

THE IMPACT OF TRAINING AND LEARNING ON THREE EMPLOYEE RETENTION
FACTORS: JOB SATISFACTION, COMMITMENT AND TURNOVER
INTENT IN TECHNICAL PROFESSIONALS

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The purpose of this study is to explore the benefits of providing employee training and learning beyond the specific content covered in such interventions, and how personality constructs might moderate those benefits. Training refers to the imparting of specific knowledge and tasks. Learning involves processes and skills that support on the job learning experiences. This study builds on previous research linking training and development to increased job satisfaction, and reduced turnover intent, by considering additional factors. The relationships between independent variables training, learning, task variety and task significance and outcome variables job satisfaction, commitment and turnover intent are assessed. Personality constructs of need for achievement and growth need strength are explored as possible moderating variables.

This research was conducted using archival data ($N = 500$) collected from technical professionals employed by fourteen organizations in the Southwest United States. Both task variety and task significance were found to significantly predict all three outcome variables. Growth need strength was found to moderate the prediction of commitment by task variety. Need for achievement was found to moderate the prediction of job satisfaction, commitment and turnover intent by training and learning. Need for achievement was also found to moderate the prediction of both commitment and turnover intent by task significance.

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CHAPTER I

INTRODUCTION

Researchers have shown much interest in evaluating the effectiveness of various training programs for organizational development. In a rapidly changing technological age, training programs are critical for keeping up with ever evolving systems and processes. As a result, adult work-based education and advanced learning is at an all time high, according to the American Society for Training and Development's (ASTD's) *2007 State of the Industry Report*. ASTD estimates that U.S. organizations spend more than \$121 billion on employee training and development. In ASTD's large sample of organizations (n = 603 organizations with more than 139,000 employees) the average amount of money invested in training and developing each employee in 2007 was \$1738. The significance of investing in developmental training is far reaching. Analysis of how nations acquire and sustain a competitive advantage indicates that industries investing the most on employee development are typically the most competitive (Porter, 1990). This suggests money spent on employee education and training is decisive in gaining a competitive advantage.

The implication for individual companies in this attempt to gain a competitive advantage is that consistent and direct investment in developmental training must be a component of the infrastructure to ensure this competitive edge. This concept is readily accepted in Japan, but American companies seem hesitant to make such as investment. American organizations may fear that after investing money to enhance employees' KSAs (knowledge, skills and abilities) the employees will leave for jobs with competitors, taking the KSAs with them, and into the enemy camp (Holden, 2002). This is a valid concern as job security remains on the decline, and work is often viewed as temporary (Blair & Kochan, 2000). However, it is also possible that providing

training and development to employees might engender a sense of commitment among individuals with a high Need for Achievement or growth, such that employee turnover is effectively reduced.

Another reason organizations seek to reduce their training budgets is that expenditures for developmental training are typically viewed as consumption rather than investment, in part because it is difficult to measure the return on this investment (Holden, 2002). While the value and importance of corporate human capital (knowledge, skills, ideas and commitment of employees) continues to increase, employment relationships are changing in ways that endanger loyalty and commitment.

Much attention has been devoted to the personality constructs: “high Need for Achievement” and “Growth Need Strength” particularly in studies surrounding motivation. However, the exploration of how these two constructs impact the relationship between training and job satisfaction remain in its infancy. Further inquiry into how these constructs influence the value placed on job Task Variety and Task Significance in the quest for facilitating job satisfaction might provide valuable insight. I think data will indicate that organizations who invest in training and developing their personnel are more likely to satisfy and retain the more desirable part of their workforce: people with a high Need for Achievement, and people with high Growth Need Strength.

Purpose of the Study

The purpose of this study is to explore the benefits of providing employee training and development beyond the specific content covered in such interventions. Training refers to the imparting of specific knowledge and tasks. Development involves processes and skills such as

conflict mediation, critical thinking, or leadership (Muchinsky, 2003). The relationship between training and development opportunities and factors associated with job satisfaction is assessed. Consideration is given to how this relationship impacts the return on investment for training and development initiatives. This study builds on previous research linking training and development to increased job satisfaction, and reduced Turnover Intent, by considering additional factors. High Need for Achievement and growth needs strength are explored, along with Task Significance and Task Variety, as related antecedents to job satisfaction.

Review of the Literature

Training

Training has been defined as any management practice that can be controlled or managed to elicit a desired set of unwritten, reciprocal attitudes and behaviors, such as organizational commitment (Sparrow, 1998). Despite the tremendous availability of various training programs, there remains concern regarding the contribution of training to specific desired outcomes such as commitment. Commitment has been related to the actual *and* perceived human resource management practices such as training (Gaertner & Nolen, 1989). Perhaps training should be specifically designed to achieve increased organizational commitment (Lang 1992).

Individual perceptions about training appear to play an important role in affecting organizational commitment. Encouragement from managers and/or directly from trainers influences an employee's sense of attachment to the organization, and feelings of moral obligation to stay. In one study, support for training (via encouragement from superiors) predicted as much as 52% of the variance of affective commitment (Ahmad & Bakar, 2003). In the same study, the actual benefit of the training (content specificity) accounted for only 19% of

the variance of affective commitment. While these staggering results have not been replicated, they suggest that the secondary benefits of training interventions (perceived organizational support, commitment and organizational citizenship behaviors) can be achieved independently from the specific content of the training intervention.

Encouragement and support for training can be a critical factor in influencing commitment and turnover. Variance for *overall* commitment (comprised of normative, affective, and continuous commitment) is predicted more by support for training (43%) than any other single factor, and most other factors combined (Ahmad & Bakar, 2003). Frequency of training opportunities is also a factor. Employees exposed to more training opportunities are likely to exhibit higher levels of affective commitment (Meyer & Allen, 1991).

Job Satisfaction

On the job performance may be influenced by many factors; one commonly studied is job satisfaction. While there is no single definitive definition of job satisfaction, it is typically considered an affective or emotional reaction to one's job, or as an attitude one holds about their job (Weiss, Nicholas, & Daus, 1999). Job satisfaction is considered a predictor of job performance (Judge, Thoresen, Bono, & Patton, 2001). Therefore, as organizations seek to increase job performance, they may seek interventions that increase job satisfaction. Efforts to enhance job satisfaction may focus solely on the individual employee's personality and demographics in relation to job satisfaction. This is known as the dispositional approach (Necowitz & Roznowski, 1994). More commonly, attempts to enhance job satisfaction focus on the work environment, as organizations have more control over this.

Job satisfaction is considered to be both cognitive and affective (Weiss, Nicholas & Daus, 1999). However, measures of job satisfaction tend to focus primarily on the cognitive aspect (Organ & Near, 1985). Limited inquiry on the affective aspect has separated positive and negative affectivity into two distinct personality constructs. This research indicated a correlation between a positive affectivity disposition and increased job satisfaction, as well as between a negative affectivity disposition and decreased job satisfaction (Necowitz, & Roznowski, 1994).

For a comprehensive study of the relationship between job satisfaction and job performance, Judge, Thoreson, Bono, and Patton (2001) conducted a meta-analysis of 312 studies on the subject and confirmed the positive correlation between job satisfaction and job performance. They also found that this correlation was more significant for high complexity jobs, with more Task Variety, and less significant for low complexity jobs. This suggests that Task Variety or an associated demographic (such as hierarchical level within the organization) mediates the relationship between job satisfaction and job performance.

Perceived Organizational Support

Social exchange theory emerged in the 1960s, comprised of the notion that when one person does a favor for someone, there is an unspoken expectation of some future return (Blau, 1964). Exactly how and when the return might be unclear, but is still anticipated (Gouldner, 1960). In recent years, social exchange theory has enjoyed increasing attention applied to the exchange between an employee and an employing organization (Wayne, Shore, & Liden, 1997). In this context, the theory is known as perceived organizational support. Research shows perceived organizational support is positively related to the conscientious performance of job responsibilities and to commitment (Eisenberger, Fasolo, & Davis-LaMastro, 1990). Feeling

valued and cared about by an organization facilitates employees' trust that the employer will fulfill its exchange obligations by providing appropriate recognition and rewards, commensurate with employee behavior. Other research has addressed perceived organizational support as a construct distinguishable from other previously established concepts, such as perceived supervisor support (Kottke & Sharainski, 1988), perceived work group support (Self, Holt, & Schaninger, 2005), organizational commitment (Van Yperen, Van Den Berg, & Willering, 1999) and job satisfaction (Eisenberger, Cummings, Armeli, & Lynch, 1997).

Conceptual work on the norm of reciprocity provides ideas about how an employee might respond to perceived organization support. The norm of reciprocity is based on two assumptions: "1) people should help those who have helped them, and 2) people should not injure those who have helped them" (Gouldner, 1960 p.171). This might be generalized to apply to an organization rather than an individual, motivating employees to help an organization that helps them. Employees are able to ascribe traits or qualities to an organization through a process of personification. This is a key process in developing one's perception of organizational support.

Employees develop global beliefs concerning the extent to which the organization values their contributions and cares about their well-being (Eisenberger et al., 1986 p. 501). In an effective exchange relationship between employee and organization, the employee would feel obligated to not only to perform the job adequately, but also to engage in behaviors that directly benefit the organization, and are beyond the scope of usual job expectations. Such behaviors that extend beyond expected parameters are referred to as organizational citizenship behaviors (Organ, 1988). Similarly, the organization would feel obliged to reciprocate such behavior by providing the employee with recognition and rewards (Rousseau, 1989).

