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ABSTRACT

Although previous research has established a relationship between gender role orientation and self-esteem, and gender role orientation and social conformity, few studies have established a clear relationship among all three constructs, especially for different age groups. The purpose of this study was to examine the relationships between adolescent gender role orientation, self-esteem, and locus of control utilizing two different age groups of adolescents. The sample was composed of junior high school and senior high school students from a rural midwestern state. Participants included 7th and 8th grade female students (N=87) and 11th and 12th grade female students (N=48). For each test group participants were categorized into a younger adolescent group (7th and 8th graders) and an older adolescent group (11th and 12th graders). Subjects completed the Bem Sex Role Inventory, the Texas Social Behavior Inventory, and the Nowicki-Strickland Locus of Control Scale for Children. Results indicated that adolescent females classified as androgynous or masculine in gender-role orientation had higher self-esteem than adolescents classified as feminine or undifferentiated. Further, junior high adolescents had more of an external locus of control whereas senior high adolescents had more of an internal locus of control. No other significant differences were found. (Author/ABL)

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Relations Between Adolescent Gender Role
Orientation, Self-Esteem and Social Conformity

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Abstract

The purpose of this study was to examine the relation between gender-role orientation, self-esteem, and locus of control in female adolescents. Eighty-seven female junior high school students and 48 female senior high school students completed the Bem Sex Role Inventory, the Texas Social Behavior Inventory, and the Nowicki-Strickland Locus of Control Scale for Children. Adolescent females classified as androgynous or masculine in gender-role orientation were found to have higher self-esteem than adolescents classified as feminine or undifferentiated. Further, junior high adolescents had more of an external locus of control whereas senior high adolescents had more of an internal locus of control. No other significant differences were found.

Relations Between Adolescent Gender Role
Orientation, Self-Esteem and Social Conformity

Adolescence has been identified as a period in the life span during which the development of gender related roles is of primary importance for the development of self esteem and social conformity. For example, there is evidence that girls are more likely to have lower self-esteem than boys,¹ that high self-esteem in our society requires both masculinity and femininity, with a greater emphasis on masculinity than femininity for males and females alike,² and that conformity to gender role norms results in positive social adjustment for early adolescents and more difficulties in social adjustment for older adolescents.³

Whereas previous research has established a relation between gender role orientation and self-esteem, and gender role orientation and social conformity, few studies have established a clear relation between all three constructs especially for different age groups. Consequently, the purpose of this study was to examine the relations between adolescent gender role orientation, self-esteem, and social conformity utilizing two different age groups of adolescents.

Galambos, Peterson, Richards and Gitelsun⁴ found that adolescent girls with less positive attitudes toward women were lower in self-esteem. In contrast, Spence, Helmreich, and Stapp⁵ noted that older adolescent females whose gender identity incorporated both androgynous and masculine characteristics had

higher levels of self-esteem because of the higher reward value placed on masculine endeavors in our society.

Chronological age has been identified as an important factor in measuring adolescent gender-role orientation and self-esteem.⁶ Fisher and Narus⁷ studied the association between age and gender role orientation using a cross sectional sample of female adolescents and adults. Age differences were found for those females classified as androgynous but not females classified as sex-typed and undifferentiated. The authors concluded that androgyny may be a developing characteristic appearing later in gender role development. Further, Lamke⁸ examined the gender role orientation and self-esteem of 12-15 year-old adolescents and concluded that those adolescents who were classified as masculine or androgynous had the highest levels of self-esteem when compared to subjects classified as feminine or undifferentiated leading the author to conclude that gender role orientation is directly related to self-esteem in younger adolescents.

Another variable that has been associated with gender-role orientation and self-esteem is social conformity.⁹ The majority of traditional social conformity studies that have examined gender differences have demonstrated that females are subject to greater conformity than males.¹⁰ However, there is more recent evidence indicating that gender role orientation may influence social conformity. Brown¹¹ found that females who were more traditional in gender role viewed their reinforcers coming from external

social forces whereas females who were labeled as non-traditional in gender role exhibited more of an internal locus of control.

Adolescent social conformity and its relation to self-esteem has been examined by Cunningham and Berberian¹² who reported that high self-esteem girls between 8-11 years of age scored less internally in locus of control than low self-esteem girls. Subsequent examination of the same sample of adolescent girls indicated that as older adolescents they had reversed the negative relation between self-esteem and internality that was found when they were first examined as younger adolescents.¹³ Thus, greater social conformity yielded higher levels of self-esteem during early adolescence, and lower levels of self-esteem during later adolescence.

Theoretical perspective

In past years theorists have differed in how they explain the development of an individual's stereotypical, or traditional, masculine or feminine gender role orientation. According to social learning theorists,^{14,15} as children mature, they generalize their learned gender role behaviors to other situations and adapt or change behavior patterns within situations if contingencies of reinforcement or other learning conditions are altered. In contrast, cognitive-developmental theorists^{16,17} hold the view that children's interpretations of differences between the sexes change predominantly as a function of cognitive development. The child gradually develops concepts of

"masculinity" and "femininity", and attempts to match his/her behavior to that conception.

A more recent theoretical perspective and one selected as a basis for the present study is the self definition model.² Lerner et al. proposed that an individual's self-definition should be compatible with the demands society places on the individual. The basic premise of this theory is that positive personality adjustment in our society requires both masculine and feminine traits. Thus, distinctions between males and females that may have served in acquiring identity in a less complex and technologically advanced era may no longer be adaptive to today's society. This model also reflects a shift away from global, all encompassing efforts to explain gender role behavior to an attempt to explain particular problems or issues related to gender-role development throughout the life cycle.

