (7)	79 (41)	.79 (.82)	2.99	3.72	4.63

Note. Percentages may not add to 100 due to missing data and "other" responses. Numbers in () reflect overall demographic percentages and incoming SAT z-score by school in fall 2004. † Ethnicity statistics for 2004 not available; 2006 statistics shown in ().

One-sample *t*-tests were conducted to test for significant mean differences between respondents who were included in the final sample (i.e., respondents who did not have missing data on the items of interest at any wave) and those who participated at Wave 1 but were not included in the final sample due to missing data. The sample sizes, means, and standard deviations for non-respondents and respondents can be found below in Table 2. The Cohen's *d* statistics for each mean difference are also displayed. The results of the *t*-tests indicated that participants included in the final sample scored significantly higher on met expectations ($p < .05$) than those who were not. The Cohen's *d* for this mean difference is $d = -.13$, which is considered a small effect size. No significant differences were found between respondents and nonrespondents on perceptions of P-O fit or goal commitment.

Table 3
Mean comparisons for final sample respondents and non-respondents

Scale	Non-respondents			Final Sample			<i>d</i>
	N	Mean	SD	N	Mean	SD	
Met Expectations	621	3.09	.62	566	3.17	.60	-.13*
P-O Fit	632	3.77	.80	566	3.84	.78	-.09
Goal Commitment	652	4.55	.47	566	4.58	.43	-.07

* *The mean difference was significant at $p < .05$*

Measures

Perceived Met Expectations. The extent to which participants perceived that their expectations were met regarding academic aspects of their colleges or universities was measured using a four-item scale developed by the researchers for the purpose of this study. The focus on academic/class-related aspects of the respondents' experience may be analogous to examining perceptions of met expectations regarding task-related aspects of the organizational experience. Although perceptions of met expectations regarding social aspects of one's experience may also show significant relationships with outcomes,

we focus on the academic/task aspects because organizations have a greater ability to leverage these factors relative to social aspects in order to create effective changes. All four scale items are displayed in Appendix B. Following the suggestion of Wanous, et al. (1992) and the precedent set in previous research (e.g., Major, et al., 1995), these perceptions were measured on a five-point Likert-type rating scale with anchors including 1 (expectations unmet), 3 (expectations met), and 5 (expectations exceeded).

Perceived Organizational Fit. The extent to which participants perceived fit with their schools was measured using a four-item scale. Three of the items were adapted from an existing scale (Lauver & Kristof-Brown, 2001), and the fourth item was generated by the researchers for the purpose of this study. All items were answered on a 5-point, Likert-type scale ranging from *strongly disagree* to *strongly agree*. The four items are listed in Appendix C.

Goal Commitment. Goal commitment was assessed using an adaptation of the 9-item HWK scale (Hollenbeck, et al., 1989). These items were adapted to specifically reference the goal of obtaining a college degree. In the Wave 1 data collection, all 9 items were administered and were answered on a 5-point Likert-type scale ranging from “strongly disagree” to “strongly agree.” After Wave 1, the three items with the lowest item-total correlations were dropped from the scale as part of an effort to reduce survey length. All nine items are listed in Appendix D, with retained items indicated. The resulting six-item scale was administered in Waves 2 and 3. Four of the five items suggested by Klein, et al. (2001) were retained, along with two additional items with higher item-total correlations. Concerns may be raised regarding the unidimensionality of the retained six-item scale; however, an exploratory factor analysis (EFA) conducted

on the six retained items indicated that only one significant factor was present (eigenvalue = 2.86), which accounted for 48% of the variance in item responses. Note that for the analyses in the present study, only the six retained items were used for the Wave 1 goal commitment measure as well as for the Wave 2 and 3 goal commitment measure.

Results

Descriptive Statistics

The item-level means, standard deviations, and item-total correlations for each Wave of data collection are presented in Table 3. In addition, the scale means, standard deviations, reliabilities, and intercorrelations for each Wave are presented in Table 4. As displayed, all scales reached the traditional criterion for acceptable levels of $\alpha = .70$ with the exception of the Wave 1 perceived met expectations scale. The lower internal consistency levels for this scale in general may reflect the nature of the scale items – more specifically, the fact that each item addresses a different aspect of a student’s academic experience. The low alpha at Wave 1 was largely due to a single item reflecting expectations about course availability. It is possible that this item failed to correlate highly with the others at Wave 1 due to students’ lack of experience with course scheduling. As shown in Table 3, the item showed higher item-total correlations at Waves 2 and 3. Because dropping this item would have caused the alpha reliability estimates to fall below $\alpha = .70$ at Waves 2 and 3, the item was retained at all three time points.

Table 4
Item-Level Descriptive Statistics

Wave	Item	Mean	Standard Deviation	Item- Total <i>r</i>
1	Perceived Met Expect. 1	3.08	.85	.44
1	Perceived Met Expect. 2	3.39	.99	.42
1	Perceived Met Expect. 3	2.67	1.17	.27
1	Perceived Met Expect. 4	3.30	.95	.53
2	Perceived Met Expect. 1	3.15	.81	.48
2	Perceived Met Expect. 2	3.42	.90	.48
2	Perceived Met Expect. 3	2.92	1.13	.43
2	Perceived Met Expect. 4	3.35	.95	.60
3	Perceived Met Expect. 1	3.15	.77	.52
3	Perceived Met Expect. 2	3.39	.92	.50
3	Perceived Met Expect. 3	3.01	1.04	.41
3	Perceived Met Expect. 4	3.34	.92	.57
1	Perceived P-O Fit 1	3.85	.89	.84
1	Perceived P-O Fit 2	3.90	.85	.84
1	Perceived P-O Fit 3	3.69	.93	.65
1	Perceived P-O Fit 4	3.93	.89	.76
2	Perceived P-O Fit 1	3.78	.86	.84
2	Perceived P-O Fit 2	3.80	.84	.89
2	Perceived P-O Fit 3	3.62	.92	.72
2	Perceived P-O Fit 4	3.84	.89	.79
3	Perceived P-O Fit 1	3.79	.89	.85
3	Perceived P-O Fit 2	3.81	.88	.88
3	Perceived P-O Fit 3	3.66	.98	.73
3	Perceived P-O Fit 4	3.84	.93	.80
1	Goal Commitment 1	4.36	.79	.53
1	Goal Commitment 2	4.72	.57	.51
1	Goal Commitment 3	4.30	.92	.52
1	Goal Commitment 4	4.86	.45	.54
1	Goal Commitment 5	4.71	.66	.52
1	Goal Commitment 6	4.49	.65	.50
2	Goal Commitment 1	4.34	.78	.49
2	Goal Commitment 2	4.60	.65	.56
2	Goal Commitment 3	4.20	.91	.54
2	Goal Commitment 4	4.78	.50	.60
2	Goal Commitment 5	4.64	.57	.64
2	Goal Commitment 6	4.39	.67	.49
3	Goal Commitment 1	4.30	.83	.63
3	Goal Commitment 2	4.58	.66	.60
3	Goal Commitment 3	4.15	1.00	.58
3	Goal Commitment 4	4.70	.58	.64
3	Goal Commitment 5	4.55	.72	.64
3	Goal Commitment 6	4.33	.73	.56

Table 5

Scale Means, SDs, Alphas, & *rs*

	Item	Mean	SD	1	2	3	4	5	6	7	8	9
1	Wave 1 Perceived Met Expectations	3.17	.60	.62								
2	Wave 2 Perceived Met Expectations	3.21	.70	.52	.70							
3	Wave 3 Perceived Met Expectations	3.22	.67	.36	.54	.71						
4	Wave 1 Perceived P-O Fit	3.84	.78	.29	.35	.28	.90					
5	Wave 2 Perceived P-O Fit	3.76	.78	.20	.40	.32	.69	.91				
6	Wave 3 Perceived P-O Fit	3.77	.82	.19	.31	.39	.56	.67	.92			
7	Wave 1 Goal Commitment	4.58	.43	.19	.21	.15	.23	.19	.22	.76		
8	Wave 2 Goal Commitment	4.49	.48	.17	.25	.19	.18	.20	.21	.58	.78	
9	Wave 3 Goal Commitment	4.44	.56	.19	.22	.28	.17	.18	.32	.48	.57	.83

Scale reliabilities are displayed in the diagonal. All correlations are significant at $p < .01$

Data Analysis Steps

Data analyses were conducted in three major steps: 1.) establishing measurement invariance across time points, 2.) building univariate latent growth models (LGMs), and 3.) constructing the mediated LGM. The item and parcel-level correlations for the variables used in these analyses can be found in Appendix E. Each of these three steps is discussed in further detail below.

Step 1: Establishing measurement invariance. Invariance means that “Individuals who are identical on the construct being measured, but who are from different populations, have the same probability of achieving any given score on the test” (Millsap & Kwok, 2004, pp. 93). In other words, tests of invariance seek to answer the question, “To what extent are manifest variables’ (i.e., Xs’) measurement properties transportable or generalizable across populations?” (Vandenberg & Lance, 2000, pp. 8). It has been recommended that invariance tests be conducted prior to making comparisons between demographic, cultural, or experimental groups (e.g., Chan & Schmitt, 1997); as a method of identifying alpha, beta, and gamma forms of change over time (Golembiewski, Billingsley, & Yeager, 1975; Schmitt, 1982); and as a precursor to conducting latent growth modeling (e.g., Chan, 1998). Invariance testing prior to LGM is designed to determine the extent to which the measures used are invariant across time periods. The procedure for invariance testing is to examine a set of increasingly restrictive models. This procedure, and the results of these tests, are discussed further below and are summarized in Table 5.

Note that in order to simplify analyses, item parcels were created from the goal commitment scale. Three parcels were created at each time point, and each parcel was

composed of the mean of two items. The scale was unidimensional in factor analyses; therefore, parcel 1 was composed of the item with the highest factor loading and the item with the lowest factor loading, parcel 2 was composed of the items with the second highest and second lowest factor loadings, and parcel 3 was composed of the items with the third highest and third lowest factor loadings (Hall, Snell, & Foust, 1999). This procedure tends to produce uniquenesses that are maximally equivalent for each item parcel.

Configural invariance. In the configural invariance test, a baseline model is established based on relevant theory. The baseline model for the present study is displayed in Figure 5. This model was applied across all three waves of data collection and represents the model for which invariance was tested. The fit statistics displayed in Table 5, then, represent the fit of this model with various constraints applied across time points.

The configural invariance test assesses whether the pattern of fixed and free factor loadings holds across groups. In this model, three latent factors were specified, with the perceived met expectations items set to load onto the perceived met expectations factor, the perceived P-O fit items set to load onto the perceived P-O fit factor, etc. The fit of this model was assessed for each wave of data collection. Poor fit at any given time point would indicate that configural invariance does not hold. Although the χ^2 test is the most common statistic used to assess model fit, it is highly sensitive to sample size such that when large samples are used, this index is almost always statistically significant (Chan & Schmitt, 1997). Therefore, I examined several different indices of model fit including Steiger's (1990) root mean square error of approximation (RMSEA), Bentler's (1990)

comparative fit index (CFI), and Bentler and Bonnett's (1980) non-normed fit index (NNFI).

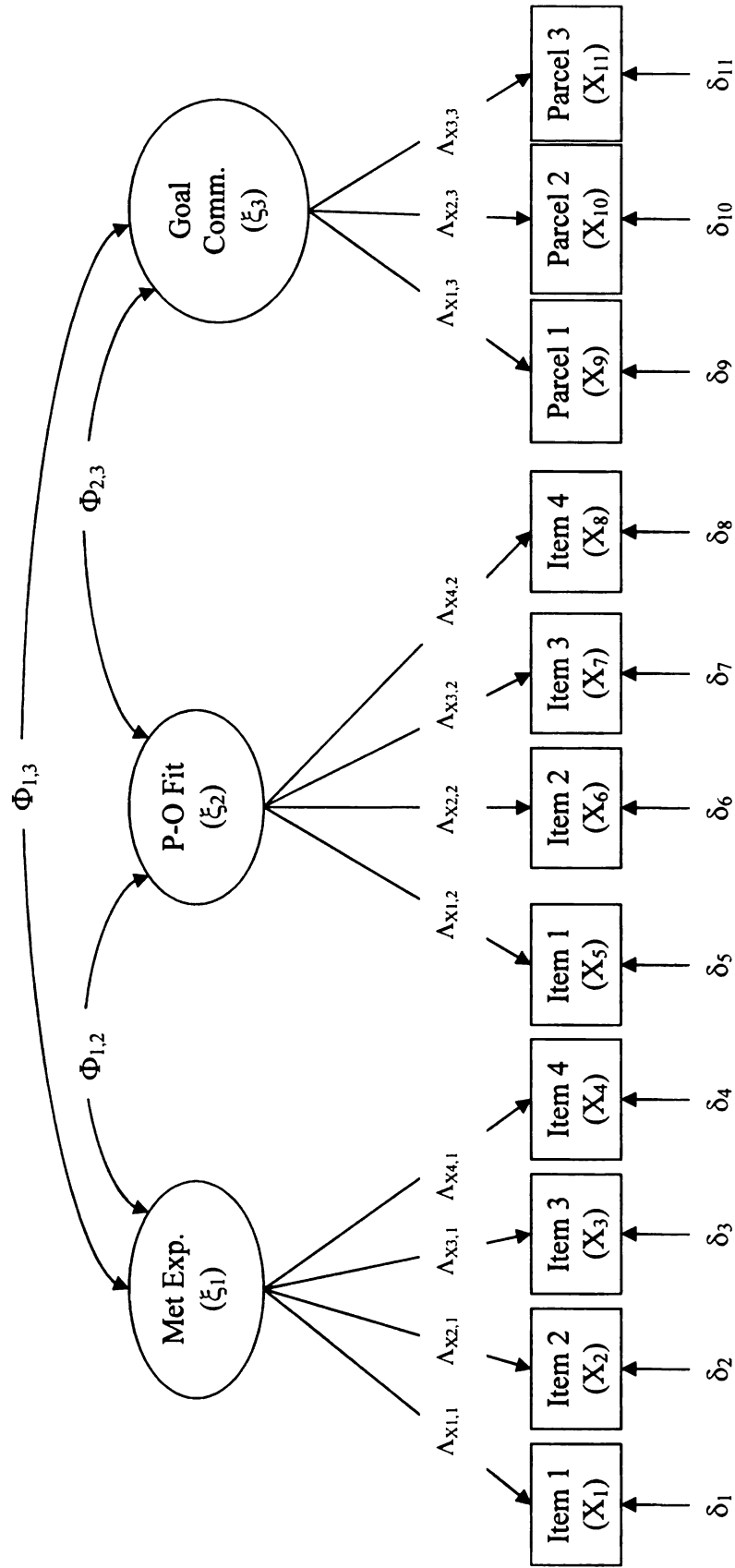
Because the pattern of factor loadings is an empirical representation of the cognitive frame of reference participants use to respond to items, different patterns of factor loadings at each wave of data collection would indicate that frames of reference were not equivalent across groups (Vandenberg & Lance, 2000). If the configural invariance test were to fail, it would indicate that different constructs were being measured at each time point.

The syntax used to conduct the configural invariance test is displayed in Appendix F. The global goodness-of-fit statistics indicated that the baseline model fit the data closely ($\chi^2 = 244.63$, $p < .05$, $df = 123$, $RMSEA = .04$, $CFI = .99$, $NNFI = .98$). The χ^2 was statistically significant; however, as stated above, this result was not surprising given the relatively large sample size used. Overall, the goodness-of-fit statistics indicated close model fit across time points, supporting the inference of configural invariance.

Table 6
Invariance Test Summary

Name of Test	Description	χ^2	RMSEA	CFI	NNFI	df	Invariance Supported?
Configural	Constrain factor structure to be equal across Waves	244.63	.04	.99	.98	123	Yes
Metric	Constrain factor loadings to be equal across Waves	262.28	.04	.98	.99	139	Yes
Uniquenesses	Constrain uniqueness to be equal across Waves	352.32	.05	.98	.98	161	Yes
Latent variance	Constrain latent factor variances to be equal across Waves	379.09	.05	.98	.98	167	Yes

Figure 5
Configural Model of Indicators – Construct Relationships at All Three Times



Metric Invariance Test. This step of the measurement invariance process tests whether the factor loading estimates (Λ matrices) are equivalent across time points. To understand the implications of this test, recall that in the equation representing the measurement model in SEM,

$$X = \lambda x \xi + \delta \quad \text{Equation 1}$$

the Λ parameter represents the regression weight of the latent variable on the observed score. Each Λ parameter, then, represents the expected change in the observed item score per unit change in the latent construct. This implies that if the Λ parameters are significantly different between time points, then beta change has occurred, or in other words, respondents were using a different scale to respond to the items at different time points (Schmitt, 1982; Vandenberg & Self, 1993).

In order to test for metric invariance, I contrasted the three-factor model I retained in the test of configural invariance with a more restrictive model in which the Λ parameters were constrained to be equal across time points. A chi-square difference test is commonly used to determine whether the restricted model fits the data significantly worse than the unrestricted model. However, because the chi-square test is strongly affected by sample size, it has been recommended that a decrease in the CFI statistic of .02 or more should be considered grounds for rejecting invariance (Cheung & Rensvold, 2002).

The syntax used to test metric invariance is displayed in Appendix G. In the model created by the syntax, the factor loadings (Λ parameters) were constrained to be equal across time points. This model also fit the data well ($\chi^2 = 262.28, p < .05, df =$

139, RMSEA = .04, CFI = .98, NNFI = .99). A χ^2 difference test was conducted in order to determine whether this restriction resulted in a significant decrease in model fit. This χ^2 difference test was nonsignificant ($\Delta\chi^2 = 17.65$, $\Delta df = 16$, *n.s.*), and the decrease in CFI was less than .02, supporting the inference of metric invariance across waves of data collection.