Increasing Perceived Organizational Support

Savvy organizations would benefit from exploring how to increase perceived organizational support among employees. It appears possible to drive desired employee performance changes by assessing perceived organizational support and making conscious effort to increase it (Piercy, Cravens, Lane, & Vorhies, 2006). Perceived organizational support can be increased if the employee views the organization's actions as the result of a positive evaluation (Eisenberger et al., 1986; Shore & Shore, 1995). This suggests that employees, who suspect they are being sent to developmental training to overcome inadequacies, will report minimized perceived organizational support, while employees who believe they have been specifically selected to receive the training as a form of reinforcement or recognition will report increased perceived organizational support. Training and Development opportunities can also be linked to job enrichment, if employees believe that availing themselves of such opportunities will lead to increased Task Variety or increased Task Significance (Houkes, Janssen, Jonge, & Bakker, 2003).

This raises questions about what underlying processes lead employees to interpret certain human resource decisions as being rewards or job enrichment as opposed to necessary components of a job role. Research has shown that organizational experiences based on human resource decisions serve as indicators of the organization's evaluation of the employee's potential (Sheridan, Slocum, Buda, & Thompson, 1990). As employees perceive links between human resource decisions and reinforcements and/or rewards, they are likely to view these decisions as meaningful indicators of *future* organizational support they will receive.

Perceived organizational support is also enhanced if the employee views the organization's actions as discretionary. Benefits available to all employees regardless of

performance, such as retirement or health benefits are not associated with perceived organizational support (Shore, & Shore, 1995). One type of discretionary organizational investment is training and development opportunities for employees. Investigation into what specific sort of discretionary rewards are most likely to increase perceived organizational support suggests it is those rewards linked with job performance (Eisenberger et al., 1986). Since leaders (supervisors and/or management) are typically charged with the responsibility of administering these rewards, positive relationships with leaders also contribute to greater levels of perceived organizational support.

Existing empirical research indicates that perceived organizational support is associated with leader support (Tetrick, Shore, & Miles, 1994). The quality of leader support also has a strong positive effect on perceived organizational support. Immediate superiors act as conduits of organizational resources, particularly in hierarchically structured organizations (Wang et al., 2005). In addition to making a formal impact through influencing salary and bonuses, they also have a less formal, ongoing impact by providing career advice, Task Variety, meaningful work, opportunities for growth, and additional industry information (Wayne, Shore, & Liden, 1997).

Frequency of developmental experiences including both formal and informal training appears positively related to perceived organizational support. Employees who participated in more developmental experiences reported higher levels of perceived organizational support (Wayne, Shore, & Liden, 1997). It appears that that participation in developmental training may serve as an antecedent to perceived organizational support independent of the specific content of the training, provided it is perceived as discretionary in nature. High levels of perceived organizational support create feelings of obligation, which compel employees to feel

commitment toward their employers, *and* to reciprocate the perceived support by engaging in behaviors that support the stated goals and mission of the organization.

Organizational Commitment

Organizational commitment refers to an affective attachment to an organization, along with favorable decision to work within that organization, and the intent to continue work in the organization (Porter, Steers, & Mowday, 1974). Affective commitment has been described as a positive desire to act in a certain way (Mathieu & Zajac, 1990). It refers to the psychological attachment one has toward their organization. As research accumulated on employees' organizational commitment, a demand developed for possible explanations for that commitment.

Organizational commitment appears to be especially significant in cultures and industries where employees develop high levels of self interest that might expedite leaving one organization for another (Beyer, 1990). Similarly, low organizational commitment may result when flexible and differentiated structures contribute to employee alienation. This is prevalent in industries such as the high technology field (Cheung, 2000).

Research has positively linked perceived organizational support to affective commitment (Settoon, Bennett, & Liden, 1996) and confirmed that they are independent constructs (Van Yperen, Van Den Berg, & Willering, 1999). The relationship between an employee's perceived organizational support and organizational commitment is likely to be mediated by their organization-based self-esteem (OBSE) (Fuller, Barnett, Hester, & Relyea, 2003). OBSE is "an employee's evaluation of his or her personal adequacy and worthiness as an organizational member" (Gardner & Pierce, 1998, p.50). An employee who believes that their organization

values and appreciates them associates this as respect for their status within that organization. This status is likely to increase organizational commitment levels because it enhances their social identity, according to the tenets of social identity theory (Tyler, 1999).

Several empirical studies have indicated that employees display more affective commitment to their organizations when they believe that their organizations are committed to them (Piercy et al., 2006; Shanock & Eisenberger, 2006; Shore & Tetrick, 1991; Shore & Wayne, 1993). Employees exposed to more training opportunities are likely to exhibit higher levels of affective commitment (Meyer, & Allen, 1991).

Levels of organizational commitment resulting from perceived organizational support appear to be mediated by job level. Applying exchange theory provides an explanation for relationships between organizational commitment and perceived organizational support at various job levels. Employees at lower hierarchical levels in the organization tend to be more sensitive to organizational support than employees at higher levels (Cheung, 2000). This trend suggests different modes of motivation at different job levels. Perhaps this reflects increasing expectations of organizational support with increasing job level.

Additional support for this idea might be found in studies addressing another demographic variable: level of education. Educational level is reported to be negatively correlated with organizational commitment (Mathieu & Zajac, 1990; Mottaz, 1988). Like job level, increased education can produce higher expectations for recognition and reward. This would also increase the likelihood of educated employees feeling inadequately rewarded by their employers, diminishing the level of organizational commitment. Educated employees might also perceive that they have many alternative job options (Ahmad & Bakar, 2003).

In contrast to job level and education level, age correlates positively with organizational

commitment. Older employees have significantly higher affective commitment than younger employees (Steers, 1977). One explanation is that younger employees are relatively new to the corporate world, and perceive a plethora of alternate opportunities available to them. Tenure also mediates organizational support and commitment. Employees who have invested more time in the working world experience significantly higher affective commitment than new employees (Ahmad, & Bakar, 2003).

Organizational commitment has received much attention over the last decade as the driving force behind an organization's performance. Along with job satisfaction, it is a key variable in explaining work-related behavior and its impact on performance (Benkhoff, 1997). The increasing speed and scale of change in organizations makes it challenging to achieve and maintain a competitive advantage, driving managers to constantly seek ways to generate greater employee commitment. Today, expectations of employee performance are becoming more complex and demanding as a result of substantial transformation in human resource departments (Ahmad & Bakar, 2003). Levels of commitment have been found to have stronger positive relationships with attendance, effort, and continued employment with the organization than with actual job performance (Randall, 1990).

Management should be aware that employee commitment is dependent on factors other than monetary rewards, such as developmental interventions. This suggests that increased involvement and support for training would increase employee commitment and also positively impact the application of information and systems that comprise the intervention content. This is especially important to speed developmental change processes in times of transition and rapid growth. Yet, multiple studies have shown that superiors are not always supportive of training efforts (Lok & Crawford, 2001; Mathieu & Zajac, 1990; Saiyadain & Juhary, 1995).

Organizational Citizenship Behaviors

Behaviors that extend beyond the expected parameters of one's job role are referred to as organizational citizenship behaviors (Organ, 1988). As such, organizational citizenship behaviors can be thought of as performance beyond the call of duty. When seeking to assess antecedents of organizational performance, one measure of enhanced performance is increased organizational citizenship behaviors. Piercy et al., (2006) made this distinction of "in role behavior" (organizational citizenship behaviors) providing a better measure of organizational performance than actual business outcomes. This is because business outcomes are subject to a host of outside influences which are beyond the individual employee's control, and thus bias the assessment. In contrast, organizational citizenship behaviors are under the individual's direct control.

Perceived organizational support has been found to positively correlate with organizational citizenship behaviors (Wang, Law, Hackett, Wang & Chen, 2005). There is evidence that leadership transforms employees' frequency and degree of organizational citizenship behaviors by modeling and nurturing such behaviors directly for their employees (Graham, 1995). There are various dimensions of organizational citizenship behaviors, typically arranged into five categories: altruism, conscientiousness, courtesy, sportsmanship and civic virtue (Muchinsky, 2003 p. 321).

Organizational citizenship behaviors impact the relationship between employees and their leaders. In an empirical study of performance evaluations, managers' assessment of job performance was influenced as much by two facets of organizational citizenship behaviors (altruism and civic virtue) as by actual work output (MacKenzie, Podsakoff, & Fetter, 1991). Conscientiousness, courtesy and sportsmanship were not as influential in leader assessments.

This impact on evaluations also travels upward, positively influencing subordinates' assessments of leaders. College students were found to give higher evaluations of teachers who displayed high organizational citizenship behaviors than to teachers with low organizational citizenship behaviors (Allen & Rush, 1998). This mutual positive regard in relationships that include reciprocal organizational citizenship behaviors facilitates trust, a key component of organizational commitment. Superiors who model organizational citizenship behaviors are found to be associated with employees exhibiting the highest levels of organizational citizenship behaviors (Graham, 1995).

Research indicates antecedents for organizational citizenship behaviors fall into two categories: dispositional and situational. Studies show that people possessing certain personality traits are more predisposed to organizational citizenship behavior. The primary contributing trait is agreeableness, which refers to being good natured in dealing with other people, and the level of ease in navigating interpersonal relationships (McNeely & Meglino, 1994). Growth Need Strength, and High Need for Achievement are dispositional traits that have been included in many studies of job satisfaction, but remain unexplored in connection with how they might influence organizational citizenship behaviors.