Based on the aforementioned literature, the following hypotheses were proposed:

1. Female adolescents classified as androgynous or masculine would have higher self-esteem scores than feminine or undifferentiated adolescent females.
2. Female adolescents classified as androgynous or masculine would exhibit more internal locus of control than feminine or undifferentiated adolescent females.
3. Younger adolescent females would have lower self-esteem scores than older adolescent females.

4. Age would be negatively correlated with locus of control scores. That is, younger adolescents would have more external locus of control than older adolescents.
5. Self-esteem scores would be negatively correlated with locus of control scores. That is, adolescents who have a higher level of self-esteem would have more internal locus of control.

Method

Participants

The sample for the study was composed of junior high school and senior high school students from a rural midwestern state. Participants included 87 7th and 8th grade females and 48 11th and 12th grade females. For each test group, 7th and 8th grade participants were categorized into a younger adolescent group and 11th and 12th grade participants were categorized into an older adolescent group.

Instruments

Short Form of the Bem Sex Role Inventory (BSRI). The short form of the BSRI¹⁸ was used to assess subjects' gender-role orientation. This instrument differs from others that measure gender-role identity in that it treats femininity and masculinity as two independent dimensions rather than as opposite ends on a single dimension. This structure enables the subject to indicate whether she is high on both dimensions (androgynous), low on both

dimensions (undifferentiated), or high on one dimension but low on the other (either masculine or feminine).

The present form of the BSRI contains both a masculinity scale and a femininity scale, each of which contains 30 personality characteristics selected on the basis of sex typed social desirability. That is, a characteristic qualifies as masculine if it is judged to be more desirable for a man than for a woman, and it qualifies as feminine if it is judged to be more desirable for a woman than for a man.

When taking the BSRI, a person is asked to indicate on a 7-point scale how well each of these masculine and feminine personality characteristics describes himself or herself. The scale ranges from 1 (Never or almost never true) to 7 (Always or almost always true). On the basis of the person's responses, each person receives an "Androgyny Score", which is defined as the difference between his or her endorsement of masculine and feminine personality characteristics. The greater the absolute value of the Androgyny Score, the more the person is gender typed or gender reversed, with high positive scores indicating femininity and high negative scores indicating masculinity. As a result of the analysis of each individual's gender-role orientation he or she is classified as either Masculine, Feminine, Androgynous, or Undifferentiated. Bem stated that the test-retest reliability of the BSRI is .93 over a four-week interval.

Texas Social Behavior Inventory (TSBI). Helmreich and Stapp¹⁹ developed the TSBI to measure individual perception of personal worth in social situations. The instrument was designed to eliminate differences in self-esteem scores due to gender differences. The scale has proven itself to assess unitary concept of social self-esteem, in contrast to other self-esteem measures which measure additional concepts of self-esteem.

The sixteen-item form of the Texas Social Behavior Inventory was used to measure self-esteem in this study. The form is composed of statements designed to assess the individual's perceptions of self-confidence and competence in social situations. For each item, respondents are to rate themselves on a five-point scale, varying from "not at all characteristic of me" to "very much characteristic of me." Responses were scored 0 to 4, high scores indicating high self-esteem, and summed to yield individuals' overall scores. The range of possible scores is 0 to 64.

The correlation between the short and long forms has been reported to be .96. For the sixteen-item version, the Cronbach alpha was .91.^{19,5}

Nowicki-Strickland Locus of Control Scale for Children. The Nowicki-Strickland Locus of Control Scale²⁰ assesses generalized locus of control as related to academic competence and social maturity. Testing of the construct validity of the Nowicki-Strickland resulted in a significant correlation with other

measures of locus of control such as the Intellectual Achievement Responsibility scale, the Bialer-Cromwell, and the Rotter Internal-External Scale. This measure was considered appropriate for the present study because the language of the instrument has been revised and adopted for use with persons of all ages.

The instrument consists of 21 items. Items are answered by checking "yes" or "no" by the corresponding item. A point is given for each score in the external direction, thus, higher scores indicate a greater external orientation.

Internal consistency estimates of the scale have ranged from .63 to .81, with an increase in age. Test-retest reliability among third, seventh, and tenth grades (six weeks apart) ranged from .63 to .71.²⁰

Procedure

School administrators of junior and senior high schools were contacted regarding participation in the study and given a description of the study and the testing procedures. After consent for conducting the study was obtained, the experimenter explained the purpose of the study to all the female adolescents in the junior high health classes and the senior high social classes. All participants were administered three instruments during class time in the following order: (a) the Bem Sex Role Inventory, (b) the Texas Social Behavior Inventory, and (c) the Nowicki-Strickland Locus of Control Scale.

Results

To determine gender and grade differences in self-esteem and locus of control, t-tests were used. Means and standard deviations for dependent measures by grade level are presented in Table 1. Correlations between the Texas Social Behavior Inventory and the Nowicki-Strickland Locus of Control Scale also were performed.

Insert Table 1 about here

Gender Differences

The first hypothesis stated that female adolescents classified as androgynous or masculine would have higher self-esteem scores than feminine or undifferentiated adolescent females. Analysis of scores for all participants on the Bem Sex Role Inventory (BSRI) resulted in 71 females classified as female or undifferentiated and 64 females classified as masculine or androgynous. Female adolescents classified as androgynous or masculine had higher mean scores on the TSBI than feminine and undifferentiated females, $t(133) = -3.84, p < .0002$, indicating a significantly higher level of self-esteem for the androgynous/masculine group.

The second hypothesis stated that female adolescents classified as androgynous or masculine would exhibit more internality in locus of control than feminine or undifferentiated adolescent females. This hypothesis was not supported by the

data for either age group. Although feminine or undifferentiated adolescents had higher mean scores ($M=6.78$) indicating more external locus of control than androgynous or masculine adolescents ($M=6.17$), the mean scores were not significantly different.

Age Differences

Hypothesis 3 stated that younger adolescents would have lower self-esteem scores than older adolescents. A t-test yielded no significant differences in mean scores between the junior high and senior high adolescents, indicating no differences in self-esteem.