Invariance of Uniquenesses. Although configural and metric invariance are often considered adequate for providing evidence of measurement invariance prior to conducting LGM (Alwin & Jackson, 1981; Reise, Widaman, & Pugh, 1993; Sörbom, 1974), the invariance of the item uniquenesses can provide additional support. This test evaluates the extent to which the measurement errors, or uniquenesses, are invariant across waves (equivalence of the Θ_{δ} matrix). Invariance of uniquenesses is tested by comparing the previously retained model with a model in which the Θ_{δ} matrix is constrained to be equal across groups. In order to conduct this test, the model retained from the metric invariance test was compared with a model in which the uniquenesses were specified to be equal across waves. This test can provide evidence that the scale reliabilities are equivalent across times and also that the effects of any unmodeled predictors are consistent across times (DeShon, 2004). Although Chan (1998) states that this standard is “extremely demanding, and most researchers recognize that it is unrealistic to expect such extreme invariance to hold in actual data except in highly contrived situations” (pp. 434), I conducted this test in order to obtain additional evidence in support of invariance.

The syntax used to conduct this test is found in Appendix H. In this test, the error variances for each item were constrained to be equal across waves. This very restrictive

model was contrasted with the model retained in the prior test (in which the Λ parameters are constrained to be equal across waves). Like the other models tested, this model exhibited good fit ($\chi^2 = 352.32$, $df = 161$, $RMSEA = .05$, $CFI = .98$, $NNFI = .98$). The chi-square difference test was significant ($\Delta\chi^2 = 90.04$, $\Delta df = 22$, $p < .05$); however, the CFI statistic did not decrease relative to the previous model, supporting the invariance of the uniquenesses across waves of data collection (Cheung & Rensvold, 2002).

Factor Variance Invariance Test. In some situations, a final invariance test is conducted which assesses whether the variances of the latent factors are invariant across groups (the variances of the latent factors are contained in the diagonal of the Φ matrix). In order to test for factor variance invariance, the previous retained model would be compared with a model constraining the latent factor variances to be equal across groups. When this type of invariance holds, it indicates that equivalent ranges of the construct continua were used when responding to items at each time point (Vandenberg & Lance, 2000). Furthermore, it would support the inference of equivalent reliabilities based on the establishment of uniqueness invariance (Vandenberg & Lance, 2000). If factor variance invariance does not hold, it may indicate that beta change (i.e., differential scale calibration) has occurred (Schmitt, 1982; Vandenberg & Self, 1993).

However, the factor variance test may not be a meaningful indicator of invariance in the present study. When using LGM, a violation of invariance on this test might simply indicate that substantive variance in slopes is present (Chan, 1998). For example, if respondents have relatively homogeneous levels of perceived P-O fit at Wave 1, but then diverge over time, significant differences in the variance of the latent perceived P-O fit factor would be expected over time. Because I believe that there is significant variance

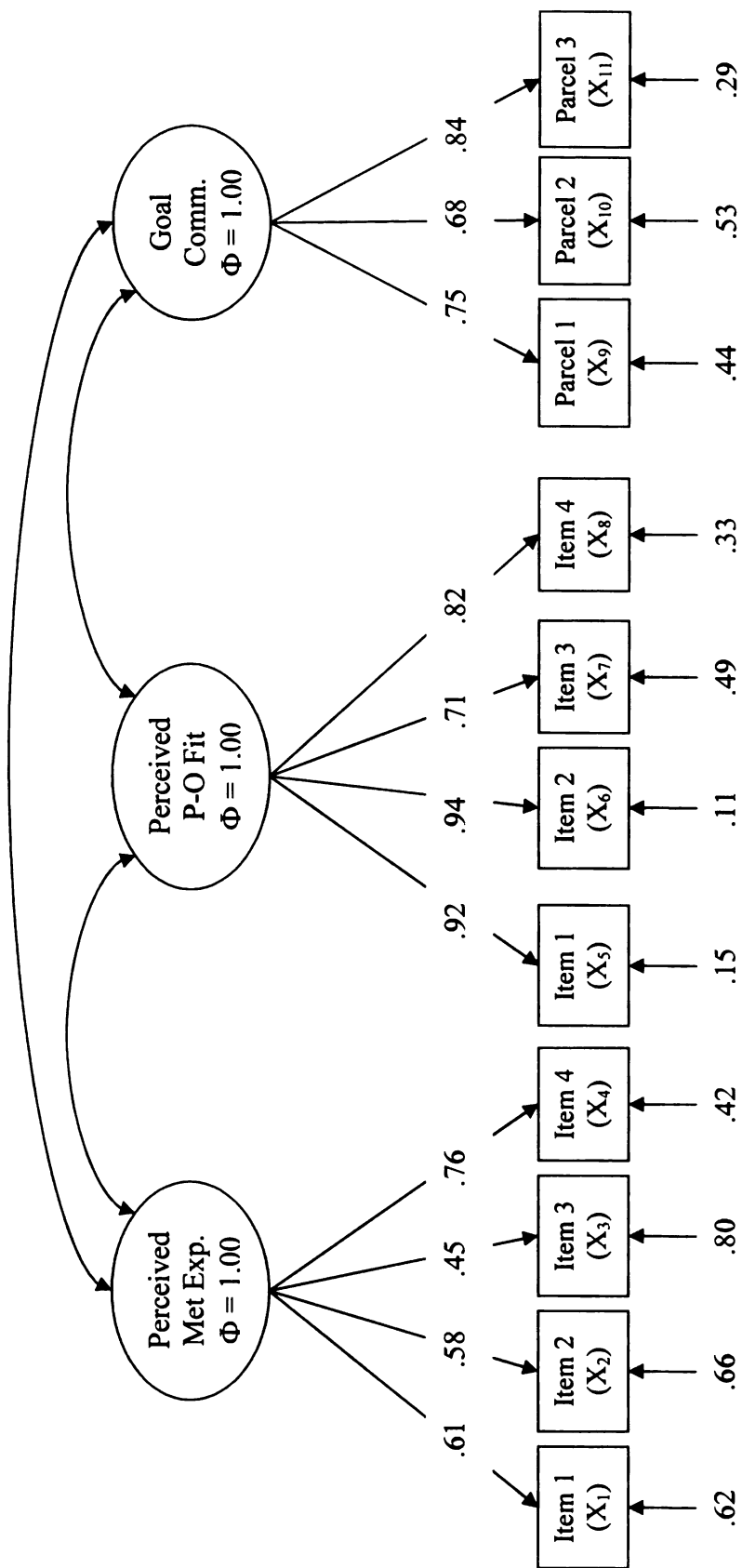
in change trajectories over time, I would expect that the variance of the latent factors would vary across waves.

To conduct this test, the model retained after the uniqueness invariance test was compared with a model in which the latent factor variances (Φ s) were also constrained to be equal. As expected, the model fit the data well ($\chi^2 = 397.09$, $df = 167$, $RMSEA = .05$, $CFI = .98$, $NNFI = .98$), and the CFI did not decrease relative to the previous model, but the chi-square test was significant ($\Delta\chi^2 = 26.77$, $\Delta df = 6$, $p < .05$). For perceived P-O fit and goal commitment, the factor variances increased over waves, which suggested that individuals' scores are likely to be diverging over time.

The common metric completely standardized parameter estimates for the fully constrained model (including constrained factor variances) is displayed in Figure 6.

Step 1 Summary. Tests of measurement invariance are necessary prior to conducting LGM analyses in order to make meaningful interpretations of results. When conducting LGM, tests of configural and metric invariance are most essential (Chan, 1998). Additional evidence for measurement invariance is provided if the invariance of the item uniquenesses can be established. In the present study, support for all three types of invariance was provided by decreases in the CFI statistic of less than .02 (Cheung & Rensvold, 2002). I next describe the tests of univariate LGMs.

Figure 6
Fully Constrained Invariant Model Including Completely Standardized Common Metric Estimates

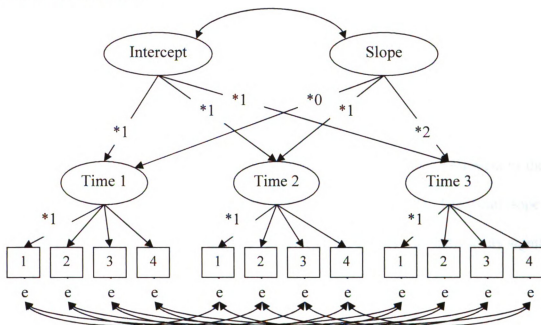


Step 2: Univariate LGMs. When conducting LGM analyses, it is important to establish well-fitting univariate models prior to conducting cross-domain analyses (Willett & Sayer, 1994). These univariate analyses serve two major purposes: 1.) they determine the nature of the change occurring over time, and 2.) they assess the extent to which there is variance in change over time. If there is not significant variance in the way in which responses are changing over time, hypotheses regarding relationships between the slopes of different constructs cannot be tested. This is analogous to having insufficient scale variance to test correlations between constructs.

The generic model for univariate LGMs is displayed in Figure 7. An LGM is a hierarchical factor model in which each of the individual items or parcels is specified to load onto the relevant Time factor, and each Time factor in turn loads onto second-order latent intercept and slope variables. Note that for factor scaling purposes, one item at each time point must be fixed to 1.0 (Kline, 1998). The uniquenesses of the same item across time points are allowed to covary in order to reflect shared variance due to item wording. These correlated uniquenesses are a common feature of longitudinal models in SEM (Kline, 1998). Because the intercept represents the fixed value of the construct at Time 1 and does not change over time, all paths loading onto the intercept factor were fixed to 1. The slope factor loadings are fixed to represent the hypothesized nature of change over time. For example, a linear trajectory could be represented by factor loadings of 0.0, 1.0, and 2.0; while a quadratic trajectory could be represented by factor loadings of 0.0, 1.0, 4.0, and 16.0. Ideally, the third factor loading would be left free to be estimated by the program; however, this often causes problems with model

convergence. If the model is unable to converge with the third factor loading freed, it is recommended that this factor loading be initially fixed to represent a linear change trajectory (Willett & Sayer, 1994). If this linear trajectory demonstrates poor model fit, the researcher may fix the third factor loading to represent another trajectory as appropriate.

Figure 7
Basic Univariate LGM



Perceived Met Expectations. As described above, the slope factor loadings for perceived met expectations were initially fixed to represent a positive, linearly increasing trajectory. This linear model fit the data closely according to several goodness-of-fit indices ($\chi^2=98.73$, $df=49$, $RMSEA = .04$, $CFI = .97$, $NNFI = .96$). Therefore, the positive linear model was retained. The mean slope estimate was $K = .04$ (*n.s.*), indicating that the average change trajectory for met expectations was not significantly different from zero. However, the variance in slopes was significant ($p < .05$). The significance of the

variance indicated that although the average form of change was not significantly different from zero, there were individual differences in the ways that some individuals were changing over time.

Perceived P-O Fit. A separate univariate LGM was conducted in order to identify the nature of changes in perceived P-O fit over time. A linear trajectory also fit these data acceptably ($\chi^2 = 198.82$, $df=49$, $RMSEA = .07$, $CFI = .98$, $NNFI = .97$). The mean slope was $K = -.04$ ($p < .05$), indicating that the average change over time was significantly different from zero and slightly negative. Like perceived met expectations, the variance of perceived P-O fit slopes was significant ($p < .05$), indicating that sufficient variance in slopes existed for further testing.

Goal Commitment. Finally, the univariate LGM for goal commitment fit the data closely ($\chi^2 = 44.17$, $df=22$, $RMSEA = .04$, $CFI = .99$, $NNFI = .98$). The mean slope estimate was $K = -.05$ ($p < .05$), and the variance of the slopes was statistically significant ($p < .05$).

Step 2 Summary. In summary, the univariate LGMs indicated that a linear change model fit the data for each of the three constructs. In addition, all three constructs showed significant variance in the slope estimates, indicating that the hypotheses regarding slope relationships could be tested.

Step 3: Mediated LGM. The final step in the data analysis was to construct the mediated LGM used to test the hypotheses presented previously. This mediated model combines the LGM method with the traditional SEM mediation framework. I will begin

by describing the traditional method for testing mediation in SEM, and then I will illustrate how my hypotheses were tested within this framework.

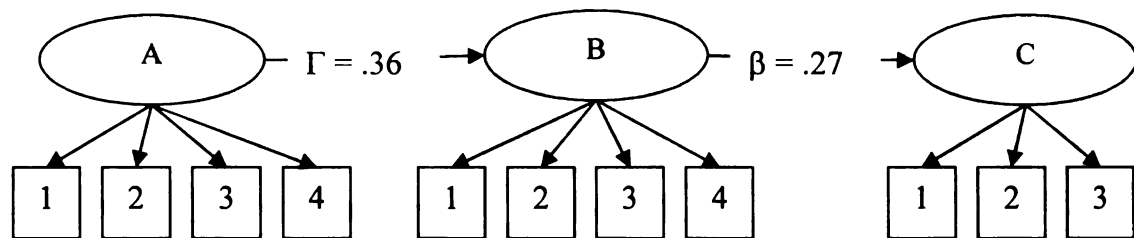
Traditional Mediation. Although multiple methods for testing the significance of indirect/mediation effects have been proposed (e.g., Baron & Kenny, 1986), the product of coefficients technique is both commonly-used and highly recommended (Kenny, 2006; MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002). This technique calculates the indirect effect of X on Z by multiplying the coefficient for the path from X to Y by the coefficient from the path from Y to Z. The logic behind this test is that X has some direct effect on Y, but only a portion of that effect is transferred onto Z. This product term is then divided by its standard error, which is then compared to a Z table in order to determine its statistical significance. Various methods for computing the standard error of the product term have been proposed. The most commonly-used of these is the Sobel (1982) formula (MacKinnon, et al., 2002), which is displayed in Equation 2. This formula is used by LISREL (Jöreskog & Sörbom, 1993) in computing the significance of indirect effects (MacKinnon, et al., 2002).

$$\sigma_{\alpha\beta first} = \sqrt{\alpha^2 \sigma^2_{\beta} + \beta^2 \sigma^2_{\alpha}} \quad \text{Equation 2}$$

An illustration of the mediation model using hypothetical data is displayed in Figure 8. As demonstrated, the magnitude of the direct effect of A on B is .36 (found in the Gamma (Γ) matrix). In the Beta (β) matrix, we see that the direct effect of B on C is .27. Therefore, the standardized indirect effect of A on C is $.36 \times .27 = .10$. LISREL computes the significance of this estimate using the Sobel (1982) method and produces a Z-estimate of 4.04, which is significant at $p < .05$. Therefore, the indirect effect of A on C is significant, and the mediation hypothesis would be supported.

In order to determine whether the mediation effect should be considered full (the effect of A on C operates entirely via A's effects on B) or partial (A also has a direct effect on C), a second model is specified. In the second model, in addition to the mediated path, we also specify a direct link between variables A and C. This second model, therefore, is a partially-mediated model. The goodness-of-fit statistics for the fully and partially mediated models are compared. If the fits of the two models are not significantly different according to a chi-square difference test, we retain the more parsimonious fully-mediated model. If the partially-mediated model shows significantly better fit, the partial mediation model is retained.

Figure 8
Traditional Mediation Model



Mediated LGM. In the present study, I combined the LGM technique with the mediation framework presented above in order to examine the hypotheses presented previously. The three univariate LGMs constructed in Step 2 were combined in order to examine the relationships among intercepts and slopes. The model tested is presented in Figure 9. The technique used here is similar to the technique described by Cheong, MacKinnon, and Khoo (2003); however, it is somewhat different in that the Cheong, et al. procedure used a single manifest predictor in the place of latent variable A. To my knowledge, this study represents the first demonstration of a mediated LGM using three latent intercept factors and three latent slope factors.

Because the technique to be used is new, it was difficult to calculate a sample size required to achieve adequate statistical power. However, a large sample size may be needed. It has been suggested that when using LGM, sample sizes over 500 are often required to detect significant covariances between latent slope and intercept terms when three to four waves of data collection are used (Hertzog, Lindenberger, Ghisletta, & Von Oertzen, 2006). The sample used in the present study consisted of 566 participants.

Overall Model Fit

The overall fit of the mediated LGM was examined using several goodness-of-fit statistics ($\chi^2 = 873.85, p < .05, df = 475, RMSEA = .04, CFI = .98, NNFI = .98$). As a whole, the goodness-of-fit statistics indicated that the mediated LGM fit the data closely (Browne & Cudeck, 1992). The full LISREL syntax command file for the model tested can be found in Appendix I. The completely standardized path estimates for the fully-mediated LGM are displayed in Figure 10.

Hypotheses 1 and 2

Hypotheses 1 and 2 concerned the relationships between the perceived met expectations and perceived P-O fit intercepts (Hypothesis 1) and slopes (Hypothesis 2). The standardized relationship between the intercepts was significant ($\beta = .59, p < .05$), supporting Hypothesis 1. In addition, the standardized relationship between the perceived met expectations and perceived P-O fit slopes was also significant ($\beta = .99, p < .05$), supporting Hypothesis 2. Therefore, perceived met expectations and perceived P-O fit were significantly related at Wave 1 of data collection, and the change trajectories of these variables from Wave 1 to Wave 3 were also significantly related.