Situational antecedents are rooted in social exchange theory, and are specifically associated with organizational justice. The perception of fairness may prompt employees to define their relationship with the organization as a social exchange, influencing pro-social behavior (Organ, 1988). In order for employees to perceive fairness within their organization, managers must be consistent in their support. Consistency has been identified as a primary factor in facilitating the trust that inspires citizenship behaviors (Holmes, Langford, Welch, & Welch, 2002). Further research in this area indicated that organizational citizenship behaviors were

related to procedural justice, but not distributive justice (Moorman, 1991). The implication here is that an employee who views their immediate supervisor as “fair” is more likely to exhibit citizenship behaviors. One possible explanation is that an employee who feels their supervisor is unfair might fear that the supervisor would take credit for their extra role behaviors and reap any associated benefits.

Motivating employees to perform citizenship behaviors is an integral part of organizational success. For an organization to function effectively, people must be induced to join, to perform their prescribed roles efficiently, and to spontaneously and creatively perform roles beyond those addressed in their job definition (Katz & Kahn, 1978). A significant relationship between organizational citizenship behaviors and commitment has been found (O’Reilly & Chatman 1986). This indicates that practices which compel citizenship behaviors also incite loyalty and commitment in employees.

Growth Need Strength

Growth need strength (GNS) refers to one’s need for personal growth and development within the job environment. For some, the dispositional need for growth in one’s work environment might be the primary factor of motivation (Hackman & Oldham, 1980). Individuals who possess a strong need for growth are therefore likely to desire job tasks that are both varied and significant, and to associate enhanced Task Variety and Task Significance with increased job satisfaction. Conversely, those with lower levels of GNS are less inclined to desire varied and significant tasks, and less likely to associate job satisfaction with enriched job environments (Hackman & Oldham, 1980). The idea that some individuals might possess a personality trait defined by a need for personal growth is often overlooked in job satisfaction and performance

research, which tends to focus on how various situational factors could be responsible for the attitudes and behaviors of employees (Arvey, Carter & Buerkley, 1991). Perhaps this is because researchers seeking to enhance job performance prefer studying those factors that might be changed to attain a desired effect. Investigation of the possible role of GNS as a variable moderating the relationships between the job characteristics and job satisfaction, however, has proven to be a controversial area of research, with studies both confirming and disconfirming this role.

Strong growth need employees may also possess an enhanced desire for training and development opportunities. The mere participation in training courses might register as “growth” for some individuals. The completion of training courses might also trigger one’s manager to increase the scope and magnitude of work assignments, including a greater variety of tasks, and also more significant tasks. Additional research might consider how manager perceptions differ amongst direct reports who exhibit high GNS strength on the job. This study will serve to broaden this debate by testing whether GNS moderates the relationship between job characteristics and job satisfaction in a highly educated, technical professional environment.

Need for Achievement

Behavioral scientist David McClelland has spent decades studying the concept of high need for achievement (NNA), also more commonly known as need for achievement (NFA) as a specific, measurable, personality trait. Over the years, McClelland has continued to isolate and sharpen the definition of this source of motivation. Distinguishing characteristics of people motivated by a need for achievement include: the preference for a moderate source of risk, the desire for frequent, specific, detailed performance feedback; and they are more excited about

solving a challenge than by any associated rewards or praise (McClelland, 1987). This suggests that people who are intrinsically motivated by achievement might experience a particularly strong connection between training and development opportunities, and job satisfaction. Previously, NFA has been found to be a significant and positive influence on organizational commitment among hospital employees, scientists, and engineers (Steers 1977), and also among public-sector employees (Morris and Snyder 1979).

The desire to surpass one's own previous performance drives individuals with a high Need for Achievement to thrive in environments that require high skill and present challenges (Eisenberger, Jones, Stinglhamber, Shanock, & Randall, 2005). Employees who experience this combination of high skill and challenge at work might go beyond specified job responsibilities to contribute to organizational success (Organizational Citizenship Behaviors) as a result of the enhanced positive mood produced by high skill and challenge on the job (George & Brief, 1992). The relationship between high skill and challenge, with positive mood should be especially strong for employees high in Need for Achievement, because the successful completion of difficult tasks allows those employees to meet and surpass their own personal standards of excellence (Eisenberger et al., 2005).

To acquire the advanced skill and knowledge necessary to overcome such challenges, NFA employees seem likely to value training and development opportunities more than their less achievement oriented coworkers. Since their satisfaction comes not from merely acquiring new skills and knowledge, but instead from successfully applying these skills and knowledge to overcome obstacles, they might also be more affected by job Task Significance and Task Variety, two components of Hackman and Oldham's (1976) job characteristics model (JCM) found to have a relationship with job satisfaction.

CHAPTER II

METHOD

This chapter provides a background for the current research, outlining how the current survey was created, participant demographics, the instrument and procedure. This study is utilizing archival data from a field study that gathered data on the factors under consideration. This earlier study consisted of two phases. The purpose of the first phase was to gather information that would be used to develop a survey for technical professionals in work teams. The purpose of the second phase was to construct a valid and reliable survey based on the interviews in the first phase and previous research.

Phase I - Qualitative Data Gathering

The purpose of Phase I was to gather data from a sample of the technical professional population, to be used to create and the survey for use in Phase II. Interviews were conducted with 25 individuals at various organizations, representing various functions within their organizations.

Participants

During spring 1992, 25 managers and engineers in various roles were interviewed. Demographic information for these initial survey participants is presented below in Table 1. Collectively, they worked at three different defense industry manufacturing sites in the southwestern United States. A total of 24 participants provided demographic information, having an average age of 38.4 years. Ninety-six percent of the 24 participants were male; 63% percent held bachelor's degrees, 29% held master's degrees, and 4% held doctoral degrees.

Table 1

Demographics of 25 Survey Participants

Variable	Mean	Value	Response %
Age		38.4 years	
Sex	Male	24	96
	Female	1	4
Education	Bachelors degree	16	63
	Masters degree	7	29
	Doctoral degree	1	4
Number of subordinates		16	
Years in the industry		12 years	
Years in current profession		6.6 years	
Tenure with company		9.9 years	

Participants were employed in various roles, including manufacturing, operations, inventory control, purchasing, quality, finance, information system management, assembly, maintenance, training and various engineering specialties (e.g., process, design, quality, product and equipment). Participants reported being in their industry an average of 12 years, with their current organization an average of 9.6 years, and in their current specialization an average of 6.6 years. They supervised an average number of 16 direct reports.

Apparatus

Materials for Phase 1 of this study were comprised of a letter of consent describing the nature of the study, and a demographic data sheet to gather general information from the participants.

Procedure

Phase I of this study included an informed consent form describing the nature of the study and a biodata sheet asking for demographic information from the participants. Participants were informed that completing the form and interview would require approximately one hour of their time. Informed consent forms were distributed and signed, at which point participants were asked to complete the demographic data form. Following this, interviews were conducted, transcribed and analyzed. A total of 80 themes were revealed through content analysis. An extensive search of published research instruments identified scales for 66 of these themes. One additional scale was added from a prior study conducted by the researchers. This information guided the selection of scales for the survey administered in Phase II of the study.

Phase II – Questionnaire Construction and Administration

The purpose of Phase II was to gather data from a large and varied group of subjects on the scales identified in Phase I. An introductory letter was sent, describing the project, and assuring the confidentiality of responses. Survey questions were selected from recognized, published instruments. Validity and reliability had been established in prior research studies. Items chosen reflected the themes discovered during the interviews of Phase I.

Participants

Participants were gathered by targeting 50 companies, and sending them the informed consent letter requesting participation, a copy of the survey, an explanation of the benefits inherent in participating, and some background information of the theoretical models behind the study. Of the 50 organizations targeted, 14 agreed to participate, resulting in a total of 541

participants from United States and Canada. Demographic information for these participants is presented below in Table 2. A total of 41 of these participant cases were dropped from the original sample, due to one or more survey questions being left unanswered. Using this conservative standard, 500 cases remained for analysis. Most companies represented (12 of 14) were publicly traded American corporations, one was a privately held American company, and one was under foreign ownership. The companies represent the following industries (number of organizations in parentheses): office equipment (3); aerospace (3); electronics (3); petroleum refining (1); plastics (1); industrial gases (1); aluminum processing (1).

Table 2

Demographics of 500 Survey Participants

	Variable Mean	Value	SD	Response %
Age		39.5 years	8.68	
Sex	Male	350		70
	Female	150		30
Education	Bachelors degree	385		78
	Masters or Doctoral	108		22
Supervise employees		125		25
Years in present job		2.8 years	1.22	
Tenure with company		7.5 years	2.76	
Industries represented (<i>n</i> = number of companies)		<i>n</i>		
	Computers, office equipment	3		
	Aerospace	3		
	Electronics, electrical equipment	3		
	Petroleum refining	1		
	Scientific, photographic, control equipment	1		
	Plastics materials, synthetic resins	1		
	Industrial gases	1		
	Aluminum processing	1		

Professions represented by the participants included administration, customer service, development, engineering, facilities, finance, human resources, information systems, marketing, material operations, planning, purchasing, quality, real estate sales, and technical writing and illustration. All respondents had at least an associate's degree, and 22% of respondents held masters or doctoral degrees. The average age was 35.9 years; 70% were male. Participants' average reported work week was 45 hours and 25% indicated that had at least one direct report. Tenure with their current company was an average of 7.5 years, serving in their current role for an average of 2.8 years.