Hypothesis 4 stated that younger adolescents would have more of an external locus of control than older adolescents.

Comparisons between the junior high and senior high groups revealed a significant difference, $t(133) = -2.34$ $p < .02$, in locus of control mean scores. Senior high adolescent females tended to be more internal in locus of control and junior high adolescents tended to be more external in locus of control.

Correlation between measures

The fifth hypothesis stated that self-esteem scores would be negatively correlated with locus of control scores. This hypothesis was not supported for either age group. Although the Nowicki-Strickland Locus of Control was negatively correlated with the TSBI for the total sample ($r = -.123$), this relation was not significant.

Discussion

According to the self definition model of Lerner, Sorrel and Brackney,² androgynous and masculine individuals have higher levels of self-esteem as compared with feminine and undifferentiated adolescents because of society's value placed on high levels of masculinity. The results of this investigation are consistent with this theoretical model and previous research^{8,5} in that a higher level of self-esteem was found for adolescents who were classified as androgynous and masculine than for adolescents classified as feminine or undifferentiated. Apparently, for both early and middle adolescence periods a female possessing a high combination of feminine and masculine traits, or predominantly masculine traits, perceives herself as more self-worthy.

Deutsch and Gilbert³ found that a more androgynous gender-role identification resulted in more positive social adjustment in adolescence and adulthood. Androgynous females also have been found to receive higher ratings of peer acceptance than feminine typed classmates.²¹ Again, results from the present study lend support to these finding.

The finding that gender-role orientation is not related to social conformity is inconsistent with researchers who have commonly reported an external locus of control as part of the female gender-role stereotype.¹⁰ Brown¹¹ found that older adolescent females who were non-traditional in their gender-roles were more likely to feel that they had personal control over their

lives. Further, Deaux and Emswiller (1974) suggested that locus of control was affected by one's ability to perform. If the task was consistent with tasks normally performed by a female, she attributed her performance to ability (internal). If the task was inconsistent with tasks normally performed by a female, she attributed her performance to chance (external).

One explanation for this discrepancy in findings may be the result of differential age groups examined across studies. Brown¹¹ and Deaux and Emswiller²² used older adolescent females (post high school). The younger adolescents used in the present study may reflect more developmental variability than older adolescents. That is, adolescents between 7th and 12th grades may not be consistent enough in gender role orientation and level of social conformity to establish any clear relations between these variables.

Age was not a significant variable in explaining adolescent self-esteem. Bohan⁶ found that 10th graders had lower self-esteem scores than any other junior or senior high grade. Fisher and Narus⁷ found the highest levels of self-esteem in older female adolescents. One may cautiously assume that levels of self-esteem rise and fall in various periods during the female's life span. Again, a broader age span of adolescent females may have uncovered this pattern more fully for both self-esteem and social conformity.

There is evidence that children and adolescents develop a more internal locus of control as they increase in age^{23,9} The findings of the present study provide further support for this developmental trend.

Current patterns of family structure and socialization may explain why females feel that they have more control over their lives as they mature. Middle-class families of today tend to have fewer children, and space them further apart. Researchers have found parents in these families to be more supportive, less restrictive, and less punitive to their adolescent children.²⁴ In addition, the opportunity for female adolescents to be involved in more school activities, both social and competitive, as well as the opportunity for choosing from a wide range of non-traditional careers, may contribute to an increasing sense of control over one's destiny.

Self-esteem was hypothesized to be negatively correlated with locus of control among adolescents. However, no significant correlation between the two dependent measures was found. One explanation for this finding is offered by Brown¹¹ who suggested that females may adopt an external attribution stance as a defense mechanism. This stance allows them to achieve without seeing their behavior as inconsistent with their traditional gender-role orientation. Thus, achievement may result in higher levels of self-esteem and continued social conformity for younger adolescent

females. Whether or not this trend is maintained with older adolescents will have to be determined by further research.

In sum, the results of this study support the notion that female adolescents who have developed high levels of both masculine and feminine traits, or high levels of masculine traits, tend to have a greater feeling of self-worth when compared to female adolescents who are feminine or undifferentiated. Support also was given to the idea that a more internal locus of control develops as the adolescent female advanced in age and that the concept of self-esteem is not related to the concept of locus of control.

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Table 1

t-tests for dependent variables by gender orientation and grade

Dependent Variable	Gender Orientation					Grade				
	Masculine		Feminine			7th/8th		11th/12th		
	Androgynous		Undifferentiated			n=87		n=48		
Variable	n=64		n=71							
	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	t	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	t
Texas Social Behavior Inventory	39.09	5.88	35.04	6.33	-3.84**	37.03	6.53	36.83	6.29	-0.17
Nowicki-Strickland Locus of Control	6.17	3.55	6.79	3.61	1.00	7.02	3.44	5.54	3.67	-2.34*

*p < .02

**p < .002

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IDENTIFIERS Commitment

ABSTRACT

Recent research on organizational turnover has concentrated on testing models of the turnover decision process, in particular, Mobley's (1977) model of employee turnover. The present research was based on Mobley's theoretical work and the subsequent empirical tests of his model. Employees (N=266) at a large computer company completed a questionnaire during their first year of employment that assessed 10 variables related to Mobley's model. Results of a path analysis were consistent with a causal model in which perceptions of work events influence job attitudes which then influence withdrawal cognitions. Specifically, higher job complexity increased job satisfaction, while undermet job expectations reduced satisfaction. Met job expectations and higher job satisfaction resulted in stronger commitment to the organization. Stronger commitment reduced thoughts of quitting. Fewer thoughts of quitting decreased the intention to search which, in turn, decreased the intention to quit. This study is part of a longitudinal study in which the same employees will respond to a similar questionnaire one year after initial administration. Ultimately, the study is concerned about changes that occur among employees who stay with the company and about the variables that predict voluntary organizational turnover. (Author/ABL)

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Expectations, Commitment, and Withdrawal
 Cognitions Among New Employees
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 Data General Corporation

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Abstract

Employees ($N = 266$) at a large computer company completed a questionnaire during their first year of employment that assessed ten variables related to Mobley's model of employee turnover. Results of a path analysis are consistent with a causal model in which perceptions of work events influence job attitudes which then influence withdrawal cognitions. Specifically, higher job complexity increases job satisfaction, while unmet job expectations reduce satisfaction. Met job expectations and higher job satisfaction result in stronger commitment to the organization. Stronger commitment reduces thoughts of quitting. Fewer thoughts of quitting decrease the intention to search which, in turn, decreases the intention to quit. Results are discussed in the context of research on the turnover decision process.