Figure 9
Conceptual Model – Mediated LGM

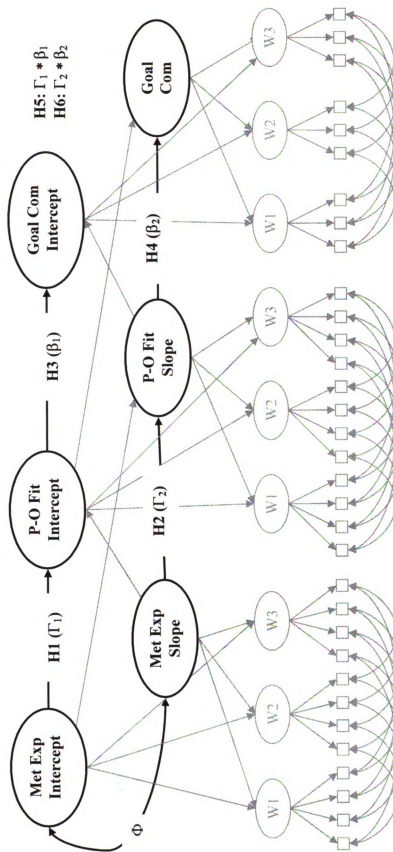
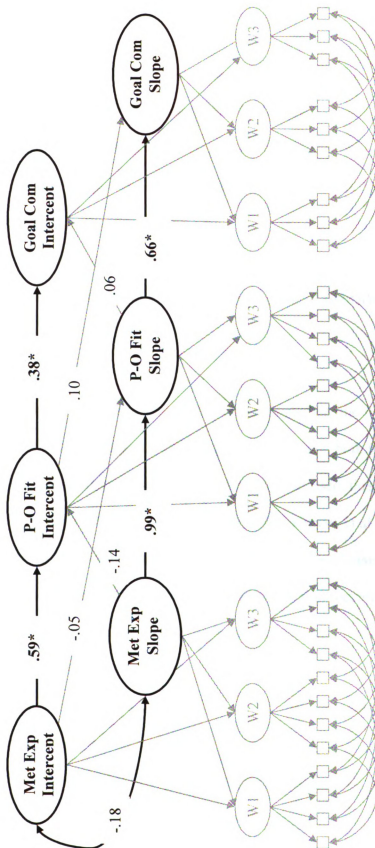


Figure 10

Completely Standardized Path Estimates for Intercept and Slope Factors – Fully Mediated LGM



Hypotheses 3 and 4

The relationships between perceptions of P-O fit and goal commitment intercepts and slopes were also tested (Hypotheses 3 and 4, respectively). The standardized path estimate between the intercepts of perceived P-O fit and goal commitment was significant ($\beta = .38, p < .05$), indicating that perceptions of P-O fit and goal commitment were significantly related at Wave 1 of data collection. Also significant was the standardized path estimate between the perceived P-O fit and goal commitment slopes ($\beta = .66, p < .05$), suggesting that perceptions of P-O fit and goal commitment changed similarly over time.

Hypotheses 5 and 6

Hypotheses 5 and 6 proposed that perceptions of P-O fit will mediate the relationship between perceptions of met expectations and goal commitment, both for intercepts (Hypothesis 5) and slopes (Hypothesis 6). As previously discussed, these hypotheses were tested using the product of coefficients method (Mackinnon, et al., 2001; Sobel, 1982). The standardized indirect effect of the perceived met expectations intercept on the goal commitment intercept was statistically significant (indirect effect = .22, $p < .05$). Thus, at Wave 1, perceptions of P-O fit mediated the relationship between perceptions of met expectations and goal commitment, supporting Hypothesis 5.

In addition, the standardized indirect effect of the perceived met expectations slope on the goal commitment slope was also significant (indirect effect = .66, $p < .05$), supporting Hypothesis 6. This indicates that perceptions of met expectations and goal

commitment changed in similar ways, and that this effect was mediated by changes in perceptions of P-O fit.

Variance Accounted For

In addition to considering the model fit statistics and the statistical significance of the path estimates, it is also important to examine the degree to which the proposed model accounts for variance in the outcome of interest – in this case, goal commitment. If the model fails to account for some meaningful amount of variance in the outcome, the model cannot be considered practically significant. In the present study, the model accounted for 14% of the variance in the goal commitment intercept (goal commitment at Wave 1) and 41% of the variance in the goal commitment slope (changes in goal commitment from Wave 1 to Wave 3).

Partial Mediation Tests

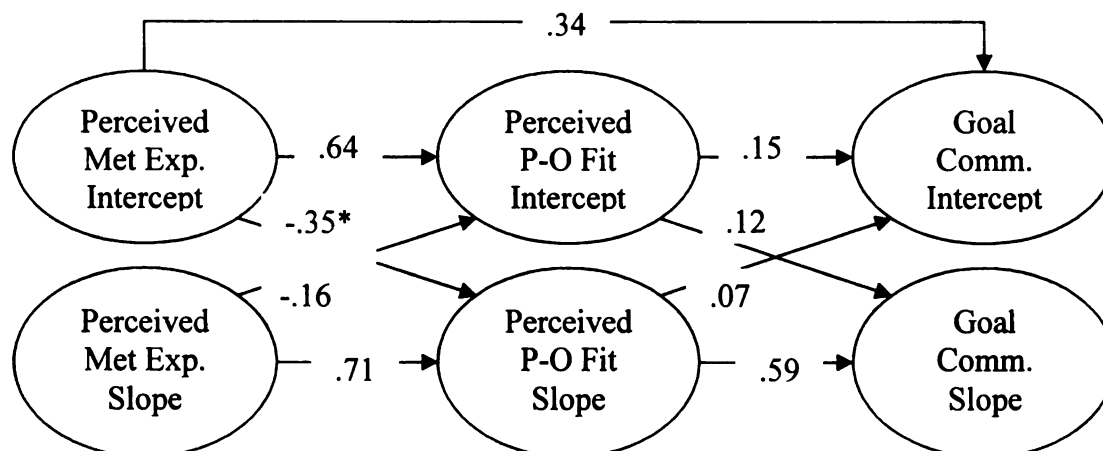
As an alternative to the fully mediated model presented above, models in which perceptions of P-O fit were specified as a partial mediator was tested. A significantly better fit of the partial mediation model would suggest that perceptions of met expectations have direct as well as indirect effects on goal commitment. If the fits of the two models do not differ significantly, the more parsimonious fully mediated model should be retained.

The first alternative model tested was one in which only the intercept terms were specified as partial mediators. The completely standardized path estimates for the intercept and slope factors in this partial intercept mediation model are displayed in Figure 11. With the addition of the direct effect from the perceived met expectations intercept to the goal commitment intercept, the path from the perceptions of P-O fit

intercept to the goal commitment intercept became nonsignificant. In addition, the indirect effect of the perceived met expectations intercept on the goal commitment intercept became nonsignificant ($ab = .08, n.s.$). Therefore, if this model were to be retained, it would imply that one's Time 1 perceptions of met expectations would be directly related to one's Time 1 goal commitment, rather than indirectly via perceptions of P-O fit. A chi-square difference test was conducted in order to determine whether the partial mediation model fit the data significantly better than did the fully mediated model. This partially mediated model fit the data well ($\chi^2 = 872.22, df = 474, RMSEA = .04, CFI = .98, NNFI = .98, GFI = .91$). However, the chi-square difference test was nonsignificant ($\Delta\chi^2 = 1.63, \Delta df = 1, n.s.$), indicating that there was no significant difference in the goodness-of-fit for the fully and partially mediated models. Therefore, the more parsimonious fully-mediated model was retained for intercepts.

Figure 11

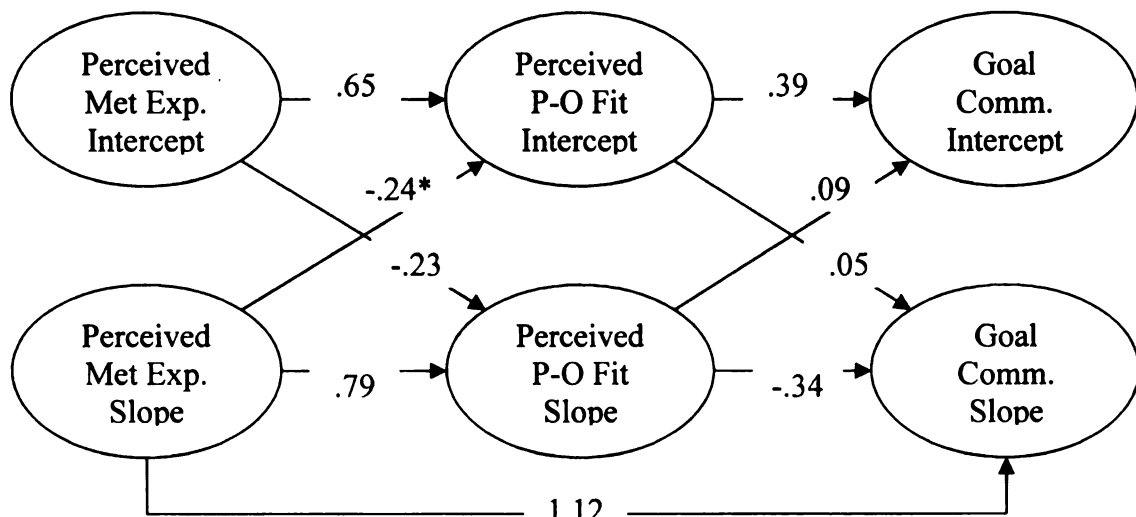
Partially Mediated Model for Intercepts Including Completely Standardized Path Estimates



Next, partial mediation was tested for the slope factors. The model tested, including completely standardized path estimates, is displayed in Figure 12. In this model, when the direct path was added between the slope of perceived met expectations and the slope of goal commitment, the path from the perceived P-O fit slope to the goal commitment slope became non-significant, as did the indirect effect estimate for perceived met expectations slope on goal commitment slope ($ab = -.28$, *n.s.*). If this partially mediated model were to be retained, then, we would conclude that changes in perceptions of met expectations were directly linked with both changes in P-O fit and change in goal commitment, and there would be no evidence for a mediation effect for slopes. The results of the chi-square difference test were significant ($\Delta\chi^2 = 6.58$, $\Delta df = 1$, $p < .05$). Therefore, the partially mediated model was retained for the slope factors, and because the indirect effect in this model was nonsignificant, the model provides no evidence in favor of a mediation effect for the slope factors.

Figure 12

Partially Mediated Model for Slopes Including Completely Standardized Path Estimates



Results Summary

The final, retained model, including completely standardized parameter estimates, is displayed in Figure 13. In this model, the levels of perceived met expectations and P-O fit at Wave 1 were significantly related, as were the levels of perceived P-O fit and goal commitment. Furthermore, the indirect effect of Wave 1 level of perceived met expectations on the Wave 1 level of goal commitment was significant, suggesting that perceived P-O fit fully mediated the relationship between these two variables. Overall, the model accounted for 14% of the variance in Wave 1 level of goal commitment.

Changes in perceptions of met expectations from Wave 1 to Wave 3 were significantly related to changes in perceptions of P-O fit, such that as one increased, the other increased, and vice versa. In the final model, changes in perceptions of met expectations were also positively and significantly related to changes in goal commitment. However, changes in perceived P-O fit were unrelated to changes in goal commitment. Furthermore, in the final model, the indirect effect of changes in perceived met expectations on changes in goal commitment was nonsignificant; therefore, there was no evidence for a mediation effect. Overall, the model accounted for 77% of the variance in changes in goal commitment.

Relationships with Distal Outcomes and Supplemental Analyses

The present study examined the relationships of perceptions of met expectations and perceptions of P-O fit with goal commitment. Because past research has demonstrated significant links between goal commitment and task performance as well as with turnover, the results found here have implications for both organizational performance and employee retention. Although formal tests of the relationships between goal commitment and such outcomes are beyond the scope of this paper, I have provided

the correlations between goal commitment and college GPA (adjusted for college difficulty/selectivity) and intent to turnover in Table 6 for the participants in this study. As displayed in the table, goal commitment was significantly related to both GPA and intent to turnover. The relationships were particularly strong at concurrent waves of data collection.

The present study focused on person-environment interactions and the relationships of perceptions resulting from such interactions on goal commitment. The specific person and situation elements that lead to the formation of such perceptions are beyond the scope of this study. However, in order to conclude that perceptions of met expectations and P-O fit add something to the prediction of goal commitment over and above the situation itself, supplemental analyses were conducted. Because between-school differences (such as differences in freshman orientation procedures) might be associated with the variables in the present study, these analyses are reported in order to provide preliminary evidence that the perceptions of interest predict goal commitment over and above institutional affiliation. It is important to note that these analyses are only preliminary and are not intended to imply a strict test of the relative effects of pure situations and self-environment perceptions, particularly because there is likely to be a wide variety of situations encountered even within a particular school.

A hierarchical linear regression was conducted in order to determine whether perceptions of met expectations and perceptions of P-O fit predicted goal commitment over and above institutional membership. Dummy codes reflecting institutional membership were entered in Block 1, with Michigan State serving as the required reference group. Wave 1 perceived met expectations and perceived P-O fit were entered

in Block 2. The dependent variable for this analysis was Wave 2 goal commitment; thus, the regression tested the extent to which perceptions of met expectations and P-O fit predicted future goal commitment over and above the effects of institutional membership.

The results of this regression are reported in Table 7.

Table 7
Effects of Wave 1 Perceived Met Expectations and Perceived P-O Fit on Wave 2 Goal Commitment Over and Above Institutional Affiliation

Block 1	R ²	ΔR ²	Variable	B
	.039	.039*	Constant	4.42*
			Fullerton	-.08
			Michigan State	(reference group)
			U. Chicago	.10
			Winston-Salem	.09
			Spelman	.02
			Iowa	.01
			Indiana	-.01
			Ohio State	.12*
			U. Michigan	.11*
			VA Tech.	.06
Block 2	R ²	ΔR ²	Variable	B
	.077	.038*	Constant	3.83*
			Fullerton	-.07
			Michigan State	(reference group)
			U. Chicago	.08
			Winston-Salem	.08*
			Spelman	.00
			Iowa	.04
			Indiana	.00
			Ohio State	.11*
			U. Michigan	.13*
			VA Tech.	.07
			W1 Perceived Met Expectations	.11*
			W1 Perceived P-O Fit	.14*

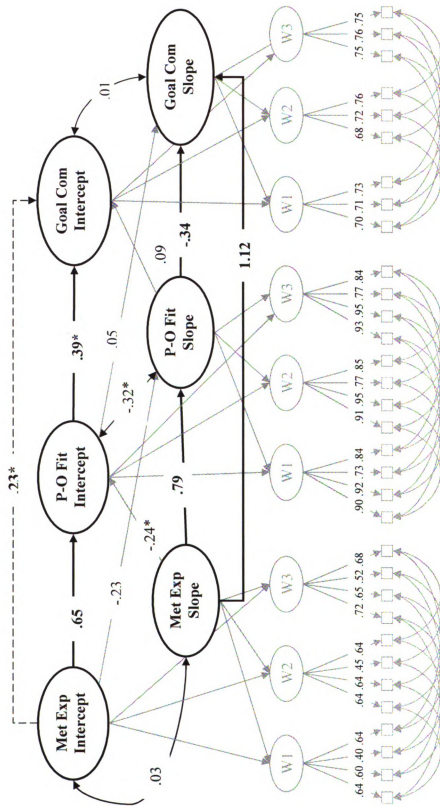
* $p < .05$ Dependent variable: Wave 2 goal commitment.

As Table 7 shows, the dummy coded institutional variables were significantly associated with goal commitment, accounting for 3.9% of the variance ($p < .01$). Adding perceived met expectations and perceived P-O fit almost doubled the amount of variance

accounted for ($\Delta R^2 = .038, p < .01$). A second analysis was conducted which was identical to the first except that Wave 3 goal commitment was the dependent variable and Wave 2 perceptions of met expectations and goal commitment were used. The results of this analysis were very similar to the first; the addition of the perceptions in Block 2 more than doubled the amount of variance in goal commitment captured by the model. The results of these regressions therefore provide some indication that perceptions of met expectations and P-O fit add to the prediction of goal commitment over and above the predictive power of the situation.

Figure 13

Final Retained Model Including Completely Standardized Path Estimates



Note. The dotted line represents the indirect effect estimate, ab .
 $\chi^2 = 867.27$, $df = 474$, $p < .05$, RMSEA = .04, CFI = .98, NNFI = .98

Table 8

Scale Means, Standard Deviations, and Intercorrelations

	N	Mean	SD	1	2	3	4	5	6	7	8
1 W1 Goal Com	566	4.57	.46	.76							
2 W2 Goal Com	566	4.49	.48	.58*	.78						
3 W3 Goal Com	566	4.44	.56	.47*	.57*	.83					
4 W2 GPA	547	3.49	.68	.16*	.27*	.28*	1.00				
5 W3 GPA	546	3.24	.57	.11	.26*	.25*	.78*	1.00			
6 W1 Intent to Turnover	565	1.34	.57	-.34*	-.32*	-.23*	-.07	-.06	.76		
7 W2 Intent to Turnover	565	1.34	.62	-.34*	-.39*	-.27*	-.16*	-.17*	.55*	.81	
8 W3 Intent to Turnover	566	1.41	.69	-.32*	-.32*	-.45*	-.13*	-.17*	.35*	.54*	.81

*Note. Reliabilities are presented in the diagonal for the goal commitment and intent to turnover scales.*** p < .05*

Discussion

In the past, when goal commitment research has considered person-environment interaction, it focused almost exclusively on mechanical forms of interaction, such as non-additivity/statistical interaction, mediation effects, and independent direct effects (e.g., Hollenbeck & Klein, 1987; Klein, et al., 1999; Locke, et al., 1988). The present study considered the potential impact of the dynamic forms of interaction on goal commitment, more specifically reciprocal influences and cognitive sensemaking. Based on this interactive approach, I proposed that perceived met expectations and perceived P-O fit, which represent the dynamic, emergent perceptions of an individual regarding some aspect of him or herself within the organizational context, might be useful in understanding the goal commitment process. This effort thus moves beyond the relatively simple, mechanical conceptualizations of person-situation effects employed in much past research and delves further into the mind of the “contextualized person.” In doing so, it allows for the fact that when a person is embedded in a context, he or she is affected by the organization and also becomes a part of the organization. It also allows for the fact that individuals may perceive the same situation in different ways (Terborg, 1981).