Sample

The sample group in this study was targeted. In each organization contacted to participate, key individuals were identified to gauge interest and appropriateness. These key players were provided introductory information, a copy of the survey instrument, the informed consent letter requesting participation, an explanation of the benefits of participation, and some background information of the general purpose of the study. This target population included 50 targeted organizations. Over the course of a year, 14 organizations eventually agreed to participate. In exchange, each organization was promised a comprehensive, detailed feedback report regarding the information provided by the participants.

Measures

The complete survey was based on the data collected during Phase 1 of the study. This survey consisted of a total of 66 published scales, covering three levels: individual, work team and the organization. The total number of questions for all scales combined was 302. Six of these

scales were investigated in this study: Job Satisfaction, Learning, Organization Commitment, Perceived Organizational Support (Work Facilitation), Training, Turnover Intent. Definitions were drawn from generally established meanings in the literature.

Procedure

Surveys were distributed, in paper copy, to technical professional employees by coordinating personnel at their respective organizations. Surveys were not numbered until completed and returned by participating organizations, so a precise response rate to the survey is not available. As the completed surveys were received, each survey was assigned a nine-digit code that classified the survey according to the company, and participant number. Surveys were then provided to the data entry office of the University of North Texas for data entry.

Method of Analysis

Descriptive statistics of range, mean, standard deviation, skewness and kurtosis will be computed for each demographic variable and whole scale total for each of the nine scales being assessed. All factors will be analyzed using a correlation matrix to check for collinearity.

Hypothesis 1: As suggested in the work of Houkes, Janssen, Jonge, & Bakker, (2003), it is hypothesized that 1.a. Growth Need Strength moderates the independent variables Training and Learning and the dependent variable Job Satisfaction; 1.b. Growth Need Strength moderates the independent variables Training and Learning and the dependent variable Commitment; and 1.c. Growth Need Strength moderates the independent variables Training and Learning and the dependent variable Turnover Intent. Hypothesis 1. a-c will assess Growth Need Strength as a moderating variable in the interaction between two independent variables: Training and

Learning, and three dependent variables: Job Satisfaction, Organizational Commitment, and Turnover Intent. These hypotheses are tested using three separate equations for multiple regression. The first equation assesses Growth Need Strength as a moderating variable in the interaction between the IVs Training and Learning and DV Job Satisfaction. The second equation assesses Growth Need Strength as a moderating variable in the interaction between the IVs Training and Learning and DV organization Commitment. The third equation assesses Growth Need Strength as a moderating variable in the interaction between the IVs Training and Learning and DV Turnover Intent.

Hypothesis 2: As suggested in the work of Eisenberger, Jones, Stinglhamber, Shanock, & Randall, (2005): it is hypothesized that 1.a. High Need for Achievement moderates Training and Learning, and Job Satisfaction, 1.b High Need for Achievement moderates Training and Learning, and Commitment, and 1.c. High Need for Achievement moderates Training and Learning, and Turnover Intent. Hypothesis 2 will assess Need for Achievement as a moderating variable in the interaction between the IVs Training and Learning, and the DVs Organization Commitment, Job Satisfaction and Turnover Intent. The first equation assesses Need for Achievement as a moderating variable in the interaction between the IVs Training and Learning and DV Job Satisfaction. The second equation assesses Need for Achievement as a moderating variable in the interaction between the IVs Training and Learning and DV Organization Commitment. The third equation assesses Need for Achievement as a moderating variable in the interaction between the IVs Training and Learning and DV Turnover Intent.

Hypothesis 3: As suggested in the work of Hackman & Oldham (1976) and Gaertner, & Nollen, (1989): it is hypothesized that Task Variety covaries with Job Satisfaction, Commitment, and Turnover Intent. Hypothesis 3. a. will assess if Task Variety positively

predicts Job Satisfaction, 3.b. if Task Variety positively predicts Organizational Commitment, and 3.c. if Task Variety negatively predicts Turnover Intent. This will be tested using analysis of independent correlations between Task Variety and Job Satisfaction, Organizational Commitment, and Turnover Intent. Pearson's r will be used to calculate the strength of each correlation. Effect size and power will be assessed.

Hypothesis 4: As suggested in the work of Houkes, Janssen, Jonge, & Bakker, (2003), it is hypothesized that Growth Need Strength interacts with Task Variety to predict Job Satisfaction, Commitment, and Turnover Intent. Hypothesis 4.a. will assess if there is an interaction between Growth Need Strength and Task Variety that positively predicts Job Satisfaction, 4.b. if there is an interaction between Growth Need Strength and Task Variety that positively predicts Organizational Commitment, and 4.c. if there is an interaction between Growth Need Strength and Task Variety that negatively predicts Turnover Intent. This will be tested with an analysis of the interaction using hierarchical regression.

Hypothesis 5: As suggested in the work of Hackman & Oldham (1976) and Gaertner, & Nollen, (1989): it is hypothesized that 5.a. Task Significance positively predicts Job Satisfaction, 5.b. Task Significance positively predicts Commitment, 5.c. Task Significance negatively predicts Turnover Intent. Hypothesis 5a-c will be assessed using analysis of independent correlations between Task Significance and Job Satisfaction, Organizational Commitment, and Turnover Intent. Pearson's r will be used to calculate the strength of each correlation. Effect size and power will be assessed.

Hypothesis 6: As suggested in the work of Eisenberger, Jones, Stinglhamber, Shanock, & Randall, (2005): High Need for Achievement moderates Task Significance and Job Satisfaction, Commitment, and Turnover Intent. Hypothesis 6.a will assess if there is an

interaction between Need for Achievement and Task Significance that positively predicts Job Satisfaction, 6.b if there is an interaction between Need for Achievement and Task Significance that positively predicts Organizational Commitment, and 6.c if there is an interaction between Need for Achievement and Task Significance that negatively predicts Turnover Intent,. This will be tested with an analysis of the interaction using hierarchical regression.

CHAPTER III

RESULTS

This chapter presents the results of the study, beginning with a summary of descriptive statistics, followed by the results of the six hypothesis tests. The hypotheses were tested using linear multiple regression and correlation tests.

Data Cleaning

Due to the archival nature of this data set, care was exercised to ensure the proper variables with their associated values were included for each scale being used in this study. Because of the high number of participants and quality of the data, there was no need to make provisions for missing data. Participants who skipped a single question on any of the nine scales considered in the current study were eliminated from further consideration. Using this listwise elimination approach, 41 cases were eliminated from the original 541, resulting in a total of 500 participants in this study.

Descriptive Statistics

A total of 32 items were used to identify the nine factors considered in this study. All items are presented in Appendix A, arranged by scale. Four of the nine factors included at least one reverse scored item (Training, Satisfaction, Need for Achievement, Task Significance). The nine factors included four predictor variables: Training, Learning, Task Significance and Task Variety. Each of these predictor variables was measured with a three item scale. Two scales were used to identify the hypothesized moderating variables; Need for Achievement was measured with a three item scale, Growth Need Strength was measured with a six item scale. Two of the

three hypothesized outcome variables (Commitment and Turnover Intent) were measured using three item scales and the third (Job Satisfaction) was measured with a five item scale.

All items were measured using a 7-point Likert-type scale; with the exception of Task Variety which was measured with a 5-point response scale (all response scales are included in Appendix B). The descriptive statistics, including mean and standard deviation for each item are presented in Tables 3-11. The correlation coefficients for all scales are presented in Table 12, with the standardized item alpha on the diagonal, in parentheses.

Table 3

Learning Scale Item Descriptives and Item Intercorrelations

	Learning Item 1	Learning Item 2	Learning Item 3
Mean	4.81	5.16	4.64
Std Dev	1.48	1.30	1.60
Learning 1		.46	.42
Learning 2			.62

Table 4

Training Scale Item Descriptives and Item Intercorrelations

	Training Item 1	Training Item 2	Training 3 (r)
Mean	4.43	5.03	2.38
Std Dev	1.78	1.57	1.41
Training 1		.46	.04
Training 2			.17

Note: (r) indicates reverse scored item

Table 5

Turnover Intent Scale Item Descriptives and Item Intercorrelations

	Turnover Intent 1	Turnover Intent 2	Turnover Intent 3
Mean	2.52	2.12	1.83
Std Dev	1.90	1.62	1.54
Turnover Intent 1		.73	.63
Turnover Intent 2			.75

Table 6

Commitment Scale Item Descriptives and Item Intercorrelations

	Commitment Item 1	Commitment Item 2	Commitment Item 3
Mean	4.73	5.96	5.06
Std Dev	1.63	1.20	1.54
Commitment 1		.44	.46
Commitment 2			.68

Table 7

Job Satisfaction Scale Item Descriptives and Item Intercorrelations

	Job Sat Item 1	Job Sat Item 2(r)	Job Sat Item 3	Job Sat Item 4	Job Sat Item 5(r)
Mean	5.57	5.53	5.92	4.96	5.06
Std Dev	1.43	1.82	1.05	1.41	1.67
Job Sat. Item 1		.63	.52	.50	.39
Job Satisfaction 2			.40	.37	.55
Job Satisfaction 3				.39	.30
Job Satisfaction 4					.54

