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Background Experience Correlates of Job Performance:

An Expanded Predictor Space

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Abstract

This research developed a background experience inventory consisting of several published work-related scales, newly created scales which tapped Quinones, Ford, and Teachout's (1995) nine cell conceptualization of the work experience domain, and life experience scales created from collected critical incidents. The diversity of scales was intended to provide a broad assessment of experiences relevant to work. The inter-relationships of the scales were examined as were their construct and criterion-related validity.

Background Experience Correlates of Job Performance:

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In the search for predictors of job performance, researchers have given relatively little consideration to the role of job experience. Levine and Flory (1975) found that the evaluation of applicants prior work experience was the most frequently used assessment method in selection. Yet, the construct of work experience has not been well defined. Aspects of training and judgmental ratings of experience and education have been reviewed as predictors of job performance (Mosel, 1952; McDaniel, Schmidt, & Hunter, 1988a). McDaniel et al. (1988a) examined various methods for evaluating past experience and found some methods to be more valid than others. In a second study, McDaniel, Schmidt, and Hunter (1988b) conducted a meta-analysis of the relationship between job experience and job performance. Job experience in this meta-analysis was defined by length of experience in a given occupation. The mean corrected correlation between job experience and job performance was .32.

In a more recent meta-analysis, Quinones, Ford, and Teachout (1995) argued that the work experience domain is a complex, multi-dimensional construct. They reviewed the divergent ways work experience has been operationalized. Work experiences viewed at the micro level included the number of specific tasks performed and number of lateral moves. Work experience viewed from a macro perspective referred to the content of experiences and lessons drawn from various experiences. Regardless of the work experience measure used, Quinones et al. (1995) found that job performance was positively correlated with work experience.

Quinones et al. (1995) extended their meta-analysis by developing a conceptual framework on which categories of work experience could be measured. The framework was based on the position that a systematic investigation of experience must be context bound,

meaning, a logical relationship must exist between the predictor and criterion. They argued that only job-related events experienced by the individual were useful for investigating the relationship between work experience and job performance. Their categorical framework consisted of two dimensions, first, the level of specificity dimension, which tapped task, job, and organizational level information of work experience, and second, the measurement mode dimension, which consisted of measures of amount, time, and type of work experience. The Quinones et al. (1995) meta-analysis revealed that the strongest relationships were between amount measures of work experience and work performance, and task levels of work experience and work performance. Thus, it appeared that micro level work experience measures were more predictive of job performance than the more abstract, macro level work experience measures.

Quinones, Adams, Longoria, Thomas, and Torres (1997) applied this conceptual framework to the assessment of work experience on applicant resumes. A sample of students rated resumes which had been varied on aspects of time on the job, amount of work, and type of work. The results indicated that amount and type of work experience impacted the ratings of resumes independent of years of experience.

In addition to work experience measures, biodata measures have been used to provide work history and life history information useful in the prediction of work performance. The first biodata measures were developed during World War II and used for the prediction of Air Force training success (Mumford & Owens, 1987). Biodata inventories tap two dimensions believed to be relevant to job performance, developmental inputs and prior experiences (Owens & Schoenfeldt, 1979). Russell, Mattson, Devlin, and Atwater (1990) developed a biodata instrument from content analyzed, retrospective life-history essays. Their purpose was to predict the performance of Naval Academy students based on a criteria strictly applicable to that setting.

Their biodata instrument contributed more to the prediction of military and academic performance than the predictor battery currently in use.

The purpose of our study was twofold. First, the study was established to develop a broad bandwidth background experience inventory. The background experience inventory was built to tap Quinones, Ford, and Teachout's (1995) nine cell conceptualization of the work experience domain, incorporate several published work-related scales, and include new scales created to tap developmental life experiences, similar to biodata items, collected from critical incident analysis. The Quinones et al. (1995) framework excluded developmental experiences because these developmental experiences were not theoretically relevant to their contextual conception of work experience. Our position, contrary to that of Quinones et al. (1995), reflects the theoretical stance that a variety of prior life experiences have the potential to impact the formation of a person's work philosophy and subsequent work performance (Mumford & Whetzel, 1997). Therefore, we judged the impact of developmental experiences on the construct of work experience and work performance to be worthy of exploration. Although the background experience inventory in this study was developed to have a broad applicability to the prediction of work performance, the development followed the same lines of the Russell, Mattson, Devlin, and Atwater (1990) study in that the life experience items were generated from subjects' description of events which impacted their work philosophy. Consequently, we extended the Quinones et al. (1995) framework by developing scales for various conceptions of experience beyond the boundaries of the Quinones et al. (1995) model.