In this study, perceived met expectations and perceived P-O fit were found to be significantly associated with goal commitment. Perceptions of met expectations and perceptions of P-O fit were significantly associated with each other at Wave 1, and changes in these variables over time were also significantly related. Perceived P-O fit was significantly related to goal commitment levels at Wave 1, but changes in

perceptions of P-O fit were not significantly associated with changes in goal commitment over time.

It was interesting to note that for concurrent relationships, perceptions of P-O fit fully mediated the relationship of perceived met expectations and goal commitment. In other words, perceived met expectations had no significant relationship with goal commitment other than indirectly via its relationship with perceptions of P-O fit. However, no mediation effect was evident for slopes/change trajectories. The implications of this seem to be that, consistent with past research, students make college selection decisions based on their expectations about P-O fit on valued dimensions (Braxton, Vesper, & Hossler, 1995; Chapman, 1981). Once they have entered the college, the relationship of their perceptions of met expectations with concurrent levels of goal commitment is entirely dependent on the relationship with concurrent perceptions of P-O fit. However, the direction of changes in P-O fit may be unrelated to the direction of changes in goal commitment. Instead, changes in perceptions of met expectations were strongly related to changes in goal commitment. These results imply that it is important for researchers to examine both concurrent and longitudinal relationships among variables, as the relationships may differ.

Perceived met expectations and perceived P-O fit were used in the present study to represent the dynamic forms of person-environment interaction. However, additional constructs may also represent the dynamic forms of person-environment interaction when conceptualized as *perceptions* arising from the *dynamic* interaction of person and situation factors. For example, perceptions of racial or gender discrimination are thought to result from a combination of personal factors (e.g., one's demographic status and

group identification) and situational factors (e.g., the attitudes and behaviors of others in the organization, organizational policies and procedures; e.g., Operario & Fiske, 2001). Over time, these person and situation factors may interact to produce changes in perceptions of whether discrimination is taking place. Individuals may experience incidences of prejudice which then affect their subsequent attitudes, affect, and behavior. These changes in behavior might then affect the extent to which others in the environment have stereotypical or prejudiced attitudes, thereby affecting incidences of discrimination, and so on. Thus, additional work on reciprocal and cognitive sensemaking interactions might be conducted across a broad array of substantive topics.

It is worthy of note that the perceptual variables incorporated in the present study are not thought to include any implicit effects of the person and situation on behavior; that is, the respondent must be able to consciously access the perception of interest. However, while the *perception* must by definition be explicit (i.e., consciously accessible), the basic person and situation factors that give rise to the perception need not be. For example, a person may perceive high levels of P-O fit without being specifically aware of which aspects of the self and the organization have caused this perception to occur. Regardless of whether the perceptions of met expectations and P-O fit emerge from implicit or explicit person and situation factors, these perceptions are expected to drive attitudes and behaviors.

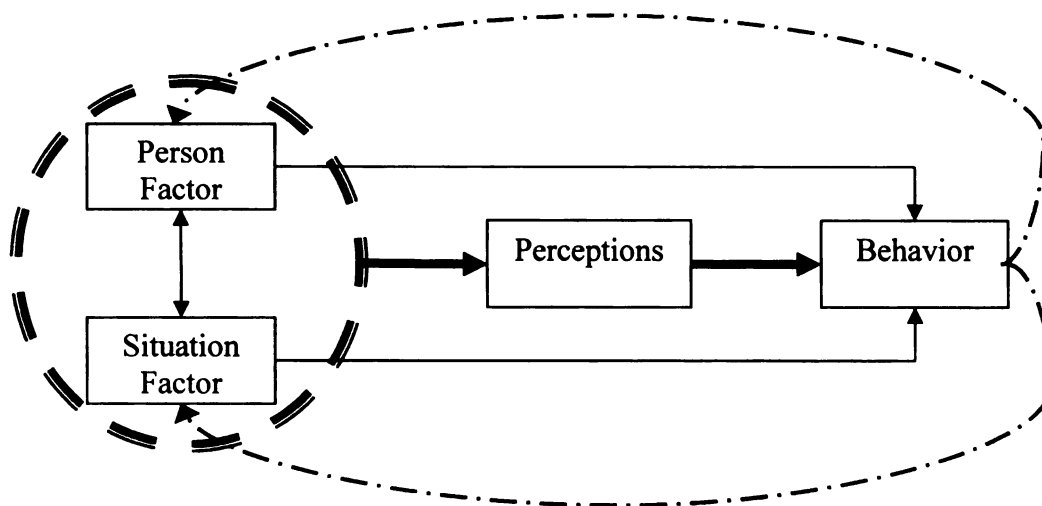
From a broad theoretical standpoint, then, the combination of the reciprocal and cognitive sensemaking forms of interaction might be conceptualized as displayed in Figure 14. The perceptions, which represent the cognitive sensemaking approach, result from the dynamic and reciprocal interaction of the person and situation over time, which

represents the reciprocal influences approach. These perceptions may partially mediate the relationship between the person and situation factors and behavior. The mediation effect of these perceptions is expected to be only partial in order to account for possible implicit effects of both the person and situation factors on behavior.

The effect is proposed to be partial for the person factor because research has shown that implicit (i.e., unconscious) attitudes and beliefs can affect behavior without resulting in relevant conscious perceptions (Bargh, 2002; Bargh & Chartrand, 1999). Similarly, partial mediation for the situation factor is consistent with past research demonstrating that aspects of one's situation can have implicit effects on one's behavior (Bargh, Chen, & Burrows, 1996; Latane & Darley, 1970; Schwarz & Clore, 1983). Finally, consistent with the reciprocal influences approach, a feedback loop is displayed which represents the fact that a contextualized person has effects on his or her situation over time.

Figure 14

Heuristic Model – Combined Reciprocal Influences and Cognitive Sensemaking Forms of Interaction



It is important to note that in this study, the goal to which respondents were committed was held constant. All respondents reported their commitment to the goal of graduating from college. However, this process could generalize across a wide range of goals. For example, junior faculty typically set a goal of obtaining tenure. When entering an academic institution, new faculty have expectations about the types of work they will be required to perform. For instance, the new faculty member at a research university might expect to spend most of his or her time conducting research. To the extent that these expectations are perceived as being met, the faculty person should believe that both he or she and the university value research productivity. In other words, perceptions that his or her expectations are being met should be related to perceptions of P-O fit, or value congruence. If, however, perceptions of P-O fit are low (e.g., the faculty member values research but perceives that the university strongly values committee service), the faculty member may become less committed to obtaining tenure at that university and begin searching for other options. The above example illustrates that the

process proposed in the present study is not expected to be unique to the goal of graduating from college, but that it is expected to generalize broadly across goals.

The present study examined incoming college students, but a parallel process may occur for employees in organizations. If these results generalize to work situations, the findings have at least two implications. First, organizations should pay attention to the ways in which employees' perceptions of met expectations are changing over time. Decreases in perceptions of met expectations may be, in the long term, directly linked with decreases in both perceptions of P-O fit and decreases in goal commitment. Perceptions of P-O fit have been linked with important attitudinal and behavioral outcomes, including turnover (Kristof-Brown, et al., 2005; Sims & Kroeck, 1994), while goal commitment has been associated most consistently with performance (e.g., Locke, et al., 1981). Thus, in order to avoid turnover and performance decrements, it may not be sufficient to simply implement a one-time realistic job preview in order to deflate initial expectations. Organizations may need to consistently monitor employees' perceptions of met expectations in order to detect significant decreases. If such decreases are detected, organizations might most easily intervene by changing aspects of the employee's organizational experience (e.g., job description, pay, etc.) to more closely match expectations. If implemented effectively, such interventions are expected to increase perceptions of met expectations, which may in turn be associated with increased P-O fit perceptions and goal commitment.

Second, when organizations are only interested in short-term levels of goal commitment, a focus on perceptions of P-O fit might be most beneficial. Certain organizational goals may be very short-term in nature. Because full mediation was found

for concurrent levels of goal commitment, organizations might be best served by efforts to increase perceptions of P-O fit, regardless of whether those efforts also increase perceptions of met expectations. When more long-term, stable increases in goal commitment are desired, however, organizations should emphasize both perceptions of P-O fit and perceptions of met expectations for maximum results.

The present study has at least four implications for goal commitment models such as those proposed by Locke, et al. (1988) and Hollenbeck and Klein (1987). First, the finding that perceptions such as perceived met expectations and perceived P-O fit are linked with goal commitment implies that the cognitive processing element of the Locke, et al. (1988) model deserves additional theoretical and empirical attention. The notion that one's perceptions of the environment (whether accurate or inaccurate) drive one's behavior deserves increased attention, and further incorporation of individual differences in environmental perceptions may be a useful addition to goal commitment models.

Second, the results of the present study imply that goal commitment models might benefit from further attention to the dynamic forms of person-environment interaction (Terborg, 1981). While these models have incorporated the notion of mechanical person-environment interactions, the present study suggests that consideration of dynamic forms may lead to the identification of new variables that might be used to predict goal commitment, such as perceived met expectations and perceived P-O fit.

Third, goal commitment researchers should devote increased consideration to the role of time and changes over time. The present study suggests that the relationships among variables at the same time point may differ from the relationships of their change

trajectories. Therefore, goal commitment models may need to distinguish between concurrent and longitudinal relationships among variables.

Finally, perceived met expectations and perceived P-O fit should be added to the models as antecedents of goal commitment. These factors can be incorporated within the existing models; however, the models may need to be expanded or modified to more explicitly incorporate these types of variables. Where in the models these factors best fit is a question that requires future research, as discussed further below (see “suggestions for future research”). For the time being, I present a preliminary model that might serve as a starting point for future research endeavors.

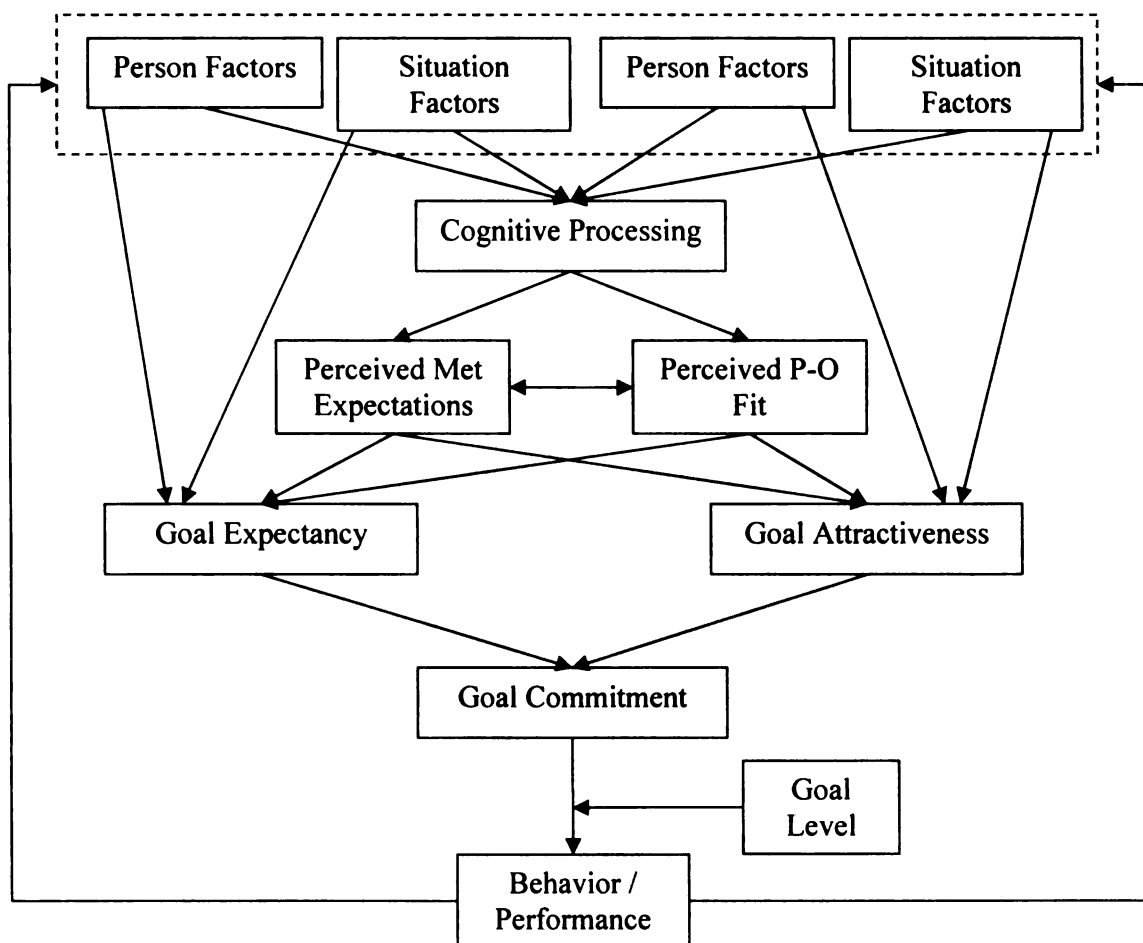
Figure 15 presents a proposed integration of perceived met expectations and perceived P-O fit within the framework of the Hollenbeck and Klein (1987) model. Figure 15 also incorporates the cognitive processing box from the Locke, et al. (1988) model. Several elements in this proposed model are worthy of note. First, the relationship of person and situation factors with the self-environment perceptions is mediated by cognitive processing. This relationship is consistent with the cognitive sensemaking approach (Terborg, 1981), which suggests that due to individual differences, different persons will perceive and process situational elements differently. Second, the proximal predictors of goal commitment (goal expectancy and goal attractiveness) are proposed to mediate the relationship of self-environment perceptions with goal commitment. It is also consistent with the heuristic model presented in Figure 14.

Third, I broaden the label in the performance box to include goal-related behavior in general (independent of the value-laden performance judgment, which may be

influenced by factors other than the individual's behavior). Finally, consistent with the reciprocal interaction perspective (Terborg, 1981), I propose that the individual's behavior feeds backward, affecting elements of the person and the situation. Over time, therefore, the variables in the model are proposed to reciprocally influence one another.

Figure 15

Proposed Integration of Self-Environment Perceptions Within the Hollenbeck and Klein (1987) Goal Commitment Model



Potential Limitations

There are at least four potential limitations to the present study – the potential for common method effects, the inability to make causal inferences, the construct

representativeness of the perceived met expectations measure, and the use of a student sample. Each of these potential limitations is discussed in turn.

First, as in any study using self-report measures, the potential influence of common method bias cannot be ruled out. The effects of common method may have been rendered less likely, however, by three characteristics of the survey used. First, the scales measuring perceptions of met expectations, perceptions of P-O fit, and goal commitment were each separated by approximately 50 items in the survey. This separation of the scales may have created a temporal or psychological separation between the measurement of the three constructs that could reduce the potential effects of the common method (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Second, the survey responses were confidential, and the respondents were guaranteed that no identifying information would be revealed to anyone associated with their organizations. The guarantee of confidentiality can reduce method effects related to social desirability concerns (Podsakoff, et al., 2003). Finally, because the study was conducted longitudinally, method effects can be expected to be limited due to the lag of several months between waves of data collection (Podsakoff, et al., 2003).

The second potential limitation of the present study is that when using cross-domain LGM analyses, it is not possible to make causal inferences. While the model presented in the present study proposes that perceptions of met expectations may predict perceptions of P-O fit, the causal direction of this relationship cannot be established here. Similarly, the direction of the relationship between perceptions of P-O fit and goal commitment cannot be established with certainty. Additional longitudinal research will be necessary to firmly establish the causal nature of the relationships among perceived

met expectations, perceived P-O fit, and goal commitment. Such future research might employ cross-lagged panel designs to more firmly establish causal direction. A combined autoregressive / LGM technique is also available when the data collection includes at least four waves (cf. Bollen & Curran, 2004). Such analyses would allow the research to make inferences regarding the causal direction of the proposed relationships.

Third, the use of archival data dictates that one must use the measures available. Due to practical constraints on data collection, the scales used had a relatively small number of items. In particular, the perceived met expectations and perceived P-O fit scales had only four items each. Because the perceived P-O fit items assessed global elements of P-O fit, they may have been likely to cover a broad range of the latent perceived P-O fit construct.

However, in the perceived met expectations measure, three of the four items assessed more specific factors regarding which one's expectations could be met or unmet (e.g., course organization, competence of professors). The fourth item assessed perceptions of met expectations for the overall academic experience. The first three items may not have covered the entire range of one's perceptions of met expectations, even for the academic focus; other factors such as amount of homework or test difficulty might also account for part of the construct domain. Furthermore, the restriction of the items to the academic part of the organizational experience may further exclude latent variance in the perceived met expectations construct (e.g., perceptions of met expectations related to social relationships). The restriction of the focus to academic matters reflected a concern for the practical implications of the study. Organizations can more easily intervene to affect perceptions of met expectations for academic or task

related aspects of the organizational experience than they can for social aspects. Still, the perceived met expectations measure seems likely to lack full construct representativeness.

However, the extent to which a lack of full construct representation might affect the results of the present study is unknown. If the portion of latent variance in perceived met expectations that is left uncaptured by the measure is not associated with variance in perceptions of P-O fit and goal commitment, then the relationships found here would have been inflated. Conversely, if the uncaptured variance is significantly associated with perceptions of P-O fit and goal commitment, then the relationships found here would have been deflated. I believe that the latter possibility is the more likely one. I propose that perceived met expectations variance associated with social matters (uncaptured variance in the present study) is likely to be related to one's perceptions of P-O fit and goal commitment; however, future research is needed to address this question.