Note: (r) indicates reverse scored item; Job Sat. = Job Satisfaction

Table 8

Growth Need Strength (GNS) Scale Item Descriptives and Item Intercorrelations

	GNS Item 1	GNS Item 2	GNS Item 3	GNS Item 4	GNS Item 5	GNS Item 6
Mean	6.69	6.62	6.71	6.64	6.70	6.82
Std Dev	.76	.83	.75	.87	.80	.54
GNS 1		.80	.74	.75	.70	.64
GNS 2			.73	.70	.64	.59
GNS 3				.82	.77	.57
GNS 4					.76	.54
GNS 5						.64

Note: GNS = Growth Need Strength

Table 9

Need for Achievement (NFA) Scale Item Descriptives and Item Intercorrelations

	NFA Item 1	NFA Item 2	NFA Item 3R
Mean	5.20	5.90	5.24
Std Dev	.93	.86	1.01
NFA 1		.31	.18
NFA 2			.29

Note: NFA = Need for Achievement

Table 10

Task Significance Scale Item Descriptives and Item Intercorrelations

	Task Significance Item 1	Task Significance Item 2	Task Significance Item 3R
Mean	4.67	5.78	5.50
Std Dev	1.86	1.49	1.69
Task Significance 1		.49	.41
Task Significance 2			.44

Table 11

Task Variety Scale Item Descriptives and Item Intercorrelations

	Task Variety Item 1	Task Variety Item 2	Task Variety Item 3
Mean	3.37	3.25	3.37
Std Dev	1.10	1.04	1.00
Task Variety 1		.68	.65
Task Variety 2			.77

Table 12

Scale Descriptives and Correlations

	Learning	Training	Turnover Intent	Commitment	Job Satisfaction	Growth Need Strength	Need for Achievement	Task Significance	Task Variety
# of Items in scale	3	3	3	3	5	6	3	3	3
Response range	1-7	1-7	1-7	1-7	1-7	1-7	1-7	1-7	1-5
Mean	4.87	3.94	2.18	5.25	5.41	6.70	5.44	5.32	3.33
Std Dev	1.19	1.11	1.51	1.20	1.12	.66	.66	1.33	.93
Learning	(.75)								
Training	.35	(.46)							
Turnover	-.29	-.18	(.88)						
Comm.	.55	.32	-.52	(.77)					
Job Sat	.39	.27	-.70	.59	(.81)				
GNS	.17	.14	-.01	.20	.07	(.97)			
NFA	.14	.07	-.08	.23	.12	.30	(.52)		
Task Sig	.34	.15	-.29	.47	.40	.14	.30	(.70)	
Task Var	.28	.10	-.35	.34	.38	.15	.15	.33	(.88)

Note: Items enclosed in parentheses on the diagonal are scale alpha internal consistency reliabilities.

Turnover = Turnover Intent, Comm. = Commitment, Job Sat. = Job Satisfaction, GNS = Growth Need Strength, NFA = Need for Achievement, Task Sig = Task Significance, Task Var = Task Variety

Regression Analysis

The first set of hypotheses for this study was tested using a three-model hierarchical linear regression analysis in SPSS. The first hypothesis was that Growth Need Strength would moderate the relationship between independent variables Training and Learning, and outcome variable Job Satisfaction. The descriptive statistics for each scale are in Table 12. All scales were centered by subtracting off the mean, to apportion the variance to the interactions.

For Hypothesis 1.a predicting Job Satisfaction, first the main effects for each independent variable were entered into the model, then the main effect for the moderator variable. Next, three two-way interactions were entered for Training x Learning, Training x Growth Need Strength, and Learning x Growth Need Strength. Finally, the three-way interaction was entered for Training x Learning x Growth Need Strength. The results are presented in Table 13. The main effects for Training, Learning, and Growth Need Strength comprise the majority of their impact. The three two-way interactions and the three-way interaction provide almost no impact on Job Satisfaction.

Table 13

Growth Need Strength as a Moderator in the Prediction of Job Satisfaction

	Beta	Sig.	R²	Adjusted R²	R² Change	F Change	Sig F Change
Model 1:		.00					
Training	.325	.00	.18	.17	.18	35.04	.00
Learning	.174	.00					
GNS	-.005	.90					
Model 2:		.01					
Training	.359	.00	.18	.17	.00	.40	.75
Learning	.169	.00					
GNS	.012	.83					
Train x Learn	-.058	.31					
Train x GNS	.007	.90					
Learn x GNS	.041	.40					

(table continues)

Table 13 (continued).

	Beta	Sig.	R ²	Adjusted R ²	R ² Change	F Change	Sig F Change
Model 3:		.01					
Training	.351	.00					
Learning	.177	.00					
GNS	.035	.58	.18	.17	.00	1.13	.29
Train x Learn	-.032	.60					
Train x GNS	-.020	.74					
Learn x GNS	.072	.21					
Trn x Lrn x GNS	-.057	.32					

For Hypothesis 1.b: predicting Commitment, first the main effects for each independent variable were entered into the model, then the main effect for the moderator variable. Next, three two-way interactions were entered for Training x Learning, Training x Growth Need Strength, and Learning x Growth Need Strength. Finally, the three-way interaction was entered for Training x Learning x Growth Need Strength. The results are presented in Table 14. The main effects for Training, Learning, and Growth Need Strength have a strong impact on Commitment (F change = 85.50). The three two-way interactions and the three-way interaction provide almost no impact on Commitment.

Table 14

Growth Need Strength as a Moderator in the Prediction of Commitment

	Beta	Sig.	R ²	Adjusted R ²	R ² Change	F Change	Sig F Change
Model 1:		.00					
Training	.464	.00	.34	.34	.34	85.50	.00
Learning	.177	.00					
GNS	.093	.01					
Model 2:		.01					
Training	.519	.00					
Learning	.169	.00					
GNS	.060	.28	.35	.34	.01	1.35	.26
Train x Learn	-.084	.10					
Train x GNS	.061	.20					
Learn x GNS	-.002	.97					

(table continues)

Table 14 (continued).

	Beta	Sig.	R ²	Adjusted R ²	R ² Change	F Change	Sig F Change
Model 3:		.01					
Training	.514	.00					
Learning	.175	.00					
GNS	.077	.17	.35	.34	.00	.65	.42
Train x Learn	-.066	.24					
Train x GNS	.041	.43					
Learn x GNS	.021	.68					
Trn x Lrn x GNS	-.041	.42					

For Hypothesis 1.c predicting Turnover Intent, first the main effects for each independent variable were entered into the model, then the main effect for the moderator variable. Next, three two-way interactions were entered for Training x Learning, Training x Growth Need Strength, and Learning x Growth Need Strength. Finally, the three-way interaction was entered for Training x Learning x Growth Need Strength. The results are presented in Table 13. The main effects for Training, Learning, and Growth Need Strength have a small impact (F change = 18.15) on Turnover Intent. The three two-way interactions and the three-way interaction provide almost no impact on Turnover Intent.

Table 15

Growth Need Strength as a Moderator in the Prediction of Turnover Intent

	Beta	Sig.	R ²	Adjusted R ²	R ² Change	F Change	Sig F Change
Model 1:		.03					
Training	-.240	.00	.10	.09	.99	18.15	.00
Learning	-.136	.00					
GNS	.046	.29					
Model 2:		.07					
Training	-.299	.00					
Learning	-.126	.01					
GNS	.038	.53	.11	.10	.01	1.50	.21
Train x Learn	.101	.10					
Train x GNS	-.041	.46					
Learn x GNS	-.058	.25					

(table continues)

Table 15 (continued).

	Beta	Sig.	R ²	Adjusted R ²	R ² Change	F Change	Sig F Change
Model 3:		.07					
Training	-.296	.00					
Learning	-.129	.01					
GNS	.028	.67	.11	.10	.00	.18	.67
Train x Learn	.090	.17					
Train x GNS	-.028	.65					
Learn x GNS	-.072	.23					
Trn x Lrn x GNS	.026	.67					

The second set of hypotheses for this study was also tested using a three-model hierarchical linear regression analysis in SPSS. Hypothesis 2.a stated that Need for Achievement would moderate the relationship between independent variables Training and Learning, and outcome variable Job Satisfaction. First the main effects for each independent variable were entered into the model, then the main effect for the moderator variable. Next, three two-way interactions were entered for Training x Learning, Training x Need for Achievement, and Learning x Need for Achievement. Finally, the three-way interaction was entered for Training x Learning x Need for Achievement. The results are presented in Table 16.

Table 16

Need for Achievement as a Moderator in the Prediction of Job Satisfaction

	Beta	Sig.	R ²	Adjusted R ²	R ² Change	F Change	Sig F Change
Model 1:		.00					
Training	.318	.00	.18	.18	.18	37.16	.00
Learning	.171	.00					
NFA	.055	.18					
Model 2:		.01					
Training	.349	.00					
Learning	.154	.00					
NFA	-.040	.53	.20	.19	.01	2.85	.04
Train x Learn	-.063	.26					
Train x NFA	.148	.03					
Learn x NFA	.014	.77					

(table continues)

Table 16 (continued).

	Beta	Sig.	R ²	Adjusted R ²	R ² Change	F Change	Sig F Change
Model 3:		.01					
Training	.310	.00					
Learning	.158	.00					
NFA	.007	.91	.21	.20	.01	6.10	.01
Train x Learn	-.010	.86					
Train x NFA	.141	.04					
Learn x NFA	.102	.08					
Trn x Lrn x NFA	-.143	.01					

The main effects for Training, and Learning, significantly predict Job Satisfaction, Need for Achievement did not. The two-way interaction between Training and Need for Achievement was significant at the $p < .05$ level. The three-way interaction (Training x Learning x Need for Achievement) was significant at the $p < .01$ level.