Expectations, Commitment, and Withdrawal
Cognitions Among New Employees

Recent research on organizational turnover has concentrated on testing models of the turnover decision process, in particular, Mobley's model of employee turnover (Mobley, 1977; Mobley, Griffeth, Hand, & Meglino, 1979). At least 10 published studies have examined the validity of different aspects of this model (Arnold & Feldman, 1982; Bluedorn, 1982; Dougherty, Bluedorn, & Keor, 1985; Hom, Griffeth, & Sellaro, 1984; Michaels & Spector, 1982; Miller, Katerberg, & Hulin, 1979; Mobley, Horner, & Hollingsworth, 1978; Mowday, Koberg, & McArthur, 1984; Parasuraman, 1982; Spencer, Steers, & Mowday, 1983).

The present research is based on Mobley's theoretical work and the subsequent empirical tests of his model. Spenser et al. (1983) and Miller et al. (1979) called for additional tests of Mobley's model on different employee populations, suggesting that the turnover decision process may vary by organization or occupation. Previous research has involved hospital, clerical, university, accounting, insurance, food service, and mental health facility employees, as well as National Guard members, while this study involved a sample of employees at a computer company. Mowday et al. (1984) suggested that future research should rely on different measurement techniques in order to examine the generality of findings across differing operational definitions of key concepts. The measures of job complexity and job satisfaction in the present study have not been used in previous research. Mobley et al. (1978)

encouraged the addition of new variables into the original model. For the first time, this study included separate measures of overmet, met, and undermet job expectations. Finally, Williams and Hazer (1986) have called for additional research examining the precise causal relations among the determinants of turnover. Data from the present research were analyzed using a theory-trimming approach to path analysis (Heise, 1969) in order to explore possible causal relations among the variables included in the study.

In general, research on Mobley's turnover model suggests that perceptions of work events influence job attitudes which, in turn, influence withdrawal cognitions and subsequent turnover. However, the specific variables used to examine work events, job attitudes, and withdrawal cognitions have varied across studies.

In the present research, withdrawal cognitions were assessed with three variables: thoughts of quitting, intention to search, and intention to quit. Intention to quit appears as the immediate precursor of turnover in all but two (Arnold & Feldman, 1982; Hom et al. 1984) of the published studies examining Mobley's model. Intention to search appears less frequently (Arnold & Feldman, 1982; Hom et al. 1984; Miller et al. 1979; Mobley et al. 1978; Mowday et al. 1984; Spencer et al. 1983), and thoughts of quitting even less often (Hom et al. 1984; Miller et al. 1979; Mobley et al. 1978; Spencer et al. 1983). In those studies that have included all three variables, the evidence suggests that thoughts of quitting influence the intention to search which, in turn, influences the intention to quit (Miller et al. 1979; Mobley et al. 1978; Spencer et al. 1983),

although there is some evidence that intention to search may follow rather than precede intention to quit in the causal ordering (Hom et al. 1984).

Job attitudes in the present study were assessed with measures of job satisfaction and organizational commitment. With only one exception (Mowday et al. 1984), job satisfaction appears in all the published studies examining Mobley's model. Four studies (Hom et al. 1984; Miller et al. 1979; Mobley et al. 1978; Spencer et al. 1983) included a measure of job satisfaction but not organizational commitment. In three studies (Arnold & Feldman, 1982; Michaels & Spector, 1982; Parasuraman, 1982), both satisfaction and commitment were assessed, but the possibility of a causal relation between these two variables was not examined. Two studies included measures of both satisfaction and commitment and also examined evidence for a causal relation between these variables. Bluedorn (1982) found that job satisfaction influences organizational commitment which, in turn, influences the intention to quit. In contrast, Dougherty et al. (1985) found that both satisfaction and commitment directly influence intention to quit with no causal link between them. In their reanalysis of data from Bluedorn (1982) and Michaels and Spector (1982), Williams and Hazer (1986) concluded that satisfaction affects commitment which, in turn, influences intention to quit. Given these conflicting findings, additional evidence is needed regarding the relations among job satisfaction, organizational commitment, and withdrawal cognitions.

In the present research, perceptions of work events were examined with measures of job characteristics, alternative job opportunities, and job expectations. Of the studies examining Mobley's turnover model, only Michaels and Spector (1982) included a measure of perceived job characteristics. Results indicated that job characteristics significantly influence both job satisfaction and organizational commitment.

Results of six studies that examined the impact of perceived alternative job opportunities are inconsistent. Three studies (Miller et al. 1979; Mobley et al. 1978; Spenser et al. 1983) provide evidence that perceived job opportunities influence withdrawal cognitions, and three studies found no significant effects (Arnold & Feldman, 1982; Michaels & Spector, 1982; Mowday et al. 1984).