The fourth potential limitation of the present study is the nature of the sample used. The use of a student sample to make inferences relevant to organizations raises generalizability questions. However, in the present study, the process examined is expected to generalize across academic and workplace situations. The process supported here is broadly psychological in nature, and the effects of perceptions of met expectations and perceptions of P-O fit are not expected to differ between student and employee samples. Furthermore, several established similarities between college student and organizational samples were previously presented which support the potential for generalization of the present study's results to organizational employees.

Perhaps a greater limitation on the generalizability of the results presented here is the issue of nonrandom attrition. Students with initially lower levels of perceived met expectations at Wave 1 were significantly more likely to attrit from the study than were students with higher initial perceptions of met expectations. Although this effect size was small ($d = -.13$), the results of the present study must be interpreted in light of this effect.

Furthermore, supplemental analyses suggest that students with lower academic ability (measured by SAT/ACT score) were also more likely to attrit from the study between Wave 1 and Wave 3 ($d = .80$). Also, as Table 2 shows, participants in the sample generally had higher than average SAT scores relative to their schools' incoming classes. Therefore, the results found in the present study may be more representative of higher-ability individuals than of lower-ability individuals. Theoretically, higher-ability individuals may perceive that they have more available alternatives to staying in an organization in which they perceive low fit, whereas lower-ability individuals, who perceive fewer available alternatives, may remain committed to an organization in which they perceive poor fit (Allen & Griffeth, 1999). Therefore, ability may moderate the relationships among perceptions of met expectations, perceptions of P-O fit, and goal commitment. However, additional research is needed to examine this possibility and to explore other potential moderators of the relationship presented here.

Suggestions for Future Research

The present study provided a first step in the examination of whether perceptions of the self-environment relationship, such as perceived met expectations and perceived P-O fit, can add to our understanding of goal commitment. This study laid the groundwork for further investigation, and several avenues for future research are open. I now present

suggestions for future research that can further our understanding of the relationships found here.

First, while the present study established that perceived met expectations and perceived P-O fit show significant relationships with goal commitment, it would be useful to establish in future research how much variance in goal commitment can be attributed to these perceptions relative to variance attributed to more traditional predictors of goal commitment, such as incentive structure or participation in goal setting. Future research might examine this question using both levels of goal commitment and changes in goal commitment as outcomes of interest.

Second, future researchers may wish to examine whether the effects of perceived met expectations and perceived P-O fit differently affect each of the proximal antecedents of goal commitment. It may be reasonable to hypothesize that self-organization perceptions may have stronger effects on goal attractiveness than on goal expectancy. The degree to which one perceives fit with the organization could operate indirectly on expectancy by affecting the extent to which the individual has access to needed materials and support. However, the effects of perceived P-O fit may be stronger for goal attractiveness, as individuals and organizations with congruent values may be more likely to agree on the types of goals that should be set and the types of reward systems that should be put in place for goal achievement.

Third, researchers may wish to examine the degree to which the predictors examined here are related to commitment to both self-set and organizationally-set goals. The present study found significant effects for perceived met expectations and perceived P-O fit on a (presumably) self-set goal, the goal of graduating from college. However,

one might hypothesize that the effects of self-organization perceptions might operate more strongly on goals that are prescribed to the individual by the organization. When setting their own goals, individuals may attempt to set goals that are somewhat aligned with their personal values regardless of their perceptions of P-O fit. It seems that when goals are assigned to the individual by the organization, however, there is more likely to be variance on goal attractiveness, and perceptions of P-O fit (value congruence) are more likely to predict this variance.

Finally, future researchers should consider *how* person and situation factors lead to cognitive sensemaking perceptions. Edwards and colleagues (2006) have demonstrated that individuals' perceptions of a situation do not reflect separately-obtained measures of the person and situation factors in a straightforward manner. The attentional and information processing processes leading to the development of these emergent perceptions currently remain shrouded in mystery, and the identification of relevant antecedents and moderators of this emergent process is an interesting and likely complex question. Furthermore, a greater understanding of the psychological factors that influence the development of self-organization perceptions can yield practical interventions designed to affect the types of perceptions that emerge from an organizational situation. The ability to influence these perceptions may have important implications for organizationally-relevant outcomes such as goal commitment, performance, and turnover.

Practical Applications

The research presented in the present study has practical implications for organizations wishing to increase commitment to valued goals. The results of this study

suggest that goal commitment may be increased via interventions designed to improve perceptions of met expectations and/or perceptions of P-O fit. These interventions may be targeted at the selection or socialization processes, or they might be implemented at any time a new goal is assigned. Past research suggests interventions and techniques that might be used to influence perceptions of met expectations and perceptions of P-O fit, as will be discussed below. However, a caveat is offered. As discussed previously, our perceptions of situations may not necessarily mirror the reality of those situations. For most psychologically healthy individuals, though, perceptions and reality are likely to be related. The practical applications presented here may only be effective to the extent that individuals' perceptions are in tune with the reality of the organizational situation and changes in that situation.

Realistic Job Previews. For several years, realistic job previews (RJPs) have been used to give applicants a more accurate view of the positive and negative aspects of working in the organization (Ilgen & Seely, 1974). Based on work demonstrating that applicant expectations for the organization tend to be inflated, RJPs provide potential organizational members with a greater degree of negative information about the organization than would typically be provided during the selection process (Wanous, 1977). The theory behind RJPs is that by reducing initial expectations, individuals are less likely to experience perceptions of unmet expectations after organizational entry, thus reducing post-entry turnover. Meta-analyses of the effectiveness of RJPs support their use for the reduction of turnover (Wanous, et al., 1992). The present study suggests that in addition to the reduction of turnover, RJPs might also be beneficial for the improvement of commitment to organizational goals. Applicants who accept

membership in the organization following the RJP may have higher perceptions of met expectations and may thus be more likely to show greater perceptions of P-O fit and stronger commitment to any organizational goal assigned following organizational entry. However, as noted previously, organizations should also continue to monitor changes in perceptions of met expectations following organizational entry.

Socialization. Once individuals have entered the new organization, the socialization process begins. The results of the present study have implications for suggested content and form of the socialization process. Research has shown that in addition to influencing newcomers' knowledge, attitudes, and behaviors, socialization can affect perceived levels of P-O fit (Cable & Parsons, 2001). Although several socialization tactics exist (Jones, 1986; Van Maanen & Schein, 1979), two particular tactics have been linked to increases in newcomers' perceptions of P-O fit, as discussed further below: the use of content that is sequential and fixed, and the use of social aspects that are serial and investiture in nature (Cable & Parsons, 2001).

Socialization processes provide new organizational members with information about the sequence of events they will encounter and the likely timeline for encountering those events (sequential and fixed content). For example, business organizations might provide information about the typical career paths and requirements for promotion, while academic organizations might provide students with counseling on the degree requirements and sequence of required courses. These sequential and fixed socialization tactics have been linked with increased perceptions of P-O fit (Cable & Parsons, 2001). The implication is that in order to increase perceptions of P-O fit, organizations should provide new members with information regarding the typical or desired progression in

the organization, as well as information about how performance will be evaluated and what resources are available for individuals. To the extent that perceptions of P-O fit are increased, goal commitment is expected to increase as well.

It has also been found that new members who were provided with experienced mentors or role models (serial and investiture tactics) had increased levels of perceived P-O fit relative to those who were not provided with such a mentor/role model (Cable & Parsons, 2001). Thus, organizations may wish to invest in mentoring programs for in which experienced employees or senior students are paired with newcomers in order to provide information and social support. In order to achieve the greatest benefits for perceived P-O fit from mentoring, organizations should be mindful of who is selected to be a mentor. In selecting mentors, organizations should choose experienced persons who themselves perceive high levels of P-O fit. This is expected to increase newcomer perceptions of P-O fit, and thus have a positive influence on goal commitment.

Finally, the results of the present study imply that organizations might improve goal commitment by increasing perceptions of P-O fit at the time that the goal is introduced. By linking the goal to values that are shared between the organization and its members, organizations might increase the attractiveness of the goal. The author recently observed an example of the effectiveness of this process in a small manufacturing company. This organization had recently implemented a new program designed to improve the cleanliness and organization of the factory. As part of this program, each individual was assigned goals for keeping his or her area clean. Quite a bit of skepticism and grumbling was overheard from the production personnel, who preferred to use their time to produce product rather than “wasting” their time on “making the place look

pretty.” Management, sensing that the employees did not truly understand the purpose of the program, then appealed to the shared values of safety and productivity. They argued that the new program, in addition to making the factory look better, would also make the plant more safe and productive, as production workers would no longer trip over tools left in the aisles or have to spend valuable time searching for a tool that had been moved from its proper location. Following this appeal to shared values, commitment to the new program and its associated goals increased. The implication here is that organizations should planfully consider the manner in which new goals will be introduced, and the introduction of new goals should include appeals to shared values. Because these appeals are likely to increase perceptions of P-O fit, they are also likely to increase goal commitment.

Conclusion

The study presented here represents a first step in the examination of the extent to which variables theoretically grounded in the reciprocal influences and cognitive sensemaking forms of person-environment interaction (Terborg, 1981) can be used to increase our understanding of goal commitment. The results suggested that perceptions of met expectations and perceptions of P-O fit are significantly related to goal commitment, and that perceived P-O fit fully mediates the relationship between concurrent levels of perceived met expectations and goal commitment but partially mediates the relationship between changes in perceived met expectations and goal commitment. Although the person-situation debate has a long history, the present study takes a unique perspective on the complex nature of a contextualized person and links this perspective to goal commitment. It is my hope that future research will continue to

examine the nature and effects of self-environment perceptions on goal commitment and on other outcomes of interest.

APPENDICES

APPENDIX A

Table 9

Study Information

	California State-Fullerton	Indiana University	Michigan State University	Michigan State University CAP* Program	University of Chicago
<i>Description of Recruiting Techniques</i>	Summer Bridge Program, University 100 course, and by posting flyers in resident halls.	E-mail sent to all students attending orientation.	Students attending orientation were sent a flyer.	E-mail sent to all freshman CAP students.	E-mails and information on the Office of Minority Affairs web site
<i>Number of students who received a recruiting message</i>	500	700	Unknown	519	342 e-mails
<i>Special populations that were recruited</i>	Guardian Scholars all participated (orphans and emancipated youths).	Minority groups received recruiting messages first.	no	Only CAP students	Minority students (African-American, Asian American, Latino, and Native American)
<i>What date(s) was the session(s) held in.</i>	7/25/04, 6 dates in September. 2004	2 on 6/24/04, 8/15/04	Unknown	9/14/04, 9/15/04, 9/16/04,	10/16/2004
<i>Type of room the session was held in.</i>	Residence hall and classrooms	Large classroom	Large lecture hall	Classrooms	Large lecture hall
<i>For each session, how many proctors attended?</i>	1-2	2 and a police officer	7	2	6

Table 9 (cont'd)

Note: The CAP program is a predominantly minority campus group for first-generation college students at Michigan State University. Researchers targeted this group specifically to diversify the sample from MSU.

	Ohio State University	University of Iowa	University of Michigan	Virginia Tech University	Spelman College
<i>Description of Recruiting Techniques</i>	An e-mail was sent.	All 1st year students were mailed a letter from the admissions office.	1000 randomly selected freshmen received a letter of invitation in the mail.	All incoming first year cadets were administered the survey as part of their first week orientation.	Flyer sent in deposit packets, orientation booklet, announcements at various orientation sessions
<i>Number of students who received a recruiting message</i>	5800	All 1st year students	1000	All cadets who participated in first year orientation	600
<i>Special populations that were recruited</i>	No	No	No	Only the military branch	No
<i>What date(s) was the session(s) held</i>	2 on 10/5/04	9/14/2004	9/12/04, 9/14/04	8/15/2004	8/19/2004 8/20/2004 8/23/2004
<i>Type of room the session was held in</i>	Large lecture hall	Large lecture hall	Auditorium, ballroom	Auditorium	Auditorium
<i>The number of proctors in attendance at each session</i>	5	4	4-6	6	2
<i>Note.</i> Information not currently available for Winston-Salem State University.					

APPENDIX B

Perceived Met Expectations Scale Items

Instructions. Think back to the expectations you had of what college would be like.

Now, indicate the extent to which your actual college experiences have met your expectations.

1	2	3	4	5
Does not meet expectations		Meets expectations		Exceeds expectations

1. The way my courses are organized
2. The competence of the professors
3. The course availability
4. My overall academic experience

APPENDIX C

Perceived P-O Fit Scale Items

Please indicate the extent to which you agree with the following statements about your school.

1	2	3	4	5
Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree

1. My personality is a good match for this school
2. I am the right type of person for this school
3. My values match or fit the values of this school
4. I feel like I belong at this university

APPENDIX D

Goal Commitment Scale Items

Please indicate the extent to which you agree with the following statements.

1	2	3	4	5
Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree

1. It is hard to take the goal of graduating from college seriously* (R)
2. It is unrealistic to expect that I will graduate from college* (R)
3. I might rethink my goal of graduating from college, if things go differently than I expect* (R)
4. Quite frankly, I don't care if I graduate from college or not* (R)
5. I am strongly committed to pursuing the goal of graduating from college*
6. It would not take much for me to abandon the goal of graduating from college (R)
7. I think that the goal of graduating from college is a good goal to shoot for
8. I am willing to put forth a great deal of effort, beyond what I would normally do, to graduate from college*
9. I will not gain much by trying to achieve the goal of graduating from college (R)

** Indicates that the item was retained during scale refinement*

APPENDIX E

Table 10
Correlations of Items/Parcels Used in Mediated LGM

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1 W1 Perceived Met Exp. 1	1.00																
2 W1 Perceived Met Exp. 2	.40	1.00															
3 W1 Perceived Met Exp. 3	.18	.14	1.00														
4 W1 Perceived Met Exp. 4	.39	.43	.30	1.00													
5 W2 Perceived Met Exp. 1	.32	.26	.13	.28	1.00												
6 W2 Perceived Met Exp. 2	.25	.45	.18	.38	.37	1.00											
7 W2 Perceived Met Exp. 3	.16	.13	.39	.27	.30	.29	1.00										
8 W2 Perceived Met Exp. 4	.24	.21	.25	.34	.46	.47	.41	1.00									
9 W3 Perceived Met Exp. 1	.18	.18	.07	.18	.34	.25	.17	.25	1.00								
10 W3 Perceived Met Exp. 2	.12	.27	.08	.23	.23	.40	.13	.24	.44	1.00							
11 W3 Perceived Met Exp. 3	.14	.09	.28	.17	.27	.23	.40	.26	.27	.32	1.00						
12 W3 Perceived Met Exp. 4	.22	.19	.19	.27	.36	.33	.29	.50	.50	.42	.38	1.00					
13 W1 Perceived P-O Fit 1	.21	.10	.11	.27	.15	.22	.21	.28	.23	.17	.16	.24	1.00				
14 W1 Perceived P-O Fit 2	.16	.11	.12	.28	.18	.23	.19	.29	.19	.14	.16	.21	.86	1.00			
15 W1 Perceived P-O Fit 3	.14	.08	.11	.17	.18	.17	.22	.26	.21	.10	.13	.23	.62	.61	1.00		
16 W1 Perceived P-O Fit 4	.18	.13	.10	.33	.24	.21	.23	.33	.19	.13	.18	.24	.74	.74	.58	1.00	
17 W2 Perceived P-O Fit 1	.11	.04	.06	.15	.26	.19	.20	.30	.25	.16	.15	.21	.63	.56	.42	.55	1.00
18 W2 Perceived P-O Fit 2	.08	.05	.07	.16	.28	.23	.25	.35	.28	.18	.19	.25	.61	.60	.50	.59	.87
19 W2 Perceived P-O Fit 3	.15	.09	.11	.16	.23	.25	.23	.27	.23	.15	.16	.22	.50	.48	.60	.47	.65
20 W2 Perceived P-O Fit 4	.11	.13	.03	.22	.30	.28	.20	.38	.27	.22	.18	.27	.57	.56	.41	.59	.75
21 W3 Perceived P-O Fit 1	.15	.07	.09	.20	.20	.20	.20	.29	.34	.21	.26	.34	.51	.46	.39	.47	.58
22 W3 Perceived P-O Fit 2	.10	.08	.08	.21	.23	.22	.21	.31	.35	.22	.25	.38	.48	.47	.40	.47	.56
23 W3 Perceived P-O Fit 3	.08	.02	.02	.11	.16	.14	.16	.21	.27	.14	.15	.26	.43	.36	.50	.39	.47
24 W3 Perceived P-O Fit 4	.11	.06	.05	.18	.19	.15	.15	.26	.32	.20	.21	.33	.46	.41	.37	.49	.51
25 W1 Goal Commitment 1	.10	.05	.04	.14	.16	.15	.13	.14	.06	.05	.12	.11	.12	.14	.08	.14	.11

Table 10 (cont'd)

	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33
1																
2																
3																
4																
5																
6																
7																
8																
9																
10																
11																
12																
13																
14																
15																
16																
17																
18	1.00															
19	.71	1.00														
20	.77	.64	1.00													
21	.62	.48	.54	1.00												
22	.61	.48	.55	.89	1.00											
23	.53	.59	.48	.68	.68	1.00										
24	.57	.46	.58	.74	.78	.67	1.00									
25	.13	.07	.16	.13	.16	.12	.12	1.00								

Table 10 (cont'd)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
26	W1 Goal Commitment 2	.12	.05	.03	.10	.09	.11	.12	.14	.04	.12	.12	.17	.16	.08	.17	.11
27	W1 Goal Commitment 3	.13	.06	.04	.15	.11	.14	.13	.14	.10	.12	.11	.23	.23	.19	.22	.14
28	W2 Goal Commitment 1	.07	.06	.08	.14	.14	.15	.15	.18	.11	.08	.12	.06	.09	.06	.11	.08
29	W2 Goal Commitment 2	.09	.07	.08	.09	.14	.11	.10	.15	.12	.07	.15	.13	.15	.13	.17	.16
30	W2 Goal Commitment 3	.11	.10	.06	.09	.17	.20	.15	.17	.18	.12	.17	.18	.18	.16	.17	.21
31	W3 Goal Commitment 1	.08	.10	.10	.10	.16	.12	.16	.14	.16	.14	.20	.08	.08	.09	.10	.10
32	W3 Goal Commitment 2	.16	.09	.08	.15	.17	.12	.10	.18	.14	.13	.21	.17	.16	.17	.21	.11
33	W3 Goal Commitment 3	.10	.11	.06	.12	.10	.15	.10	.16	.24	.21	.24	.11	.11	.10	.10	.10