For Hypothesis 2.b: predicting Commitment, first the main effects for each independent variable were entered into the model, then the main effect for the moderator variable. Next, three two-way interactions were entered for Training x Learning, Training x Need for Achievement, and Learning x Need for Achievement. Finally, the three-way interaction was entered for Training x Learning x Need for Achievement. The results are presented in Table 17.

Table 17

Need for Achievement as a Moderator in the Prediction of Commitment

	Beta	Sig.	R ²	Adjusted R ²	R ² Change	F Change	Sig F Change
Model 1:		.00					
Training	.460	.00	.35	.35	.35	90.10	.00
Learning	.177	.00					
NFA	.144	.00					
Model 2:		.01					
Training	.520	.00					
Learning	.158	.00					
NFA	.075	.19	.37	.36	.02	3.91	.01
Train x Learn	-.102	.04					
Train x NFA	.118	.05					
Learn x NFA	.030	.48					

(table continues)

Table 17 (continued).

	Beta	Sig.	R ²	Adjusted R ²	R ² Change	F Change	Sig F Change
Model 3:		.01					
Training	.491	.00					
Learning	.161	.00					
NFA	.109	.06	.37	.36	.01	4.02	.05
Train x Learn	-.064	.23					
Train x NFA	.113	.06					
Learn x NFA	.094	.07					
Trn x Lrn x NFA	-.104	.05					

Both independent variables and the moderator variable significantly predicted Commitment. The main effects for Training, Learning, and Need for Achievement have a strong impact on Commitment (F change = 90.10). In Model 2, the three two-way interactions for both Training x Learning, and Training x Need for Achievement were significant at the $p < .05$ level. In Model 3, the introduction of the three way interaction was significant at the $p < .05$ level, and reduced the correlations of both of the two way interactions to a non significant level.

For Hypothesis 2.c: predicting Turnover Intent, first the main effects for each independent variable were entered into the model, then the main effect for the moderator variable. Next, three two-way interactions were entered for Training x Learning, Training x Need for Achievement, and Learning x Need for Achievement. Finally, the three-way interaction was entered for Training x Learning x Need for Achievement. The results are presented in Table 18. The main effects for Training, and Learning, were significant negative predictors of Turnover Intent, Need for Achievement was not. The two-way interaction Learning x Need for Achievement was significant at the $p < .05$ level. The three-way interaction Training x Learning x Need for Achievement was significant at the $p < .01$ level.

Table 18

Need for Achievement as a Moderator in the Prediction of Turnover Intent

	Beta	Sig.	R ²	Adjusted R ²	R ² Change	F Change	Sig F Change
Model 1:		.03					
Training	-.230	.00	.10	.10	.10	17.90	.00
Learning	-.131	.01					
NFA	-.029	.50					
Model 2:		.11					
Training	-.279	.00	.13	.12	.04	6.93	.00
Learning	-.101	.03					
NFA	.041	.54					
Train x Learn	.098	.10					
Train x NFA	-.129	.06					
Learn x NFA	-.119	.02					
Model 3:		.10					
Training	-.234	.00	.15	.14	.01	7.19	.01
Learning	-.105	.02					
NFA	-.013	.85					
Train x Learn	.038	.54					
Train x NFA	-.121	.08					
Learn x NFA	-.219	.00					
Trn x Lrn x NFA	.162	.01					

Hypothesis 3. a. states Task Variety positively predicts Job Satisfaction, 3.b. states Task Variety positively predicts Organizational Commitment, and 3.c.states Task Variety negatively predicts Turnover Intent. Descriptive statistics for scale items are provided above in Table 11.Descriptive statistics for the scale is provided above in Table 12. A bivariate correlation analysis was conducted to evaluate if Task Variety predicted Job Satisfaction, Organizational Commitment and Turnover Intent. This analysis found a significant correlation for Task Variety with each of the three criteria scales. The strongest correlation with Task Variety was satisfaction, $r(500) = .377, p < .01$, Task Variety and Commitment were similar $r(500) = .340, p < .01$. As expected Task Variety and Turnover Intent were found to be negatively correlated, $r(500) = -.346, p < .01$.

Hypothesis 4 states that Growth Need Strength interacts with Task Variety to predict Job

Satisfaction, Commitment, and Turnover Intent. Hypothesis 4.a. assesses the interaction between Growth Need Strength and Task Variety positively predicts Job Satisfaction. Results are presented in Table 19, below. While Task Variety positively predicts Job Satisfaction, Growth Need Strength does not. No significant interaction was found.

Table 19

Task Variety and Growth Need Strength as Predictors of Satisfaction

	Beta	Sig.	R²	Adjusted R²	R² Change	F Change	Sig F Change
Model 1:		1.0					
Task Var.	.374	.00	.14	.14	.14	17.90	.00
GNS	.018	.66					
Model 2:		.84					
Task Var.	.372	.00	.15	.14	.00	6.93	.21
GNS	.037	.39					
Task Var x GNS	.090	.21					

Hypothesis 4b. the interaction between Growth Need Strength and Task Variety positively predicts Organizational Commitment. Results are presented in Table 20, below. Both Task Variety and Growth Need Strength were found to positively predict Commitment. The two-way interaction Task Variety x Growth Need Strength was significant at the $p < .01$ level.

Table 20

Task Variety and Growth Need Strength as Predictors of Commitment

	Beta	Sig.	R²	Adjusted R²	R² Change	F Change	Sig F Change
Model 1:		1.0					
Task Var.	.318	.00	.14	.14	.14	39.65	.00
GNS	.149	.00					
Model 2:		.72					
Task Var.	.312	.00	.15	.14	.01	4.63	.03
GNS	.178	.00					
Task Var x GNS	.097	.03					

Hypothesis 4.c the interaction between Growth Need Strength and Task Variety negatively predicts Turnover Intent. The results of the analysis of the interaction using hierarchical

regression are presented in Table 21, below. Growth Need Strength was not found to predict Turnover Intent. No significant interaction was found.

Table 21

Task Variety and Growth Need Strength as Predictors of Turnover Intent

	Beta	Sig.	R ²	Adjusted R ²	R ² Change	F Change	Sig F Change
Model 1:		1.0					
Task Var.	-.352	.00	.12	.12	.12	34.31	.00
GNS	.039	.36					
Model 2:		.94					
Task Var.	-.349	.00	.12	.12	.00	.19	.66
GNS	.032	.49					
Task Var x GNS	-.016	.66					

Hypothesis 5.a assessed if Task Significance positively predicts Job Satisfaction, 5b. if Task Significance positively predicts Organizational Commitment, and 5.c. if Task Significance negatively predicts Turnover Intent. Descriptive statistics for scale items are provided above in Table 8. Descriptive statistics for the scale is provided above in Table 10. A bivariate correlation analysis was conducted to evaluate how well Task Significance predicted Job Satisfaction, Organizational Commitment and Turnover Intent. This analysis found a significant correlation for Task Significance with each of the three criteria scales. The strongest correlation with Task Significance was Commitment $r(500) = .473, p < .01$ Task Significance and Satisfaction was similar, $r(500) = .398, p < .01$. As expected age and Turnover Intent were found to be negatively correlated, $r(500) = -.288, p < .01$.

Hypothesis 6 states that Need for Achievement moderates Task Significance and Job Satisfaction, Commitment, and Turnover Intent. Hypothesis 6.a assesses the interaction between Need for Achievement and Task Significance that positively predicts Job Satisfaction. Results are presented in Table 22. Need for Achievement was not found to predict Turnover Intent. No

significant interaction was found.

Table 22

Task Significance and Need for Achievement as Predictors of Satisfaction

	Beta	Sig.	R ²	Adjusted R ²	R ² Change	F Change	Sig F Change
Model 1:		1.0					
Task Sig.	.390	.00	.16	.16	.16	47.46	.00
NFA	.043	.31					
Model 2:		.72					
Task Sig.	.385	.00	.17	.16	.01	3.40	.07
NFA	.051	.25					
Task Sig x NFA	.077	.07					

Hypothesis 6.b The interaction between Need for Achievement and Task Significance positively predicts Organizational Commitment. Results are presented in Table 23, below. Both Need for Achievement and Task Significance were found to positively predict Organizational Commitment. The two-way interaction Need for Achievement x Task Significance was significant at the $p < .05$ level.

Table 23

Task Significance and Need for Achievement as Predictors of Commitment

	Beta	Sig.	R ²	Adjusted R ²	R ² Change	F Change	Sig F Change
Model 1:		1.0					
Task Sig.	.446	.00	.24	.24	.24	79.68	.00
NFA	.142	.00					
Model 2:		.56					
Task Sig.	.437	.00	.26	.25	.01	8.91	.00
NFA	.154	.00					
Task Sig x NFA	.124	.03					

Hypothesis 6.c The interaction between Need for Achievement and Task Significance negatively predicts Turnover Intent. Results are presented in Table 24, below. Need for Achievement was not found to be a predictor of Turnover Intent. However, the two-way interaction Need for Achievement x Task Significance was significant at the $p < .05$ level.