Finally, three studies examined the impact of job expectations. Two studies (Michaels & Spector, 1982; Arnold & Feldman, 1982) found that unmet expectations influence job satisfaction. In a third study (Hom et al. 1984), unmet expectations influenced both job satisfaction and thoughts of quitting. Based on a review of research on new members of organizations, Louis (1980) argued that it is important to assess undermet, met, and overmet expectations independently. Michaels and Spector (1982) and Arnold and Feldman (1982) used single item measures that did not differentiate among these three types of expectations. Hom et al. (1984) had subjects rate the extent to which experience with 46 job outcomes was worse than, better than,

or equivalent to what was expected, but used a single measure of unmet expectations in their analyses. The present research includes separate assessments of undermet, met, and overmet expectations.

In summary, the general model that provided the conceptual basis for this study is shown in Figure 1. We expected that perceptions of work events (job characteristics, alternative employment opportunities, and undermet, met, and overmet job expectations) would influence job attitudes (job satisfaction and organizational commitment) which, in turn, would influence withdrawal cognitions (thoughts of quitting, intention to search, and intention to quit). More specific predictions were withheld in light of the diversity of previous research findings concerning the turnover decision process. We used a theory-trimming approach to path analysis (Heise, 1969) in order to develop a more specific model of the relations among the variables in this study.

Method

Participants

Participants included all new employees at a large computer company who were hired during 1985 and who had completed their college or graduate education just prior to employment. These employees included hardware and software engineers, technical writers, financial analysts, human resources representatives, industrial engineers, marketing specialists, systems engineers, and sales representatives, among other specialties. Of the 343 employees included in the sample, 266 returned completed questionnaires for a response rate of 78%.

Questionnaire

An earlier version of the questionnaire was pretested with six employees at the same company who were hired during 1984 and who had finished their college or graduate education just prior to employment. Respondents completed the questionnaire individually and then participated in a group discussion during which they gave their overall reactions to the survey and commented about the content and wording of specific questionnaire items.

The final version of the questionnaire contained 18 items, several of which had multiple parts. For this paper, we will discuss the items assessing withdrawal cognitions, job satisfaction, organizational commitment, unmet job expectations, met job expectations, perceived job characteristics, and alternative job opportunities.

Adapted from Miller et al. (1979), withdrawal cognitions were measured with three items. Thoughts of quitting were assessed by asking, "How often do you think about leaving (company name) for another job?" (1 = always; 7 = never). Intention to search was measured with, "How likely is it that you will actively look for a different company to work for in the next year?" (1 = extremely likely; 7 = extremely unlikely). Intention to quit was measured with, "How likely is it that you will voluntarily leave (company name) for another job during the next year?" (1 = extremely likely; 7 = extremely unlikely).

Job satisfaction was assessed by having respondents rate their level of satisfaction (1 = extremely dissatisfied; 7 = extremely

satisfied) with 12 job facets, including opportunities for promotion, coworkers, pay, the work itself, and recognition. These 12 job facets included the major job elements identified in previous research (Locke, 1976).

Organizational commitment was assessed with the short form of the Organizational Commitment Questionnaire (Mowday, Steers, & Porter, 1979).

Unmet job expectations were measured with open-ended questions designed to elicit overmet and undermet expectations. Separate questions asked "In what ways is your work experience better than your expectations?" and "In what ways is your work experience worse than your expectations?" The number of overmet and undermet expectations listed by each respondent was rated by one judge. As a check on reliability, the number of overmet expectations was independently rated by a second judge for a random sample of 100 questionnaires. Interrater agreement was 100%. Similarly, the number of undermet expectations as rated by the same two judges was compared for a separate random sample of 100 questionnaires. In this case, interrater agreement was 98%. Disagreements were resolved by discussion.

Met job expectations were assessed by having respondents answer the question, "How closely does your work experience at (company name) correspond to your expectations about the job?" (1 = not at all closely; 4 = very closely).

Perceived job characteristics were measured by having respondents rate the extent to which their job provided

opportunities to perform ten different activities (1 = never; 7 = always) such as find out how well they are doing from their manager, use a variety of skills and talents, think and act independently, and participate in the choice of project work. The ten activities were drawn from previous research on perceived job characteristics (Hackman & Lawler, 1971; Hackman & Oldham, 1975). Research suggests that the most parsimonious description of job characteristics is a single dimension representing the complexity of the job (Dunham, 1976). Therefore, ratings of the ten activities were averaged to yield a measure of job complexity.

Finally, adapted from Michaels and Spector (1982), the item assessing alternative job opportunities asked, "At the present time, how easy would it be for you to find acceptable alternative employment at a different company?" (1 = extremely difficult; 7 = extremely easy).

Procedure

Several established techniques (Yu & Cooper, 1983) were used to increase the response rate. First, a postcard was sent to the participants notifying them about the survey and emphasizing the importance of their responses. Four days later the questionnaire itself was sent through interoffice mail along with a cover letter and return envelope. The questionnaire did not contain any information to identify the respondents; however, as in Michaels and Spector (1982), we asked respondents to indicate the last four digits of their Social Security number so that questionnaires from a one year follow-up of the present study could be matched for

individual respondents. The cover letter explained that all responses were confidential, described the purposes of the study, indicated that participation was voluntary, and encouraged the respondents to contact the first author if they had any questions. Two weeks after mailing the questionnaire, a follow-up postcard sent to all participants encouraged non-respondents to complete the questionnaire and thanked respondents for participating in the survey. Approximately one month later, a follow-up letter containing a similar message was sent to all participants.

Results

The data from this study were analyzed using a theory-trimming approach to path analysis (Heise, 1969). This approach involves a series of multiple regression analyses with each variable in the model regressed on all preceding variables. Statistically non-significant regression coefficients result in the deletion of the corresponding paths in the model. One of the best ways to increase confidence in the reliability of statistical findings is to replicate studies (Kerlinger & Pedhazur, 1973). Therefore, in this study, specific paths were included in the trimmed path model only if they were statistically significant in the analyses for both of two randomly determined halves of the sample.