	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	
26	W1 Goal Commitment 2	.14	.06	.17	.18	.18	.17	.16	.54	1.00							
27	W1 Goal Commitment 3	.15	.10	.17	.20	.19	.15	.18	.48	.52	1.00						
28	W2 Goal Commitment 1	.10	.04	.14	.12	.15	.07	.09	.44	.35	.27	1.00					
29	W2 Goal Commitment 2	.17	.10	.18	.18	.20	.16	.21	.38	.50	.36	.55	1.00				
30	W2 Goal Commitment 3	.21	.16	.23	.22	.23	.16	.15	.37	.40	.45	.47	.55	1.00			
31	W3 Goal Commitment 1	.12	.08	.13	.20	.27	.12	.20	.39	.32	.26	.43	.41	.36	1.00		
32	W3 Goal Commitment 2	.17	.13	.20	.26	.29	.20	.28	.32	.43	.29	.32	.49	.37	.62	1.00	
33	W3 Goal Commitment 3	.15	.11	.17	.26	.30	.21	.30	.24	.32	.36	.34	.36	.48	.50	.57	1.00

APPENDIX F

SIMPLIS Syntax: Configural Invariance Test

Configural Invariance Test

```
group Wave1
observed variables: exp1 exp2 exp3 exp4 fit1 fit2 fit3 fit4 goal1 goal2
goal3
latent variables: exp fit goal
correlations
1.00
0.40 1.00
0.18 0.14 1.00
0.39 0.43 0.30 1.00
0.21 0.10 0.11 0.27 1.00
0.16 0.11 0.12 0.28 0.86 1.00
0.14 0.08 0.11 0.17 0.62 0.61 1.00
0.18 0.13 0.10 0.33 0.74 0.74 0.58 1.00
0.14 0.05 0.05 0.14 0.21 0.20 0.13 0.21 1.00
0.11 0.07 0.07 0.14 0.13 0.14 0.06 0.14 0.46 1.00
0.11 0.03 -0.01 0.11 0.19 0.19 0.15 0.19 0.55 0.51 1.00
standard deviations
.85 .99 1.17 .95 .89 .85 .93 .89 .46 .64 .60
sample size = 566
exp1 = 1*exp
exp2 exp3 exp4 = exp
fit1 = 1*fit
fit2 fit3 fit4 = fit
goal1 = 1*goal
goal2 goal3 = goal
let the variance of exp be free
let the variance of fit be free
let the variance of goal be free
let the error variance of exp1 - goal3 be free
let the covariance of exp and fit be free
let the covariance of fit and goal be free
let the covariance of exp and goal be free

group Wave2
correlations
1.00
0.37 1.00
0.30 0.29 1.00
0.46 0.47 0.41 1.00
0.26 0.19 0.20 0.30 1.00
0.28 0.23 0.25 0.35 0.87 1.00
0.23 0.25 0.23 0.27 0.65 0.71 1.00
0.30 0.28 0.20 0.38 0.75 0.77 0.64 1.00
0.18 0.19 0.14 0.15 0.21 0.20 0.14 0.21 1.00
0.13 0.10 0.12 0.16 0.13 0.15 0.07 0.17 0.51 1.00
0.15 0.19 0.14 0.19 0.12 0.14 0.10 0.18 0.59 0.57 1.00
standard deviations
.81 .90 1.13 .95 .86 .84 .92 .89 .49 .66 .57
```

```

sample size = 566
expl = 1*exp
exp2 exp3 exp4 = exp
fit1 = 1*fit
fit2 fit3 fit4 = fit
goal1 = 1*goal
goal2 goal3 = goal
let the variance of exp be free
let the variance of fit be free
let the variance of goal be free
let the error variance of expl - goal3 be free
let the covariance of exp and fit be free
let the covariance of fit and goal be free
let the covariance of exp and goal be free

group Wave3
correlations
1.00
0.44 1.00
0.27 0.32 1.00
0.50 0.42 0.38 1.00
0.34 0.21 0.26 0.34 1.00
0.35 0.22 0.25 0.38 0.89 1.00
0.27 0.14 0.15 0.26 0.68 0.68 1.00
0.32 0.20 0.21 0.33 0.74 0.78 0.67 1.00
0.22 0.17 0.13 0.23 0.27 0.30 0.23 0.30 1.00
0.15 0.16 0.15 0.23 0.23 0.28 0.15 0.24 0.53 1.00
0.19 0.17 0.13 0.22 0.26 0.32 0.19 0.26 0.73 0.65 1.00
standard deviations
.77 .92 1.04 .92 .89 .88 .98 .93 .56 .72 .65
expl = 1*exp
exp2 exp3 exp4 = exp
fit1 = 1*fit
fit2 fit3 fit4 = fit
goal1 = 1*goal
goal2 goal3 = goal
let the variance of exp be free
let the variance of fit be free
let the variance of goal be free
let the error variance of expl - goal3 be free
let the covariance of exp and fit be free
let the covariance of fit and goal be free
let the covariance of exp and goal be free

options set ad=off it=500
path diagram
lisrel output: rs ef va tv sc mi
end of problem

```

APPENDIX G

SIMPLIS Syntax: Metric Invariance Test

Metric Invariance Test

```
group Wave1
observed variables: exp1 exp2 exp3 exp4 fit1 fit2 fit3 fit4 goal1 goal2
goal3
latent variables: exp fit goal
correlations
1.00
0.40 1.00
0.18 0.14 1.00
0.39 0.43 0.30 1.00
0.21 0.10 0.11 0.27 1.00
0.16 0.11 0.12 0.28 0.86 1.00
0.14 0.08 0.11 0.17 0.62 0.61 1.00
0.18 0.13 0.10 0.33 0.74 0.74 0.58 1.00
0.14 0.05 0.05 0.14 0.21 0.20 0.13 0.21 1.00
0.11 0.07 0.07 0.14 0.13 0.14 0.06 0.14 0.46 1.00
0.11 0.03 -0.01 0.11 0.19 0.19 0.15 0.19 0.55 0.51 1.00
standard deviations
.85 .99 1.17 .95 .89 .85 .93 .89 .46 .64 .60
sample size = 566
exp1 = 1*exp
exp2 exp3 exp4 = exp
fit1 = 1*fit
fit2 fit3 fit4 = fit
goal1 = 1*goal
goal2 goal3 = goal
let the variance of exp be free
let the variance of fit be free
let the variance of goal be free
let the error variance of exp1 - goal3 be free
let the covariance of exp and fit be free
let the covariance of fit and goal be free
let the covariance of exp and goal be free

group Wave2
correlations
1.00
0.37 1.00
0.30 0.29 1.00
0.46 0.47 0.41 1.00
0.26 0.19 0.20 0.30 1.00
0.28 0.23 0.25 0.35 0.87 1.00
0.23 0.25 0.23 0.27 0.65 0.71 1.00
0.30 0.28 0.20 0.38 0.75 0.77 0.64 1.00
0.18 0.19 0.14 0.15 0.21 0.20 0.14 0.21 1.00
0.13 0.10 0.12 0.16 0.13 0.15 0.07 0.17 0.51 1.00
0.15 0.19 0.14 0.19 0.12 0.14 0.10 0.18 0.59 0.57 1.00
standard deviations
.81 .90 1.13 .95 .86 .84 .92 .89 .49 .66 .57
sample size = 566
exp1 = 1*exp
```



```

fit1 = 1*fit
goall = 1*goal
let the variance of exp be free
let the variance of fit be free
let the variance of goal be free
let the error variance of expl - goal3 be free
let the covariance of exp and fit be free
let the covariance of fit and goal be free
let the covariance of exp and goal be free

group Wave3
correlations
1.00
0.44 1.00
0.27 0.32 1.00
0.50 0.42 0.38 1.00
0.34 0.21 0.26 0.34 1.00
0.35 0.22 0.25 0.38 0.89 1.00
0.27 0.14 0.15 0.26 0.68 0.68 1.00
0.32 0.20 0.21 0.33 0.74 0.78 0.67 1.00
0.22 0.17 0.13 0.23 0.27 0.30 0.23 0.30 1.00
0.15 0.16 0.15 0.23 0.23 0.28 0.15 0.24 0.53 1.00
0.19 0.17 0.13 0.22 0.26 0.32 0.19 0.26 0.73 0.65 1.00
standard deviations
.77 .92 1.04 .92 .89 .88 .98 .93 .56 .72 .65
expl = 1*exp
fit1 = 1*fit
goall = 1*goal
let the variance of exp be free
let the variance of fit be free
let the variance of goal be free
let the error variance of expl - goal3 be free
let the covariance of exp and fit be free
let the covariance of fit and goal be free
let the covariance of exp and goal be free

options set ad=off it=500
path diagram
lisrel output: rs ef va tv sc mi
end of problem

```

APPENDIX H

SIMPLIS Syntax: Uniqueness Invariance Test

Uniqueness Invariance Test

```
group Wave1
observed variables: expl expl2 expl3 expl4 fit1 fit2 fit3 fit4 goal1 goal2
goal3
latent variables: exp fit goal
correlations
1.00
0.40 1.00
0.18 0.14 1.00
0.39 0.43 0.30 1.00
0.21 0.10 0.11 0.27 1.00
0.16 0.11 0.12 0.28 0.86 1.00
0.14 0.08 0.11 0.17 0.62 0.61 1.00
0.18 0.13 0.10 0.33 0.74 0.74 0.58 1.00
0.14 0.05 0.05 0.14 0.21 0.20 0.13 0.21 1.00
0.11 0.07 0.07 0.14 0.13 0.14 0.06 0.14 0.46 1.00
0.11 0.03 -0.01 0.11 0.19 0.19 0.15 0.19 0.55 0.51 1.00
standard deviations
.85 .99 1.17 .95 .89 .85 .93 .89 .46 .64 .60
sample size = 566
expl = 1*exp
expl2 expl3 expl4 = exp
fit1 = 1*fit
fit2 fit3 fit4 = fit
goal1 = 1*goal
goal2 goal3 = goal
let the variance of exp be free
let the variance of fit be free
let the variance of goal be free
let the error variance of expl - goal3 be free
let the covariance of exp and fit be free
let the covariance of fit and goal be free
let the covariance of exp and goal be free

group Wave2
correlations
1.00
0.37 1.00
0.30 0.29 1.00
0.46 0.47 0.41 1.00
0.26 0.19 0.20 0.30 1.00
0.28 0.23 0.25 0.35 0.87 1.00
0.23 0.25 0.23 0.27 0.65 0.71 1.00
0.30 0.28 0.20 0.38 0.75 0.77 0.64 1.00
0.18 0.19 0.14 0.15 0.21 0.20 0.14 0.21 1.00
0.13 0.10 0.12 0.16 0.13 0.15 0.07 0.17 0.51 1.00
0.15 0.19 0.14 0.19 0.12 0.14 0.10 0.18 0.59 0.57 1.00
standard deviations
.81 .90 1.13 .95 .86 .84 .92 .89 .49 .66 .57
sample size = 566
expl = 1*exp
```

```

fit1 = 1*fit
goal1 = 1*goal
let the variance of exp be free
let the variance of fit be free
let the variance of goal be free
let the covariance of exp and fit be free
let the covariance of fit and goal be free
let the covariance of exp and goal be free

group Wave3
correlations
1.00
0.44 1.00
0.27 0.32 1.00
0.50 0.42 0.38 1.00
0.34 0.21 0.26 0.34 1.00
0.35 0.22 0.25 0.38 0.89 1.00
0.27 0.14 0.15 0.26 0.68 0.68 1.00
0.32 0.20 0.21 0.33 0.74 0.78 0.67 1.00
0.22 0.17 0.13 0.23 0.27 0.30 0.23 0.30 1.00
0.15 0.16 0.15 0.23 0.23 0.28 0.15 0.24 0.53 1.00
0.19 0.17 0.13 0.22 0.26 0.32 0.19 0.26 0.73 0.65 1.00
standard deviations
.77 .92 1.04 .92 .89 .88 .98 .93 .56 .72 .65
expl = 1*exp
fit1 = 1*fit
goal1 = 1*goal
let the variance of exp be free
let the variance of fit be free
let the variance of goal be free
let the covariance of exp and fit be free
let the covariance of fit and goal be free
let the covariance of exp and goal be free

options set ad=off it=500
path diagram
lisrel output: rs ef va tv sc mi
end of problem

```

APPENDIX I

SIMPLIS Command File for Fully-Mediated LGM

```
observed variables
w2aexp1 w2aexp2 w2aexp3 w2aexp4
w3aexp1 w3aexp2 w3aexp3 w3aexp4
w4aexp1 w4aexp2 w4aexp3 w4aexp4
w2gfit1 w2gfit2 w2gfit3 w2gfit4
w3gfit1 w3gfit2 w3gfit3 w3gfit4
w4gfit1 w4gfit2 w4gfit3 w4gfit4
w2gcom1 w2gcom2 w2gcom3
w3gcom1 w3gcom2 w3gcom3
w4gcom1 w4gcom2 w4gcom3
latent variables
w2aexp w3aexp w4aexp i_exp s_exp
w2gfit w3gfit w4gfit i_fit s_fit
w2gcom w3gcom w4gcom i_com s_com
correlation matrix
1.00
0.40 1.00
0.18 0.14 1.00
0.39 0.43 0.30 1.00
0.32 0.26 0.13 0.28 1.00
0.25 0.45 0.18 0.38 0.37 1.00
0.16 0.13 0.39 0.27 0.30 0.29 1.00
0.24 0.21 0.25 0.34 0.46 0.47 0.41 1.00
0.18 0.18 0.07 0.18 0.34 0.25 0.17 0.25 1.00
0.12 0.27 0.08 0.23 0.23 0.40 0.13 0.24 0.44 1.00
0.14 0.09 0.28 0.17 0.27 0.23 0.40 0.26 0.27 0.32 1.00
0.22 0.19 0.19 0.27 0.36 0.33 0.29 0.50 0.50 0.42 0.38 1.00
0.21 0.10 0.11 0.27 0.15 0.22 0.21 0.28 0.23 0.17 0.16 0.24 1.00
0.16 0.11 0.12 0.28 0.18 0.23 0.19 0.29 0.19 0.14 0.16 0.21 0.86 1.00
0.14 0.08 0.11 0.17 0.18 0.17 0.22 0.26 0.21 0.10 0.13 0.23 0.62 0.61 1.00
0.18 0.13 0.10 0.33 0.24 0.21 0.23 0.33 0.19 0.13 0.18 0.24 0.74 0.74 0.58
1.00
0.11 0.04 0.06 0.15 0.26 0.19 0.20 0.30 0.25 0.16 0.15 0.21 0.63 0.56 0.42
0.55 1.00
0.08 0.05 0.07 0.16 0.28 0.23 0.25 0.35 0.28 0.18 0.19 0.25 0.61 0.60 0.50
0.59 0.87 1.00
0.15 0.09 0.11 0.16 0.23 0.25 0.23 0.27 0.23 0.15 0.16 0.22 0.50 0.48 0.60
0.47 0.65 0.71 1.00
0.11 0.13 0.03 0.22 0.30 0.28 0.20 0.38 0.27 0.22 0.18 0.27 0.57 0.56 0.41
0.59 0.75 0.77 0.64 1.00
0.15 0.07 0.09 0.20 0.20 0.20 0.20 0.29 0.34 0.21 0.26 0.34 0.51 0.46 0.39
0.47 0.58 0.62 0.48 0.54 1.00
0.10 0.08 0.08 0.21 0.23 0.22 0.21 0.31 0.35 0.22 0.25 0.38 0.48 0.47 0.40
0.47 0.56 0.61 0.48 0.55 0.89 1.00
0.08 0.02 0.02 0.11 0.16 0.14 0.16 0.21 0.27 0.14 0.15 0.26 0.43 0.36 0.50
0.39 0.47 0.53 0.59 0.48 0.68 0.68 1.00
0.11 0.06 0.05 0.18 0.19 0.15 0.15 0.26 0.32 0.20 0.21 0.33 0.46 0.41 0.37
0.49 0.51 0.57 0.46 0.58 0.74 0.78 0.67 1.00
0.10 0.05 0.04 0.14 0.16 0.15 0.13 0.14 0.06 0.05 0.12 0.11 0.12 0.14 0.08
0.14 0.11 0.13 0.07 0.16 0.13 0.16 0.12 0.12 1.00
0.12 0.05 0.03 0.10 0.09 0.11 0.12 0.14 0.04 0.04 0.12 0.12 0.17 0.16 0.08
0.17 0.11 0.14 0.06 0.17 0.18 0.18 0.17 0.16 0.54 1.00
0.13 0.06 0.04 0.15 0.11 0.14 0.13 0.14 0.10 0.07 0.12 0.11 0.23 0.23 0.19
0.22 0.14 0.15 0.10 0.17 0.20 0.19 0.15 0.18 0.48 0.52 1.00
0.07 0.06 0.08 0.14 0.14 0.15 0.15 0.18 0.11 0.08 0.08 0.12 0.06 0.09 0.06
0.11 0.08 0.10 0.04 0.14 0.12 0.15 0.07 0.09 0.44 0.35 0.27 1.00
0.09 0.07 0.08 0.09 0.14 0.11 0.10 0.15 0.12 0.07 0.08 0.15 0.13 0.15 0.13
0.17 0.16 0.17 0.10 0.18 0.18 0.20 0.16 0.21 0.38 0.50 0.36 0.55 1.00
```

```

0.11 0.10 0.06 0.09 0.17 0.20 0.15 0.17 0.18 0.12 0.14 0.17 0.18 0.18 0.16
0.17 0.21 0.21 0.16 0.23 0.22 0.23 0.16 0.15 0.37 0.40 0.45 0.47 0.55 1.00
0.08 0.10 0.10 0.10 0.16 0.12 0.16 0.14 0.16 0.14 0.11 0.20 0.08 0.08 0.09
0.10 0.10 0.12 0.08 0.13 0.20 0.27 0.12 0.20 0.39 0.32 0.26 0.43 0.41 0.36 1.00
0.16 0.09 0.08 0.15 0.17 0.12 0.10 0.18 0.14 0.13 0.17 0.21 0.17 0.16 0.17
0.21 0.11 0.17 0.13 0.20 0.26 0.29 0.20 0.28 0.32 0.43 0.29 0.32 0.49 0.37 0.62
1.00
0.10 0.11 0.06 0.12 0.10 0.15 0.10 0.16 0.24 0.21 0.11 0.24 0.11 0.11 0.10
0.10 0.10 0.15 0.11 0.17 0.26 0.30 0.21 0.30 0.24 0.32 0.36 0.34 0.36 0.48 0.50
0.57 1.00
standard deviations
0.85 0.99 1.17 0.95 0.81 0.90 1.13 0.95 0.77 0.92 1.04 0.92 0.89 0.85 0.93
0.89 0.86 0.84 0.92 0.89 0.89 0.88 0.98 0.93 0.57 0.58 0.54 0.61 0.60 0.54 0.66
0.68 0.65
means
3.08 3.39 2.67 3.30 3.14 3.42 2.92 3.35 3.15 3.39 3.01 3.34 3.85 3.90 3.69
3.93 3.78 3.80 3.62 3.84 3.79 3.81 3.66 3.84 4.54 4.58 4.60 4.47 4.49 4.51 4.44
4.43 4.44
sample size = 556

w2aexp1 = 1*w2aexp
w2aexp2 - w2aexp4 = w2aexp

w3aexp1 = 1*w3aexp
w3aexp2 - w3aexp4 = w3aexp

w4aexp1 = 1*w4aexp
w4aexp2 - w4aexp4 = w4aexp

w2gfit1 = 1*w2gfit
w2gfit2 - w2gfit4 = w2gfit

w3gfit1 = 1*w3gfit
w3gfit2 - w3gfit4 = w3gfit

w4gfit1 = 1*w4gfit
w4gfit2 - w4gfit4 = w4gfit

w2gcom1 = 1*w2gcom
w2gcom2 w2gcom3 = w2gcom

w3gcom1 = 1*w3gcom
w3gcom2 w3gcom3 = w3gcom

w4gcom1 = 1*w4gcom
w4gcom2 w4gcom3 = w4gcom

w2aexp = 1*i_exp
w3aexp = 1*i_exp
w4aexp = 1*i_exp

w2aexp = 0*s_exp
w3aexp = 1*s_exp
w4aexp = 2*s_exp

i_exp = const
s_exp = const

w2gfit = 1*i_fit
w3gfit = 1*i_fit
w4gfit = 1*i_fit

w2gfit = 0*s_fit