Table 24

Task Significance and Need for Achievement as Predictors of Turnover Intent

	Beta	Sig.	R²	Adjusted R²	R² Change	F Change	Sig F Change
Model 1:		1.0					
Task Sig.	-.284	.00	.08	.08	.08	22.60	.00
NFA	-.021	.64					
Model 2:		.63					
Task Sig.	-.279	.00	.09	.09	.01	5.97	.02
NFA	-.028	.52					
Task Sig x NFA	-.105	.02					

CHAPTER IV

DISCUSSION

This discussion explores the results of the current study, including implications for theory and practice. Limitations of the study are addressed, as well as suggestions for further research.

Interpretation of Research Findings

The findings of this current study are interpreted below, including the relationships between Training, Learning, Job Satisfaction, Commitment, Turnover Intent, Growth Need Strength, Need for Achievement, Task Variety and Task Significance.

Hypothesis 1a: Growth Need Strength Moderates how Training and Learning Predict Job Satisfaction

In a preliminary study using this data set, Training and Learning were established as being separate constructs, free from a collinear relationship. Collinearity was of concern for these two variables, due to speculation about how the population might apply their own definitions to these constructs, possibly considering them interchangeable. The correlation coefficient, which measures the relationship between these two variables was high $r(499) = .399, p < .01$. The variance inflation factor (VIF), was low 1.190. The VIF is a measure of the shared overlap between the IVs and the DV. The low result indicates that collinearity was not an issue for the IVs Training and Learning. Therefore, no composite independent variable was created.

For the technical professionals participating in this study, higher levels of Job Satisfaction were significantly correlated with increased Training and Learning opportunities. As this was a relatively well educated sample of technical professionals, it is understandable that

Training and Learning opportunities would promote Job Satisfaction. However, Growth Need Strength did not appear to moderate this relationship. The main effects for Training, Learning, and Growth Need Strength accounted for nearly all of their impact on Satisfaction. The interaction effects were negligible. Of all three predictor variables, Learning was found to have a stronger correlation to Job Satisfaction. No assumptions can be made regarding the applicability of the training content received by the participants. However, one might speculate that on the job learning seemed more applicable to respondents' job roles, enhancing the means for job performance, and therefore exerting greater influence on Job Satisfaction.

Hypothesis 1b: Growth Need Strength Moderates how Training and Learning Predict Organization Commitment

Training and Learning were found to have a stronger predictive relationship with Commitment than with Job Satisfaction. Growth Need Strength also had a stronger predictive relationship with Commitment than with either Satisfaction or Turnover Intent. However, the data did not suggest that Growth Need Strength moderates the predictive relationship of Training and Learning with Commitment. As with Satisfaction, the main effects of each predictor variable provided nearly all of their influence on Commitment. Levels of commitment are more likely to have a positive impact on the bottom line than employee satisfaction. As previously discussed, enhanced commitment incites organizational citizenship behaviors (Randall, 1990), and improved in-role performance (Benkhoff, 1997).

Hypothesis 1c: Growth Need Strength Moderates how Training and Learning Predict Turnover Intent

As predicted, Training and Learning were negatively correlated with Turnover Intent.

Growth Need Strength was not found to have any predictive relationship with Turnover Intent, and did not moderate the prediction of Training or Learning for Turnover Intent. While the correlations for Training and Learning were strong, the nature of the scale items for Turnover Intent, along with the data gathering process may have reduced the significance found here. As discussed in the methods section, the survey was administered through contacts within each participant organization. One of the three items comprising the scale was “I am actively looking for a job outside.” Respondents who had any reservations about the anonymity of their answers might have chosen to answer such a question conservatively, even when indicating the extent to which they disagreed with it. For people who are high in Growth Need Strength, changing jobs might represent the quickest way to increase one’s skills. If true, this might result in a positive correlation between Growth Need Strength and Turnover Intent.

Individuals high in Growth Need Strength may feel that optimal growth requires taking on new challenges frequently. This could become associated with changing jobs more frequently as one gains as much as possible from one work environment, then moves on to grow in new arenas. This would serve to decrease commitment and increase Turnover Intent, while any impact on satisfaction might be moderated by the amount of time in a particular job.

Another possible issue with the impact of Growth Need Strength in all three of these hypotheses might be the items used to measure it in this data set. These items (see Appendix A) such as: “Stimulating and challenging work” were measured with an alternate response scale, which asked how much they liked having such opportunities, which would measure an individual’s desire for a growth centered environment. However, these items were presented in the context of hundreds of other questions, most of which had a Likert-type response scale with options along a spectrum ranging from strongly disagree to strongly agree. Some respondents

might have answered the 6 items for Growth Need Strength with that response scale in mind, and thus rated a different construct entirely: what opportunities their *job* provided, rather than how much they liked these opportunities.

Hypothesis 2a: Need for Achievement Moderates how Training and Learning Predict Job Satisfaction

The main effects were loaded first for Training, Learning, and Need for Achievement. As in Hypothesis 1, Training and Learning provided nearly all of the main effects. Next, the second model included three two-way interactions, Training x Learning, Training x Need for Achievement, and Learning x Need for Achievement. The two-way interaction between Training and Need for Achievement was significant at the $p < .05$ level, suggesting that Need for Achievement does moderate the influence of Training on Job Satisfaction. Worth noting is that Need for Achievement did not even approach significance in moderating Learning and Job Satisfaction. This suggests that perhaps people who are high in Need for Achievement are more impacted by formal training initiatives than by learning on the job. Perhaps the feedback component of most formal training initiatives enhances the job satisfaction of individuals who are high in Need for Achievement.

Model 3 included the three- way interaction for Training x Learning x Need for Achievement, which was significant at the $p < .01$ level. Individuals who are high in Need for Achievement might be more satisfied with jobs that provide informal on the job learning opportunities when formal training programs are established.

Hypothesis 2b: Need for Achievement Moderates how Training and Learning Predict Commitment

Both independent variables and the moderator variable significantly predicted Commitment. In Model 2, the three two-way interactions for both Training x Learning, and Training x Need for Achievement were significant in predicting Commitment. This suggests that for individuals who are higher in Need for Achievement, having formal training opportunities elicit an even stronger impact on their commitment to the organization. This enhanced commitment also shows up in Model 3, where the introduction of the three way interaction was significant at the $p < .05$ level, and reduced the correlations of both of the two way interactions to a non significant level. As with the results in Hypothesis 2a, perhaps when the formal training opportunities are in place, the influence of learning opportunities further increases the commitment of those people inherently driven to achievement.

Hypothesis 2c: Need for Achievement Moderates how Training and Learning Predict Turnover Intent

The main effects for Training, and Learning, were significant negative predictors of Turnover Intent, while Need for Achievement was not. This may be because people with high Need for Achievement are determined to stay in their current role, even under aversive circumstances, until they feel they have overcome challenges and reached some measure of achievement.

The two-way interaction Learning x Need for Achievement was significant at the $p < .05$ level. This is in contrast to the moderating impact Need for Achievement had on Training as a predictor for both Satisfaction and Commitment. One possible explanation for this is that Need for Achievement influences how one reacts to the work environment, such that an environment

that is *not* characterized by learning is so aversive as to increase intent to quit. Individuals high in Need for Achievement might feel they can always pursue their own development path, but working in an environment that is complacent with the status quo (as opposed to pursuing continuous improvement) is untenable.

The three-way interaction Training x Learning x Need for Achievement was significant at the $p < .01$ level. Building on the supposition above, perhaps the significance was generated toward the low end of these scales, where situations marked by low training and learning opportunities lead to high intent to quit and this was exaggerated for those high in Need for Achievement, and/or diminished for those low in Need for Achievement.

Hypothesis 3a,b,c.: Task Variety positively predicts Job Satisfaction, and Commitment, and negatively predicts Turnover Intent

This analysis found a significant correlation for Task Variety with each of the three criteria scales. The strongest correlation with Task Variety was satisfaction. People are more satisfied with their jobs when they are free of mundane, repetitive tasks. Task Variety also positively predicted organizational commitment. As expected Task Variety was a significant negative predictor of Turnover Intent. As previously discussed, attrition is an expensive tendency. Organizations that wish to retain their human capital should considering defining job roles in such a way that provides Task Variety.

Hypothesis 4a: Growth Need Strength interacts with Task Variety to positively predict Job Satisfaction

Hypothesis 4.a. assesses the interaction between Growth Need Strength and Task Variety in positively predicting Job Satisfaction. As discussed above, in Hypothesis 3a, Task Variety was found to be a significant predictor of job Satisfaction in this data set. However, Growth Need

Strength was not found to be correlated with Satisfaction, and did not interact with Task Variety in predicting Satisfaction. Worth noting here is that Growth Need Strength was found to be positively correlated with Task Variety, at the , $p < .01$ level.

One possible explanation is that people who are high in Growth Need Strength would prefer to focus on fewer tasks until they feel they have truly mastered those tasks, and thus have grown in their skill level. If this were so, jobs providing a high level of Task Variety might be perceived as a hindrance to growth, and therefore be less satisfying to people with high Growth Need Strength.

Hypothesis 4b: Growth Need Strength interacts with Task Variety to positively predict Organizational Commitment.

Growth Need Strength was found to significantly, positively predict Organizational Commitment. People who are intrinsically motivated to grow might also possess a natural propensity for commitment to their employer. Perhaps they view their employer as providing the environment for growth to occur. The two-way interaction Task Variety x Growth Need Strength was significant at the $p < .01$ level. Commitment to one's organization is influenced by the opportunity to perform a variety of tasks as part of one's job role. This influence is more dramatic for individuals who are high Growth Need Strength.

Hypothesis 4c: Growth Need Strength interacts with Task Variety to negatively predict Turnover Intent.