Tables 1 and 2 present the zero-order correlations among the variables in Samples 1 and 2, respectively. Means and standard deviations for the variables in each sample also are reported.

Table 3 summarizes the results of multiple regression analyses in each sample. In the first pair of analyses, intention to quit

was regressed on all other variables in the model. Only the regression weights for intention to search were statistically significant ($p < .05$) in both samples. Therefore, in the second pair of analyses, intention to search was regressed on all remaining variables. In this case, only the regression coefficients for thoughts of quitting were significant in both samples. In the third set of analyses using thoughts of quitting as the criterion variable, the regression coefficients for organizational commitment were statistically significant in both samples. In the fourth set of analyses using organizational commitment as the criterion, regression weights for both job satisfaction and met expectations were significant. Finally, coefficients for job complexity and undermet expectations were statistically significant in both samples using job satisfaction as the criterion.

Table 4 presents zero-order correlations as well as means and standard deviations for the variables in the full sample. The analyses summarized in Table 3 were repeated, regressing each criterion variable only on explanatory variables found to have significant direct effects in the earlier regression analyses. Figure 2 summarizes the results of these analyses.

The trimmed path model presented in Figure 2 suggests that overmet expectations and perceived alternative job opportunities are not significantly related to other variables in the model. Higher job complexity increases job satisfaction, while undermet expectations reduce satisfaction. Both met expectations and greater job satisfaction result in higher commitment to the organization.

Stronger commitment reduces thoughts of quitting. Fewer thoughts of quitting decrease the intention to search which, in turn, decreases the intention to quit.

The path coefficients and correlations in Figure 2 were used to reproduce the observed correlations among the variables in the model. Table 5 presents the reproduced correlations as well as the discrepancies between these correlations and the correlations in the full sample. The average absolute difference between the original and the reproduced correlations was .11. Twenty-eight discrepancies exceeded .05 and 21 exceeded .10.

Discussion

A frequent problem with industrial/organizational research is the failure to imbed investigations in a theoretical context (Tinsley & Heesacker, 1984). The present study examined the turnover decision process among new employees at a computer company in the context of Mobley's model of employee turnover (Mobley, 1977; Mobley et al. 1979). In general, results support the prediction that perceptions of work events influence job attitudes which, in turn, influence withdrawal cognitions. Specific results are summarized in Figure 2. When compared with previous research on Mobley's model, the present findings help to further our understanding of the turnover decision process.

Concerning withdrawal cognitions, results are consistent with previous research indicating that thoughts of quitting influence the intention to search which, in turn, influences the intention to quit (Miller et al. 1979; Mobley et al. 1978; Spencer et al. 1983).

There is some question whether intention to search or intention to quit is the immediate precursor of turnover (Hom et al. 1984). We will have to await the collection of turnover data for the present sample of employees in order to explore this issue.

Concerning job attitudes, research (Farrell and Petersen, 1984; Porter, Crampon, and Smith, 1976) has found that loss of commitment precedes turnover among new employees. Results of the present study indicate a strong negative relation between commitment and thoughts of quitting. Results also support the findings of Bluedorn (1982) and Williams and Hazer (1986) regarding the relations among job satisfaction, commitment, and withdrawal cognitions. In contrast with the findings of Dougherty et al. (1985), the evidence suggests that job satisfaction influences commitment which, in turn, influences withdrawal cognitions. These findings confirm the importance of including measures of both satisfaction and commitment in studies of the turnover decision process and of examining the evidence for a causal relation between these two variables.

Concerning perceptions of work events, measurement of perceived job characteristics indicates that more complex jobs lead to increases in job satisfaction. This finding is consistent with Michaels and Spector (1982) and with a recently published meta-analytic study. Across 28 studies, Loher, Noe, Moeller, and Fitzgerald (1986) found a moderate positive relation between job characteristics and job satisfaction. The direct effect of job characteristics on organizational commitment found by Michaels and Spector (1982) was not replicated in this study, although the path

diagram in Figure 2 indicates that job complexity indirectly affects commitment through its effect on job satisfaction.

Perceived alternative employment opportunities were not related to any other measured variables. This finding is consistent with several studies examining Mobley's turnover model (Arnold & Feldman, 1982; Michaels & Spector, 1982; Mowday et al. 1984) but is inconsistent with other studies (Miller et al. 1979; Mobley et al. 1978; Spenser et al. 1983). As suggested by Hom et al. (1984), the impact of perceived alternative employment opportunities probably is dependent on how this variable is operationally defined. Estimates of the general availability or the overall quality of alternatives in the labor market do not appear to influence job attitudes or decisions about quitting. However, evaluations of specific alternative jobs probably are more influential. This explanation is consistent with previous research on the reasons employees voluntarily quit their jobs at the same computer company examined in this study (Kerber & Campbell, 1986). In that research, results from a post exit questionnaire indicated that receiving a better job offer was one of the most common reasons for leaving the company.

Experiences during organizational entry can have important consequences for the retention of new employees. Turnover among newcomers is related to the discrepancy between actual job experiences and expectations (Dunnette, Arvey, & Banas, 1973; Katzell, 1968; Ross & Zander, 1957). Louis (1980) has argued that the assessment of unmet expectations in past research implicitly deals only with undermet expectations. Research on Mobley's

turnover model has found that unmet expectations decrease job satisfaction (Arnold & Feldman, 1982; Hom et al. 1984; Michaels & Spector, 1982). However, when undermet, met, and overmet expectations are assessed separately as in the present study, we find that undermet expectations decrease job satisfaction, met expectations increase organizational commitment, and overmet expectations are not related to job attitudes. These findings confirm Louis's (1980) observation and suggest that undermet, met, and overmet expectations should be measured separately in future research.