```

```

w3gfit = 1*s_fit
w4gfit = 2*s_fit

i_fit = const
s_fit = const

i_fit = i_exp
s_fit = s_exp
i_fit = s_exp
s_fit = i_exp

w2gcom = 1*i_com
w3gcom = 1*i_com
w4gcom = 1*i_com

w2gcom = 0*s_com
w3gcom = 1*s_com
w4gcom = 2*s_com

i_com = const
s_com = const

i_com = i_fit
s_com = s_fit
i_com = s_fit
s_com = i_fit

let the error covariance of w2gcom1 and w3gcom1 be free
let the error covariance of w2gcom1 and w4gcom1 be free
let the error covariance of w3gcom1 and w4gcom1 be free

let the error covariance of w2gcom2 and w3gcom2 be free
let the error covariance of w2gcom2 and w4gcom2 be free
let the error covariance of w3gcom2 and w4gcom2 be free

let the error covariance of w2gcom3 and w3gcom3 be free
let the error covariance of w2gcom3 and w4gcom3 be free
let the error covariance of w3gcom3 and w4gcom3 be free

set the error variance of s_fit to 0

let the error covariance of w2gfit1 and w3gfit1 be free
let the error covariance of w2gfit1 and w4gfit1 be free
let the error covariance of w3gfit1 and w4gfit1 be free

let the error covariance of w2gfit2 and w3gfit2 be free
let the error covariance of w2gfit2 and w4gfit2 be free
let the error covariance of w3gfit2 and w4gfit2 be free

let the error covariance of w2gfit3 and w3gfit3 be free
let the error covariance of w2gfit3 and w4gfit3 be free
let the error covariance of w3gfit3 and w4gfit3 be free

let the error covariance of w2gfit4 and w3gfit4 be free
let the error covariance of w2gfit4 and w4gfit4 be free
let the error covariance of w3gfit4 and w4gfit4 be free

let the error covariance of w2aexpl and w3aexpl be free
let the error covariance of w2aexpl and w4aexpl be free
let the error covariance of w3aexpl and w4aexpl be free

let the error covariance of w2aexp2 and w3aexp2 be free

```

```

let the error covariance of w2aexp2 and w4aexp2 be free
let the error covariance of w3aexp2 and w4aexp2 be free

let the error covariance of w2aexp3 and w3aexp3 be free
let the error covariance of w2aexp3 and w4aexp3 be free
let the error covariance of w3aexp3 and w4aexp3 be free

let the error covariance of w2aexp4 and w3aexp4 be free
let the error covariance of w2aexp4 and w4aexp4 be free
let the error covariance of w3aexp4 and w4aexp4 be free

options: set ad=off it=500
path diagram
lisrel output: rs ef va tv mi sc
end of problem

```

REFERENCES

REFERENCES

- ACT. (2004). The role of academic and non-academic factors in improving college retention. Iowa City, IA: Author.
- Adkins, C. L., Russell, C. J., & Werbel, J. D. (1994). Judgments of fit in the selection process: The role of work value congruence. *Personnel Psychology*, 47, 605-623.
- Allen, D. G., & Griffeth, R. W. (1999). Job performance and turnover: A review and integrative multi-route model. *Human Resource Management Review Special issue: Employee turnover*, 9, 525-548.
- Allen, D. G., & Nora, A. (1995). An empirical examination of the construct validity of goal commitment in the persistence process. *Research in Higher Education*, 36, 509-533.
- Alwin, D. F., & Jackson, D. J. (1981). Application of simultaneous factor analysis to issues of factor invariance. In D. J. Jackson & E. F. Borgatta (Eds.), *Factor analysis and measurement in sociological research* (pp. 249-279). Beverly Hills, CA: Sage.
- Arthur, W. A., Jr., Bell, S. T., Villado, A. J., & Doverspike, D. (2006). The use of person-organization fit in employment decision making: An assessment of its criterion-related validity. *Journal of Applied Psychology*, 91, 786-801.
- Austin, J. T., & Vancouver, J. B. (1996). Goal constructs in psychology: Structure, process, and content. *Psychological Bulletin*, 120, 338-375.
- Austin, J. T., & Villanova, P. (1992). The criterion problem: 1917-1992. *Journal of Applied Psychology*, 77, 836-874.
- Bargh, J. A. (2002). Losing consciousness: Automatic influences on consumer judgment, behavior, and motivation. *Journal of Consumer Research*, 29, 280-285.
- Bargh, J. A., & Chartrand, T. L. (1999). The unbearable automaticity of being. *American Psychologist*, 54, 462-479.
- Bargh, J. A., Chen, M., & Burrows, L. (1996). Automaticity of social behavior: Direct effects of trait construct and stereotype activation on action. *Journal of Personality and Social Psychology*, 71, 230-244.
- 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.

- Barrick, M. R., & Mount, M. K. (1991). The big five personality dimensions and job performance: A meta-analysis. *Personnel Psychology*, 44, 1-26.
- Bar-Yam, Y. (2002). Complexity rising: From human beings to human civilization, A complexity profile. In *Encyclopedia of Life Support Systems*. Oxford: UK. EOLSS Publishers.
- Bentler, P. M. (1990). Comparative fit indexes in structural models. *Psychological Bulletin*, 107, 238-246.
- Bentler, P. M., & Bonett, D. B. (1980). Significance tests and goodness of fit in the analysis of covariance structures. *Psychological Bulletin*, 88, 588-606.
- Bollen, K. A., & Curran, P. J. (2004). Autoregressive latent trajectory (ATL) models: A synthesis of two traditions. *Sociological Methods Research*, 32, 336-383.
- Bosson, J. K., Swann, W. B., & Pennebaker, J. W. (2000). Stalking the perfect measure of implicit self-esteem: The blind men and the elephant revisited? *Journal of Personality and Social Psychology*, 79, 631-643.
- Bowen, D. E., Ledford, G. E., & Nathan, B. R. (1991). Hiring for the organization, not the job. *Academy of Management Executive*, 5, 35-51.
- Braxton, J. M., Vesper, N., & Hossler, D. (1995). Expectations for college and student persistence. *Research in Higher Education*, 36, 595-611.
- Bretz, R. D., Ash, R. A., & Dreher, G. F. (1989). Do people make the place? An examination of the attraction-selection-attrition hypothesis. *Personnel Psychology*, 42, 561-581.
- Browne, M. W., & Cudeck, R. (1992). Alternative ways of assessing model fit. *Sociological Methods & Research*, 21, 230-258.
- Buckley, H. D. (1971). A comparison of freshman and transfer expectations. *Journal of College Student Personnel*, 12, 186-188.
- Burke, R. J., & Deszca, E. (1982). Preferred organizational climates of Type A individuals. *Journal of Vocational Behavior*, 21, 50-59.
- Button, S. B., Mathieu, J. E., & Zajac, D. M. (1996). Goal orientation in organizational research: A conceptual and empirical foundation. *Organizational Behavior and Human Decision Processes*, 67, 26-48.
- Cable, D. M. & DeRue, D. S. (2002). The convergent and discriminant validity of subjective fit perceptions. *Journal of Applied Psychology*, 87, 875-884.

- Cable, D. M., & Judge, T. A. (1997). Interviewers' perceptions of person-organization fit and organizational selection decisions. *Journal of Applied Psychology*, 82, 546-561.
- Cable, D. M., & Judge, T. A. (1996). Person-organization fit, job choice decisions, and organizational entry. *Organizational Behavior and Human Decision Processes*, 67, 294-311.
- Cable, D. M., & Judge, T. A. (1994). Pay preferences and job search decisions: A person-organization fit perspective. *Personnel Psychology*, 47, 317-348.
- Cable, T. A., & Judge, D. M., Boudreau, J. W., & Bretz, R. D. (1995). An empirical investigation of the predictors of executive career success. *Personnel Psychology*, 48, 485-519.
- Cable, D. M., & Parsons, C. K. (2001). Socialization tactics and person-organization fit. *Personnel Psychology*, 54, 1-23.
- Cabrera, A. F., Nora, A., & Castaneda, M. B. (1993). College persistence: Structural equations modeling test of an integrated model of student retention. *The Journal of Higher Education*, 64, 123-139.
- Caldwell, D. F., & O'Reilly, C. A. (1990). Measuring person-job fit using a profile comparison process. *Journal of Applied Psychology*, 75, 648-657.
- Campbell, J. P. (1994). Alternative models of job performance and their implications for selection and classification. In: M. G. Rumsey, C. B. Walker, & J. H. Harris (Eds.) *Personnel selection and classification* (pp. 33-51). Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.
- Campion, M. A., & Lord, R. G. (1982). A control systems conceptualization of the goal-setting and changing process. *Organizational Behavior and Human Performance*, 30, 265-287.
- Chan, D. (1998). The conceptualization and analysis of change over time: An integrative approach incorporating longitudinal mean and covariance structures analysis (LMACS) and multiple indicator latent growth modeling (MLGM). *Organizational Research Methods*, 1, 421-483.
- Chan, D. & Schmitt, N. (1997). Video-based versus paper-and-pencil method of assessment in situational judgment tests: Subgroup differences in test performance and face validity perceptions. *Journal of Applied Psychology*, 82, 143-159.
- Chapman, D. W. (1981). A model of student college choice. *The Journal of Higher Education*, 52, 490-505.

- Chatman, J. A. (1989). Improving interactional organizational research: A model of person-organization fit. *The Academy of Management Review*, 14, 333-349.
- Cheong, J., MacKinnon, D. P., & Khoo, S. T. (2003). Investigation of mediational processes using parallel process latent growth curve modeling. *Structural Equation Modeling*, 10, 238-262.
- Cheung, G. W., & Rensvold, R. B. (2002). Evaluating goodness-of-fit indexes for testing measurement invariance. *Structural Equation Modeling*, 9, 233-255.
- Christiansen, N., Villanova, P., & Mikulay, S. (1997). Political influence compatibility: Fitting the person to the climate. *Journal of Organizational Behavior*, 18, 709-730.
- Dabos, G. E., & Rousseau, D. M. (2004). Mutuality and reciprocity in the psychological contracts of employees and employers. *Journal of Applied Psychology*, 89, 52-72.
- DeShon, R. P. (2004). Measures are not invariant across groups without error variance homogeneity. *Psychology Science*, 46, 137-149.
- DeShon, R. P., & Landis, R. S. (1997). The dimensionality of the Hollenbeck, Williams, and Klein (1989) measure of goal commitment on complex tasks. *Organizational Behavior and Human Decision Processes*, 70, 105-116.
- Donavan, D. T., Fang, X., Bendapudi, N., & Singh, S. N. (2004). Applying interactional psychology to salesforce management: A socialization illustration. *Qualitative Market Research: An International Journal*, 7, 139-152.
- Donovan, J. J., & Radosevich, D. J. (1988). The moderating role of goal commitment on the goal difficulty-performance relationship: A meta-analytic review and critical analysis. *Journal of Applied Psychology*, 83, 308-313.
- Edwards, J. R. (1991). Person-job fit: A conceptual integration, literature review, and methodological critique. In C. L. Cooper, & I. T. Robertson (Eds.), *International review of industrial and organizational psychology* (pp. 283-357). Oxford, England: John Wiley & Sons.
- Edwards, J. R., Cable, D. M., Williamson, I. O., Lambert, L. S., & Shipp, A. J. (2006). The phenomenology of fit: Linking the person and environment to the subjective experience of person-environment fit. *Journal of Applied Psychology*, 91, 802-827.
- Fiske, S. T., & Taylor, S. E. (1991). *Social cognition*. New York, NY: McGraw-Hill Book Company.
- French, J. R. P. Jr., Rogers, W., & Cobb, S. (1974). Adjustment as person-environment fit. In D. Coelho & J. E. Adams (Eds.), *Coping and adaptation*. New York: Basic Books.

- Fry, L. W., Vitucci, S., & Cedillo, M. (2005). Spiritual leadership and army transformation: Theory, measurement, and establishing a baseline. *Leadership Quarterly*, 16, 835-862.
- Gerdes, H., & Mallinckrodt, B. (1994). Emotional, social, and academic adjustment of college students: A longitudinal study of retention. *Journal of Counseling and Development*, 72, 281-288.
- Getzlaf, S. B., Sedlacek, G. M., Kearney, K. A., & Blackwell, J. M. (1984). Two types of voluntary undergraduate attrition: Application of Tinto's model. *Research in Higher Education*, 20, 257-268.
- Golembiewski, R. T., Billingsley, K., & Yeager, S. (1975). Measuring change and persistence in human affairs: Types of change generated by OD designs. *Journal of Applied Behavioral Science*, 12, 133-157.
- Goodman, S. A., & Svyantek, D. J. (1999). Person-organization fit and contextual performance: Do shared values matter? *Journal of Vocational Behavior*, 55, 254-275.
- Greenwald, A. G., & Farnham, S. D. (2000). Using the Implicit Association Test to measure self-esteem and self-concept. *Journal of Personality and Social Psychology*, 79, 1022-1038.
- Hall, R. J., Snell, A. F., & Foust, M. S. (1999). Item parceling strategies in SEM: Investigating the subtle effects of unmodeled secondary constructs. *Organizational Research Methods*, 2, 233-256.
- Haynes, T. L., Ruthig, J. C., Perry, R. P., Stupinsky, R. H., & Hall, N. C. (2006). Reducing the academic risks of over-optimism: The longitudinal effects of attributional retraining on cognition and achievement. *Research in Higher Education*, 47, 755-779.
- Helland, P. A., Stallings, H. J., & Braxton, J. M. (2001-2002). The fulfillment of expectations for college and student departure decisions. *Journal of College Student Retention*, 3, 381-396.
- Hertzog, C., Lindenberger, U., Ghisletta, P., & von Oertzen, T. (2006). On the power of multivariate latent growth curve models to detect correlated change. *Psychological Methods*, 11, 244-252.
- Hollenbeck, J. R., & Klein, H. J. (1987). Goal commitment and the goal-setting process: Problems, prospects, and proposals for future research. *Journal of Applied Psychology*, 72, 212-220.
- Hollenbeck, J. R., Klein, H. J., O'Leary, A. M., & Wright, P. M. (1989). Investigation of the construct validity of a self-report measure of goal commitment. *Journal of Applied Psychology*, 74, 951-956.