Growth Need Strength was not found to predict Turnover Intent. Perhaps this construct manifests differently with regard to the work environment. While some people high in Growth Need Strength may feel compelled to stay in their current job until they have achieved that

growth, others may always keep an eye open for other opportunities that would foster their growth. Perhaps even while satisfied and/or committed, a High Growth Need individual is eager to keep moving, and thus actively seeks out their next job role or next organization. It also seems likely that the perception of training quality and content would impact how Growth Need Strength might interact with Task Variety in predicting Satisfaction and Turnover Intent. If Training is required, and is perceived as poor quality or repetitive, then it could be viewed as a hindrance to one's growth and development.

Hypothesis 5 a,b,c,: Task Significance positively predicts Job Satisfaction, and Commitment, and negatively predicts Turnover Intent

This analysis found a significant correlation for Task Significance with each of the three criteria scales. The strongest correlation with Task Significance was Commitment. People are more committed to their organization when their jobs provide them with a sense of significance about their work. Task Significance also positively predicted satisfaction, even stronger than Task Variety did. As expected Task Significance was a significant negative predictor of Turnover Intent, but not quite as strongly as Task Variety did. This suggests that when people are aware of how their specific job tasks impact other individuals, or the organization as a whole, they are more satisfied and committed to that organization, and less likely to look elsewhere for someplace to make an impact. The implications of this are twofold for employers. To enhance the satisfaction and commitment of employees, work experiences should include both the opportunity to perform significant tasks, and also a clear explanation of how those tasks are significant, or meaningful, to others.

Hypothesis 6a: Need for Achievement interacts with Task Significance to positively predict Job Satisfaction

Hypothesis 6.a. assesses the interaction between Need for Achievement and Task Significance in positively predicting Job Satisfaction. As discussed above, in Hypothesis 5a, Task Significance was found to be a significant predictor of Job Satisfaction in this data set. Need for Achievement was also found to be positively correlated with Satisfaction. However, Need for Achievement was not found to contribute significantly to this model, no interaction was found. While both factors influence Job Satisfaction, they did not interact. Different results might be produced in populations outside the technical field, where work functions are shared more collectively, and significance of job tasks is observed by others, enhancing any associated job satisfaction. Another possible explanation is that people who are high in Need for Achievement tend to associate satisfaction intrinsically, with personal outcomes, rather than with a job role.

Hypothesis 6b Need for Achievement interacts with Task Significance to positively predict Organizational Commitment.

Need for Achievement was found to significantly, positively predict Organizational Commitment. People who are intrinsically motivated to achieve might also possess a natural propensity for commitment to their employer. Perhaps they view their employer as providing the forum in which achievements can be nurtured to fruition, and this enhances their feelings of commitment to the organization. The two-way interaction of Need for Achievement and Task Significance was significant at the $p < .05$ level. As individuals with a high Need for Achievement prefer challenging environments, tasks considered to be more significant might also bring more challenges enhancing a sense of commitment specifically to overcome these challenges.

Hypothesis 6c: Need for Achievement interacts with Task Significance to negatively predict Turnover Intent.

Need for Achievement was not found to be a predictor of Turnover Intent. However, the two-way interaction Need for Achievement x Task Significance was significant at the $p < .05$ level, and approaching the $p < .01$ level. The intrinsic drive to achieve may not have any predictive value in whether or not one seeks out new jobs. However, it does moderate the predictive value of Task Significance on Turnover Intent. For individuals who are intrinsically motivated to achieve, and seeking out challenges to overcome, a lack of significant work would likely feel stifling and stagnate. This would increase the likelihood to seek out other jobs that did provide significant, challenging and meaningful work, elsewhere. It would be interesting to differentiate between the availability of meaningful work (Task Significance) in the individual's current role, versus in the organization as a whole. Someone who feels temporarily unchallenged by a lack of Task Significance might not experience heightened Turnover Intent if they perceive other opportunities to grow into within the same organization.

Limitations of the Study

While this study utilized a clean and rich data set, the participants were limited to technical professionals. Technical professionals may comprise a large sector of the work force, but that doesn't mean these findings should be generalized to include the rest of the working population. All but nine of the respondents were centralized in the southwestern United States, providing limited cultural range.

As mentioned in the methods section, 78% of this sample had bachelor's degrees. This creates an issue with restriction of range, which would diminish any predictive power of education level as a predictor variable. Also, when the data was gathered, no measure of non

response rate was captured. So, all the data is subject to this possible bias. Finally, as the survey was administered by contacts within the participant organizations, there may have been possible inconsistencies in how the survey was administered.

Two of the constructs central to this study were personality traits: Growth Need Strength and Need for Achievement. The accuracy of self assessment on a few scale items for personality traits is questionable. Future investigation into how these traits might moderate relationships between work environments and various aspects of Job Satisfaction should consider using assessments to establish the presence of these traits in the subject pool.

Implications for Future Research

As mentioned above, future research might approach this model with data gathering techniques outside of self report surveys. The personality constructs of Growth Need Strength and Need for Achievement and job factors such as Task Variety and Task Significance might be best rated by others. Turnover Intent could be considered alongside actual attrition data in a longitudinal approach, providing additional depth to the analysis.

In investigations of job fit for specific skills sets, personality traits might be incorporated into designing role functions for ideal role-candidate fit. This might have valuable implications for selection procedures. As evidence grows for the value of internal training and learning initiatives in succession planning, further research should consider how to accurately assess the return on investment from such programs. An experimental model that took the training content into account would provide a more comprehensive study. In addition, how might Training, and Learning programs be designed and developed to enhance their value, beyond the specific content of the initiatives? As the American baby boomer population is reaching retirement age, a

vast resource of subject matter experts will be exiting the workforce. Additional research in how to gather these individuals' unique knowledge to train and develop a leadership pipeline would be very helpful.

Conclusion

Both Task Variety and Task Significance were found to significantly predict all three outcome variables. Task Variety and Task Significance both positively predicted Job Satisfaction, and Organizational Commitment. Providing work that is meaningful and non-repetitive will result in happier and more committed employees. Task Variety and Task Significance both negatively predicted Turnover Intent. Growth Need Strength was found to moderate the prediction of Commitment by Task Variety. Commitment to one's organization is influenced by the opportunity to perform a variety of tasks as part of one's job role. This influence is more dramatic for individuals who are high Growth Need Strength.

Need for Achievement was found to moderate the prediction of Job Satisfaction, Commitment and Turnover Intent by Training and Learning. Individuals who are high in Need for Achievement might be more satisfied with, and committed to jobs that provide informal on the job learning opportunities when formal training programs are established.

Need for Achievement was also found to moderate the prediction of both Commitment and Turnover Intent by Task Significance. People who are intrinsically motivated to achieve might also possess a natural propensity for commitment to their employer. Perhaps they view their employer as providing the forum in which achievements can be nurtured to fruition, and this enhances their feelings of commitment to the organization.

APPENDIX A
QUESTIONNAIRE ITEMS

Training

There are appropriate orientation procedures in this company for new hires.
I have received the training I need to do a good job.
I would like more training. (R)

Learning

Most departments review their work on a regular basis.
Most of us in this company are committed to helping each other learn from our work.
In general, learns as much as is practically possible from its activities.

Turnover Intent

As soon as I can find a better job, I'll leave.
I am seriously thinking about quitting my job.
I am actively looking for a job outside.

Organization Commitment

I find that my personal values are similar to the organization's values.
I am proud to tell others that I am part of this organization.
This organization inspires one's best job performance.

Job Satisfaction

Generally speaking, I am very satisfied with this job.
I frequently think of quitting this job (R)
I am generally satisfied with the kind of work I do on this job.
Most people on this job are very satisfied with the job.
People on this job often think of quitting (R)

Growth Need Strength (alternate response scale)

Stimulating and challenging work
Chances to exercise independent thought and action in my job
Opportunities to learn new things from my work
Opportunities to be creative and imaginative in my work
Opportunities for personal growth and development in my job
A sense of worthwhile accomplishment in my work

Need for Achievement (alternate response scale)

I do my best work when my job assignments are fairly difficult
I try very hard to improve on my past performances at work
I try to avoid any added responsibilities on my job (R)

Task Variety (alternate response 5 scale)

The opportunity to do a number of things
The amount of variety in my job
How much variety is there in your job

Task Significance

My work is important for the lives or well being of other people
This job is one where a lot of other people can be affected by how well the work gets done
The job itself is not very significant or important in the broader scheme of things (R)

Scales taken from Survey of Technical Professionals in Teams © 1993, Center for the Study of Work Teams

APPENDIX B
RESPONSE SCALE ITEMS

Survey response scale for: Training, Learning, Task Significance, Commitment, Job Satisfaction and Turnover Intent

1. Strongly Disagree
2. Moderately Disagree
3. Slightly Disagree
4. Neutral
5. Slightly Agree
6. Moderately Agree
7. Strongly Agree

Growth Need Strength response scale

1. Moderate or Less
- 2.
- 3.
4. Like Having Very Much
- 5.
- 6.
7. Like Having Extremely

Need for Achievement response scale

1. Never
2. Almost Never
3. Seldom
4. Sometimes
5. Usually
6. Almost Always
7. Always

Task Variety response scale

1. Minimum
2. Small amount
3. Moderate amount
4. Quite a lot
5. Maximum amount

Response scales taken from Survey of Technical Professionals in Teams © 1993, Center for the Study of Work Teams

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