Given the instability of the estimation of regression coefficients, it is important to emphasize that the results of the present study are based on statistically significant regression weights in both of two independent samples. However, if we accept the rule of thumb that observed and recomputed correlations should not differ by more than .05 (Kerlinger & Pedhazur, 1973), then the path model presented in Figure 2 does not reproduce the original correlations very accurately. There are several possible explanations for discrepancies between observed and reproduced correlations (Billings & Wroten, 1978). First, the ordering of variables in the model may be incorrect. Although the precise ordering of variables affecting turnover is not yet established, and, in fact, may vary by organization or occupation (Miller et al. 1979; Spenser et al. 1983), the ordering obtained in the present study generally is consistent with recent research on Mobley's turnover model. Second, relevant causal variables may not be

included in the hypothesized causal system. Given the current stage of theoretical work on turnover, this explanation is a distinct possibility. However, the concepts measured in this study included virtually all the major endogenous variables assessed in published research on Mobley's model. The exception may involve the need for assessment of job search activities (see Hom et al. 1984; Spencer et al. 1983). Finally, some paths may have been deleted from the model when they should have been retained. Because of problems in accurately testing the statistical significance of regression coefficients (see Billings & Wroten, 1978, p. 678), paths may be included because they are deemed "meaningful" by some standard, for example, greater than .05. We plan to examine alternatives to the model presented in Figure 2 with additional paths retained on the basis of criteria other than statistical significance.

Several researchers (Dougherty et al. 1985; Mobley et al. 1978; Mowday et al. 1984) have mentioned the need for longitudinal research to achieve a fuller understanding of the turnover decision process. While the study of withdrawal cognitions may be important in its own right (Spencer et al. 1983), it is clear that turnover behavior is the most important criterion for organizations. The present research is part of a longitudinal study in which the same employees will respond to a similar questionnaire one year after the initial administration. Ultimately we are concerned about changes that occur among employees who stay with the company and about the variables that predict voluntary organizational turnover.

Subsequent data collected as part of the longitudinal study will allow further tests of the turnover model presented in this paper.

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Table 1

Means, Standard Deviations, and Intercorrelations of Variables in Sample 1

Variables	M	SD	1	2	3	4	5	6	7	8	9	10
1. Intention to Quit	2.37	1.46	--									
2. Intention to Search	2.45	1.55	88	--								
3. Thoughts of Quitting	2.64	1.20	74	70	--							
4. Satisfaction	5.09	.77	-60	-56	-57	(83)						
5. Commitment	5.28	1.05	-58	-57	-62	71	(90)					
6. Job Opportunities	4.97	1.35	09	05	12	07	07	--				
7. Overmet Expectations	1.29	.92	-20	-26	-08	19	19	-05	--			
8. Met Expectations	3.35	.76	-53	-48	-50	50	50	-01	22	--		
9. Undermet Expectations	.99	.81	33	32	36	-50	-45	-05	11	-38	--	
10. Job Complexity	4.64	.84	-41	-38	-35	65	53	21	25	48	-40	(82)

Note: Decimals are omitted from correlations. Sample sizes ranged from 129 to 133 due to missing data. Correlations exceeding 17 in absolute value are significant at the .05 level. Cronbach's alpha for each multi-item variable is in parentheses.

Table 2

Means, Standard Deviations, and Intercorrelations of Variables in Sample 2

Variables	M	SD	1	2	3	4	5	6	7	8	9	10
1. Intention to Quit	2.52	1.55	--									
2. Intention to Search	2.73	1.70	90	--								
3. Thoughts of Quitting	2.70	1.27	66	66	--							
4. Satisfaction	5.12	.67	-57	-53	-48	(73)						
5. Commitment	5.32	.98	-58	-55	-59	59	(88)					
6. Job Opportunities	4.99	1.21	04	06	13	-02	03	--				
7. Overmet Expectations	1.38	.83	-24	-23	-12	18	15	04	--			
8. Met Expectations	3.31	.82	-43	-43	-44	44	49	-07	18	--		
9. Undermet Expectations	1.22	1.09	26	21	28	-41	-35	11	20	-43	--	
10. Job Complexity	4.73	.83	-38	-36	-39	59	44	04	06	51	-41	(82)

Note: Decimals are omitted from correlations. Sample sizes ranged from 128 to 133 due to missing data. Correlations exceeding 17 in absolute value are significant at the .05 level. Cronbach's alpha for each multi-item variable is in parentheses.

Table 3

Results of Regression Analyses in Samples 1 and 2

Criterion Variable	Explanatory Variables	Sample 1		Sample 2	
		Standardized Coefficients	R ²	Standardized Coefficients	R ²
Intention to Quit	Intention to Search	.69*	.84	.77*	.82
	Thoughts of Quitting	.20*		.08	
	Satisfaction	-.07		-.07	
	Commitment	.02		-.06	
	Job Opportunities	.04		-.03	
	Overmet Expectations	.04		-.05	
	Met Expectations	-.07		.03	
	Undermet Expectations	-.05		.04	
	Job Complexity	-.05		-.01	
Intention to Search	Thoughts of Quitting	.55*	.59	.45*	.53
	Satisfaction	-.11		-.22*	
	Commitment	-.08		-.12	
	Job Opportunities	-.01		.01	
	Overmet Expectations	-.14*		-.09	
	Met Expectations	-.07		-.09	
	Undermet Expectations	.03		-.09	
		Job Complexity		.01	