- Hollenbeck, J. R., Williams, C. R., & Klein, H. J. (1989). An empirical examination of the antecedents of commitment to difficult goals. *Journal of Applied Psychology*, 74, 18-23.
- Hom, P. W., Griffeth, R. W., Palich, L. E., & Bracker, J. S. (1998). An exploratory investigation into theoretical mechanisms underlying realistic job previews. *Personnel Psychology*, 51, 421-451.
- Ilgen, D. R., & Seely, W. (1974). Realistic expectations as an aid in reducing voluntary resignations. *Journal of Applied Psychology*, 59, 452-455.
- Irving, P. G., & Meyer, J. P. (1994). Reexamination of met-expectations hypothesis: A longitudinal analysis. *Journal of Applied Psychology*, 79, 937-949.
- Irving, P. G., & Meyer, J. P. (1995). On using direct measures of met expectations: A methodological note. *Journal of Management*, 21, 1159-1175.
- Jones, G. R. (1986). Socialization tactics, self-efficacy, and newcomers' adjustments to organizations. *Academy of Management Journal*, 29, 262-279.
- Jöreskog, K., & Sörbom, D. (1993). *LISREL 8 user's reference guide*. Chicago: Scientific Software.
- Judge, T. A., & Bretz, R. D. (1993). Report on an alternative measure of affective disposition. *Educational and Psychological Measurement*, 53, 1095-1104.
- Judge, T. A., & Bretz, R. D. (1992). Effects of work values on job choice decisions. *Journal of Applied Psychology*, 77, 261-271.
- Judge, T. A., & Cable, D. M. (1997). Applicant personality, organizational culture, and organization attraction. *Personnel Psychology*, 50, 359-394.
- Judge, T. A., & Kristof-Brown, A. (2004). Personality, interactional psychology, and person-organization fit. In B. Schnedier & D. B. Smith (Eds.), *Personality and organizations* (pp. 87-109). Mahwah, NJ: Lawrence Erlbaum Associates.
- Kaufman, M. A., & Creamer, D. G. (1991). Influences of student goals for college on freshman-year quality of effort and growth. *Journal of College Student Development*, 32, 197-206.
- Kenny, D. A. (2006). *Mediation*. Retrieved October 20, 2006 from [//davidakenney.net/cm/mediate.htm](http://davidakenney.net/cm/mediate.htm)
- Kernan, M. C., & Lord, R. G. (1988). Effects of participative vs. assigned goals and feedback in a multitrial task. *Motivation and Emotion*, 12, 75-86.
- King, H., & Walsh, W. B. (1972). Change in environmental expectations and perceptions. *Journal of College Student Personnel*, 13, 331-337.

- Klein, H. J., Wesson, M. J., Hollenbeck, J. R., & Alge, B. J. (1999). Goal commitment and the goal-setting process: Conceptual clarification and empirical synthesis. *Journal of Applied Psychology, 84*, 885-896.
- Klein, H. J., Wesson, M. J., Hollenbeck, J. R., Wright, P. M., & DeShon, R. P. (2001). The assessment of goal commitment: A measurement model meta-analysis. *Organizational Behavior and Human Decision Processes, 85*, 32-55.
- Klein, H., & Wright, P. M. (1994). Antecedents of goal commitment: An empirical examination of personal and situational factors. *Journal of Applied Social Psychology, 24*, 95-114.
- Kline, R. B. (1998). Principles and practice of structural equation modeling. New York: The Guilford Press.
- Kohn, M. L., & Schooler, C. (1978). The reciprocal effects of the substantive complexity of work and intellectual flexibility: A longitudinal assessment. *American Journal of Sociology, 84*, 24-52.
- Koole, S. L., Dijksterhuis, A. P., & Van Knippenberg, A. D. (2001). What's in a name: Implicit self-esteem and the automatic self. *Journal of Personality and Social Psychology, 80*, 669-685.
- Kristof, A. L. (1996). Person-organization fit: An integrative review of its conceptualizations, measurement, and implications. *Personnel Psychology, 49*, 1-49.
- Kristof-Brown, A. L., & Stevens, C. K. (2001). Goal congruence in project teams: Does the fit between members' personal mastery and performance goals matter? *Journal of Applied Psychology, 86*, 1083-1095.
- Kristof-Brown, A. L., Zimmerman, R. D., & Johnson, E. C. (2005). Consequences of individuals' fit at work: A meta-analysis of person-job, person-organization, person-group, and person-supervisor fit. *Personnel Psychology, 58*, 281-342.
- Latane, B., & Darley, J. M. (1970). *The unresponsive bystander: Why doesn't he help?* New York: Appleton-Century-Crofts.
- Latham, G. P., & Locke, E. A. (1991). Self-regulation through goal setting. *Organizational Behavior and Human Decision Processes, 50*, 212-247.
- Lauterbach, C. G., & Vielhaber, D. P. (1966). Need-press and expectation-press indices as predictors of college achievement. *Educational and Psychological Measurement, 26*, 965-972.
- Lauver, K. J., & Kristof-Brown, A. (2001). Distinguishing between employees' perceptions of person-job and person-organization fit. *Journal of Vocational Behavior, 59*, 454-470.

- Lewin, K. (1951). *Field theory in social science*. New York: Harper Torch Books.
- Locke, E. A. (1968). Toward a theory of task motivation and incentives. *Organizational Behavior & Human Performance*, 3, 157-189.
- Locke, E. A., & Latham, G. P. (1990). *A theory of goal setting and task performance*. Englewood Cliffs, NJ: Prentice Hall.
- Locke, E. A., Latham, G. P., & Erez, M. (1988). The determinants of goal commitment. *Academy of Management Review*, 13, 23-39.
- Locke, E. A., Shaw, K. N., Saari, L. M., & Latham, G. P. (1981). Goal setting and task performance: 1969-1980. *Psychological Bulletin*, 90, 125-152.
- Louis, M. R. (1980). Surprise and sense making: What newcomers experience in entering unfamiliar organizational settings. *Administrative Science Quarterly*, 25, 226-251.
- MacKinnon, D. P., Lockwood, C. M., Hoffman, J. M., West, S. G., & Sheets, V. (2002). A comparison of methods to test mediation and other intervening variable effects. *Psychological Methods*, 7, 83-104.
- Maier, G. W., & Brunstein, J. C. (2001). The role of personal work goals in newcomers' job satisfaction and organizational commitment: A longitudinal analysis. *Journal of Applied Psychology*, 86, 1034-1042.
- Major, D. A., Kozlowski, S. W. J., Chao, G. T., & Gardner, P. D. (1995). A longitudinal investigation of newcomer expectations, early socialization outcomes, and the moderating effects of role development factors. *Journal of Applied Psychology*, 80, 418-431.
- Mallinckrodt, B., & Sedlacek, W. E. (1987). Student retention and the use of campus facilities by race. *NASPA Journal*, 24, 28-32.
- March, J. G. & Simon, H. A. (1958). *Organizations*. Oxford, England: John Wiley.
- Meglino, B. M., & Ravlin, E. C. (1998). Individual values in organizations: Concepts, controversies, and research. *Journal of Management*, 24, 351-389.
- Meglino, B. M., Ravlin, E. C., & Adkins, C. L. (1989). A work values approach to corporate culture: A field test of the value congruence process and its relationship to individual outcomes. *Journal of Applied Psychology*, 74, 424-432.
- Meyerson, D. E., & Scully, M. A. (1995). Tempered radicalism and the politics of ambivalence and change. *Organization Science*, 6, 585-600.
- Millsap, R. E., & Kwok, O. (2004). Evaluating the impact of partial factorial invariance on selection in two populations. *Psychological Methods*, 9, 93-115.

- Miner, A. (1987). Idiosyncratic jobs in formal organizations. *Administrative Science Quarterly*, 32, 327-351.
- Mischel, W. (1977). On the future of personality measurement. *American Psychologist*, 32, 246-254.
- Mobley, W. H. (1977). Intermediate linkages in the relationship between job satisfaction and employee turnover. *Journal of Applied Psychology*, 62, 237-240.
- Moore, N. B., & Davidson, J. K., Sr. (2006). College women and personal goals: Cognitive dimensions that differentiate risk-reduction sexual decisions. *Journal of Youth and Adolescence*, 35, 574-586.
- Moos, R. H., & Swindle, R. W., Jr. (1990). Person-environment transactions and the stressor-appraisal-coping process. *Psychological Inquiry*, 1, 30-32.
- Motowidlo, S. J. (2003). Job performance. In W. C. Borman, D. R. Ilgen, & R. J. Klimoski, (Eds.) *Handbook of psychology: Industrial and organizational psychology*, (Vol. 12, pp. 39-53) Hoboken, NJ: John Wiley & Sons, Inc.
- Naylor, J. C., & Ilgen, D. R. (1984). Goal setting: A theoretical analysis of a motivational technology. *Research in Organizational Behavior*, 6, 95-140.
- Nisbett, R. E., & Ross, L. (1980). *Human inference: Strategies and shortcomings of social judgment*. Englewood Cliffs, NJ: Prentice-Hall, Inc.
- Operario, D., & Fiske, S. T. (2001). Ethnic identity moderates perceptions of prejudice: Judgments of personal versus group discrimination and subtle versus blatant bias. *Personality and Social Psychology Bulletin*, 27, 550-561.
- O'Reilly, C. A., & Chatman, J. (1986). Organizational commitment and psychological attachment: The effects of compliance, identification, and internalization on prosocial behavior. *Journal of Applied Psychology*, 71, 492-499.
- O'Reilly, C. A., Chatman, J., & Caldwell, D. F. (1991). People and organizational culture: A profile comparison approach to assessing person-organization fit. *Academy of Management Journal*, 34, 487-516.
- Orr, J. M., Sackett, P. R., & Mercer, M. (1989). The role of prescribed and nonprescribed behaviors in estimating the dollar value of performance. *Journal of Applied Psychology*, 74, 34-40.
- Pascarella, E. T., Smart, J. C., & Ethington, C. A. (1986). Long-term persistence of two-year college students. *Research in Higher Education*, 24, 47-71.
- Pascarella, E. T., & Terenzini, P. T. (1983). Predicting voluntary freshman year persistence/withdrawal behavior in a residential university: A path analytic validation of Tinto's model. *Journal of Educational Psychology*, 75, 215-226.

- Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology, 88*, 879-903.
- Porter, L. W., & Steers, R. M. (1973). Organizational, work, and person factors in employee factors in employee turnover and absenteeism. *Psychological Bulletin, 80*, 151-176.
- Premack, S. L., & Wanous, J. P. (1985). A meta-analysis of realistic job preview experiments. *Journal of Applied Psychology, 70*, 706-719.
- Reise, S. P., Widaman, K. F., & Pugh, R. H. (1993). Confirmatory factor analysis and item response theory: Two approaches for exploring measurement invariance. *Psychological Bulletin, 114*, 552-566.
- Renn, R. W., Danehower, C., Swiercz, P. M., & Icenogle, M. L. (1999). Further examination of the measurement properties of Liefer & McGannon's (1986) goal acceptance and goal commitment scales. *Journal of Occupational and Organizational Psychology, 72*, 107-113.
- Riedel, J. A., Nebeker, D. M., & Cooper, B. L. (1988). The influence of monetary incentives on goal choice, goal commitment, and task performance. *Organizational Behavior and Human Decision Processes, 42*, 155-180.
- Roberson, L. (1990). Prediction of job satisfaction from characteristics of personal work goals. *Journal of Organizational Behavior, 11*, 29-41.
- Roberts, K.H., Hulin, C. L., & Rousseau, D. M. (1978). *Toward an Interdisciplinary Science of Organizations*. San Francisco: Jossey-Bass.
- Roth, P. L., Bobko, P., & Mabon, H. (2002). Utility analysis: A review and analysis at the turn of the century. In N. Anderson, D. S. Ones, H. K. Sinangil, & C. Viswesvaran, (Eds.) *Handbook of industrial, work, and organizational psychology*, (Vol. 1: Personnel Psychology; pp. 383-328). Thousand Oaks, CA: Sage Publications Ltd.
- Ryan, A. M., & Schmit, M. J. (1996). An assessment of organizational climate and P-E fit: A tool for organizational change. *The International Journal of Organizational Analysis, 4*, 75-95.
- Rynes, S. L., & Gerhart, B. (1990). Interviewer assessments of applicant fit: An exploratory investigation. *Personnel Psychology, 43*, 13-35.
- Salanick, G. R., & Pfeffer, J. (1977). An examination of need-satisfaction models of job attitudes. *Administrative Science Quarterly, 22*, 427-456.
- Schmidt, F. L., Ones, D. S., & Hunter, J. E. (1992). Personnel selection. *Annual Review of Psychology, 43*, 627-670.

- Schmitt, N. (1982). The use of analysis of covariance structures to assess beta and gamma change. *Multivariate Behavioral Research*, 17, 343-358.
- Schmitt, N., Oswald, F. L., Friede, A. J., Imus, A. L., & Merritt, S. M. (*under review*). Perceived fit with an academic environment: Attitudinal and behavioral outcomes.
- Schneider, B. (1987). The people make the place. *Personnel Psychology*, 40, 437-453.
- Schwarz, N., & Clore, G. L. (1983). Mood, misattribution, and judgments of well-being: Informative and directive functions of affective states. *Journal of Personality and Social Psychology*, 45, 513-523.
- Shaw, K. A. (1968). Accuracy of expectation of a university's environment as it relates to achievement, attrition, and change of degree objective. *Journal of College Student Personnel*, 9, 44-48.
- Sims, R. L., & Kroeck, K. G. (1994). The influence of ethical fit on employee satisfaction, commitment, and turnover. *Journal of Business Ethics*, 13, 939-947.
- Sobel, M. E. (1982). Asymptotic confidence intervals for indirect effects in structural equation models. In S. Leinhardt (Ed.), *Sociological methodology 1982* (pp. 290-312). Washington, DC: American Sociological Association.
- Sörbom, D. (1974). A general method for studying differences in factor means and factor structures between groups. *British Journal of Mathematical and Statistical Psychology*, 27, 229-239.
- Steiger, J. H. (1990). Structural model evaluation and modification: An interval estimation approach. *Multivariate Behavioral Research*, 25, 173-180.
- Stewart, G. L., & Barrick, M. R. (2004). Four lessons learned from the person-situation debate: A review and research agenda. In B. Schneider & D. B. Smith, (Eds.), *Personality and Organizations*. Mahwah, NJ: Erlbaum, pp. 61-86.
- Swindle, R. W., Jr., & Moos, R. H. (1992). Life domains in stressors, coping, and adjustment. In B. W. Walsh, K. H. Craik, & R. H. Price (Eds.), *Person-environment psychology: Models and perspectives* (pp. 1-33). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Terborg, J. R. (1981). Interactional psychology and research on human behavior in organizations. *The Academy of Management Review*, 6, 569-576.
- Tinto, V. (1975). Dropout from higher education: A theoretical synthesis of recent research. *Review of Educational Research*, 45, 89-125.
- Tubbs, M. E. (1993). Commitment as a moderator of the goal^performance relation: A case for clearer construct definition. *Journal of Applied Psychology*, 78, 86-97.

- Tubbs, M. E., & Dahl, J. G. (1991). An empirical comparison of self-report and discrepancy measures of goal commitment. *Journal of Applied Psychology*, 76, 708-716.
- Tubbs, M. E., & Ekeberg, S. E. (1991). The role of intentions in work motivation: Implications for goal-setting theory and research. *Academy of Management Review*, 16, 180-199.
- Turban, D. B., & Keon, T. L. (1993). Organizational attractiveness: An interactionist perspective. *Journal of Applied Psychology*, 78, 184-193.
- Vancouver, J. B., & Schmitt, N. W. (1991). An exploratory examination of person-organization fit: Organizational goal congruence. *Personnel Psychology*, 44, 333-352.
- Vandenberg, R. J., & Lance, C. E. (2000). A review and synthesis of the measurement invariance literature: Suggestions, practices, and recommendations for organizational research. *Organizational Research Methods*, 3, 4-69.
- Vandenberg, R. J., & Self, R. M. (1993). Assessing newcomer's changing commitments to the organization during the first six months of work. *Journal of Applied Psychology*, 78, 557-568.
- Van Maanen, J., & Schein, E. H. (1979). Toward a theory of organizational socialization. In B. M. Staw (Ed.), *Research in organizational behavior* (Vol 1., pp. 209-264). Greenwich, CT: JAI Press.
- Verquer, M. L., Beehr, T. A., & Wagner, S. H. (2003). A meta-analysis of relations between person-organization fit and work attitudes. *Journal of Vocational Behavior*, 63, 473-489.
- Walther, E., Nagengast, B., & Traselli, C. (2005). Evaluative conditioning in social psychology: Facts and speculations. *Cognition & Emotion*, 19, 175-196.
- Wanous, J. P. (1977). Organizational entry: Newcomers moving from outside to inside. *Psychological Bulletin*, 84, 601-618.
- Wanous, J. P., Poland, T. D., Premack, S. L., & Davis, K. S. (1992). The effects of met expectations on newcomer attitudes and behaviors: A review and meta-analysis. *Journal of Applied Psychology*, 77, 282-297.
- Wanous, J. P., & Colella, A. (1989). Organizational entry research: Current status and future directions. In G. Ferris & K. Rowland (Eds.), *Research in personnel and human resource management* (Vol. 7, pp. 59-120). Greenwich, CT: JAI Press.
- Westerman, J. W., & Cyr, L. A. (2004). An integrative analysis of person-organization fit theories. *International Journal of Selection and Assessment*, 12, 252-261.

White, R. W. (1952). *Lives in progress*. New York: Dryden.

Willett, J. B., & Sayer, A. G. (1994). Using covariance structure analysis to detect correlates and predictors of individual change over time. *Psychological Bulletin*, 116, 363-381.

Wright, P. M., O'Leary-Kelly, A. M., Cortina, J. M., Klein, H. J., & Hollenbeck, J. R. (1994). On the meaning and measurement of goal commitment. *Journal of Applied Psychology*, 79, 795-803.

MICHIGAN STATE UNIVERSITY LIBRARIES



3 1293 03063 4038