*p < .05

Table 3, Continued

Criterion Variable	Explanatory Variables	Sample 1		Sample 2	
		Standardized Coefficients	R ²	Standardized Coefficients	R ²
Thoughts of Quitting	Commitment	-.36*	.48	-.42*	.41
	Satisfaction	-.29*		-.14	
	Job Opportunities	.14*		.13	
	Overmet Expectations	.03		.01	
	Met Expectations	-.23*		-.16	
	Undermet Expectations	.01		-.05	
	Job Complexity	.10		-.07	
Commitment	Satisfaction	.56*	.56	.43*	.42
	Job Opportunities	.04		.06	
	Overmet Expectations	.06		.05	
	Met Expectations	.17*		.26*	
	Undermet Expectations	-.10		-.07	
	Job Complexity	.03		.02	
Satisfaction	Job Opportunities	-.05	.53	-.01	.43
	Overmet Expectations	.09		.17*	
	Met Expectations	-.15*		.08	
	Undermet Expectations	-.27*		-.23*	
	Job Complexity	.47*		.45*	

Table 4

Means, Standard Deviations, and Intercorrelations of Variables in the Full Sample

Variables	M	SD	1	2	3	4	5	6	7	8	9	10
1. Intention to Quit	2.44	1.50	--									
2. Intention to Search	2.59	1.63	89	--								
3. Thoughts of Quitting	2.67	1.24	70	68	--							
4. Satisfaction	5.10	.72	-58	-54	-52	(79)						
5. Commitment	5.30	1.01	-57	-55	-61	65	(89)					
6. Job Opportunities	4.98	1.28	07	06	12	03	05	--				
7. Overmet Expectations	1.33	.88	-21	-24	-10	19	17	-01	--			
8. Met Expectations	3.33	.79	-48	-46	-47	46	49	-04	20	--		
9. Undermet Expectations	1.11	.97	29	26	31	-44	-38	04	16	-41	--	
10. Job Complexity	4.68	.83	-39	-37	-37	62	49	13	16	49	-39	(82)

Note: Decimals are omitted from correlations. Sample sizes ranged from 257 to 266 due to missing data. Correlations exceeding 12 in absolute value are significant at the .05 level. Cronbach's alpha for each multi-item variable is in parentheses.

Table 5

Reproduced Correlations Based on the Trimmed Path Model and Discrepancies
with Correlations in the Full Sample

Variables	1	2	3	4	5	6	7	8	9	10
1. Intention to Quit	--	00	10	35	21	07	21	32	17	22
2. Intention to Search	89	--	00	28	14	06	24	28	12	18
3. Thoughts of Quitting	60	68	--	13	00	12	10	21	10	09
4. Satisfaction	-23	-26	-39	--	01	03	19	10	00	00
5. Commitment	-36	-41	-61	64	--	05	17	05	04	03
6. Job Opportunities	00	00	00	00	00	--	01	04	04	13
7. Overmet Expectations	00	00	00	00	00	00	--	20	16	16
8. Met Expectations	-16	-18	-26	36	44	00	00	--	00	00
9. Undermet Expectations	12	14	21	-44	-34	00	00	-41	--	00
10. Job Complexity	-17	-19	-28	62	46	00	00	49	-39	--

Note: Decimals are omitted from correlations. Correlations reproduced from the trimmed path model are below the diagonal. Differences between these correlations and the correlations in the full sample (see Table 4) are above the diagonal.

Figure 1. General Model and Measured Variables

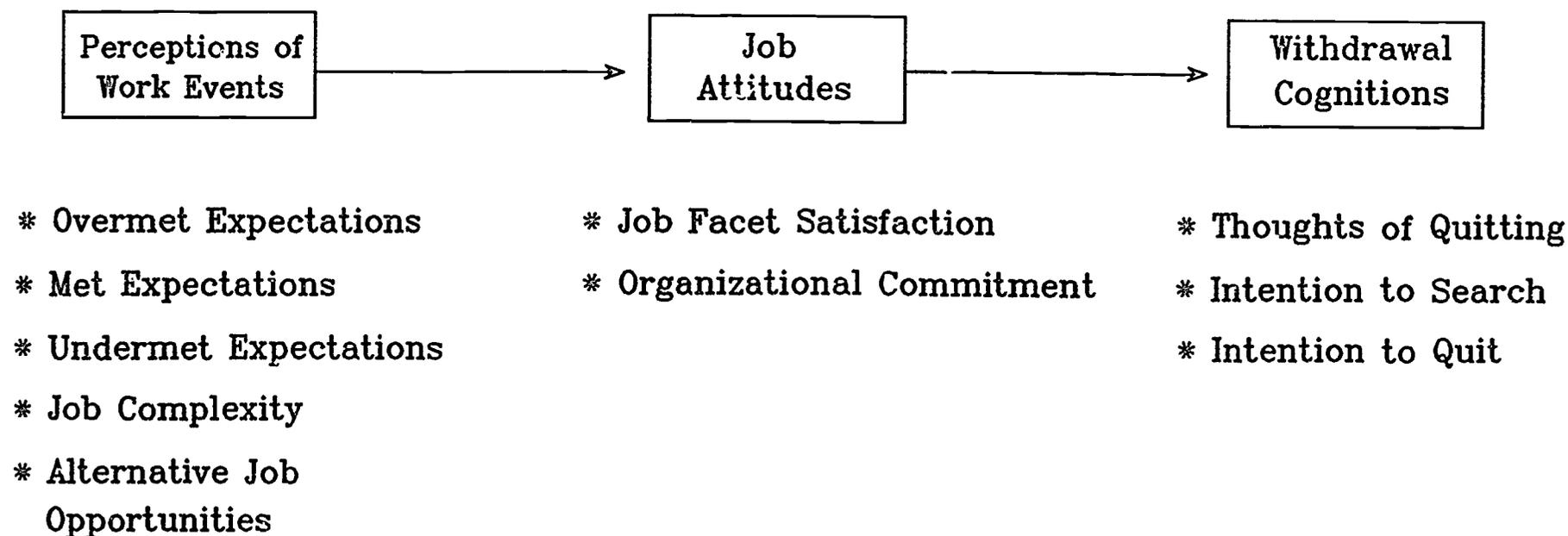


Figure 2. Results of Path Analysis