Secondarily, this study examined the construct and criterion-related validity of the scales in our background experience inventory. Various assessment methods commonly used in the prediction of work performance were compared with the background experience inventory

scales. Measures of cognitive ability, personality, and situational judgment were correlated with the background experience inventory and validity coefficients were compared for all scales and measures. A sample of working adults enabled us to determine validity coefficients, based on a performance appraisal criterion measure, for the various scales.

Method

This study used three samples to assist in the validation of the background inventory. The first sample provided critical incident data. The second sample permitted us to pilot test an initial version of the background inventory. The third sample was used to examine the criterion-related and construct validity of the background experience inventory scales. Below we further describe how these samples were employed in this research.

The first sample consisted of 267 employed students from a large Midwestern University who described life experiences that impacted their work philosophy and by extension, their work performance in a critical incident format. This procedure was similar to McClelland's (1976) application of Flanagan's (1954) critical incident technique. The situations gathered on the life experience critical incident questionnaires were then content analyzed to create a taxonomy of life experiences that theoretically impact the formation of a work philosophy. For example, several of the taxonomic categories were experiences from grade school years, high school years, volunteer activities, club involvement, experiences on a first job, parent/guardian relationships, and religious beliefs. The experiences from the critical incidents were used to develop items which tapped the core construct of each category. See Appendix A for a list of the scales developed from the critical incidents and a representative question for each scale.

In addition, questions were created to tap each of the nine categories of the Quinones et al. (1995) framework of work experience. See Appendix B for the 3 X 3 matrix of Quinones et

al. (1995) work experience cells, scale title, and a sample question for each cell. The background experience inventory included several published scales frequently used in job performance research. The items in these scales were slightly modified to solicit responses that reflected past experience rather than experience based only on the current job. They will be referred to as adapted scales. Hackman and Oldham's (adapted) seven job characteristics scales (Cook, Hepworth, Wall, & Warr, 1981) were added to the background experience inventory, as were Lawler and Hall's (adapted) and Hackman and Lawler's (adapted) intrinsic motivation questions (Cook et al., 1981). The short version of Lodahl and Kejner's (adapted) job involvement scale (Cook et al., 1981) was also included. Refer to Appendix C for wording of the items in the adapted scales. The initial background experience inventory contained a total of 246 questions in 31 scales.

A second sample of 30 adults ranging in age from 25 to 50, employed in a variety of jobs, was used to pilot test the 246 item initial version of the background experience inventory. The subjects for the pilot test were individually approached and offered the opportunity to participate in the research. The pilot study was conducted to provide the basis for an item analysis of the newly developed scales and to confirm that the reliability of the adapted published scales was not substantially impacted by the slight wording changes. The pilot test subjects completed the background experience inventory on their own and returned the inventory to the researchers. An iterative process of item analysis (Hough & Paullin, 1994) designed to result in reliable construct-relevant scales reduced the background experience inventory to 125 questions contained in 29 scales.

The correlates of each item to every other item and each scale were examined to ensure that the item correlated highest with its scale. Anomalies were dropped or moved to the

appropriate scale and a reanalysis was conducted until every item correlated highest with the appropriate scale. Scale correlates with all other scales were examined after the item-scale analysis.

Items designed to capture Quinones et al. (1995) task by amount cell and job by amount cell were highly related, leading us to merge these scales. To simplify the understanding of the dimensions it is helpful to recognize that the task by amount scale measured the number of times a task was performed and the job by amount scale measured the number of jobs that were performed. Items intended to distinguish between the Quinones et al. (1995) task by type cell and the job by type cell were also highly related and were collapsed into one scale, reducing the original nine scales created to tap Quinones et al. (1995) conceptual framework to seven scales. The task by type scale assessed task difficulty and the job by type scale assessed job difficulty. Subjects may not have been able to differentiate task and job level information in this self report format.

Pilot testing revealed that items which assessed the Quinones et al. (1995) organization by type of experience and the Quinones et al. (1995) job by time facet would be more suited to a demographic questionnaire. Based on the critical incidents, nine types of organizational experience were assessed through nine true or false questions. Each question targeted one type of organization and subjects indicated true if the majority of their experience occurred in that organization. The job by time category was assessed by one question, 'What was the most time you spent on any one job'. Therefore, the demographic data questionnaire (to be administered with the 125 item version of the background experience inventory) assessed Quinones et al. (1995) organization by type category, job by time category, plus information regarding race, age, sex, and education, thus further reducing the number of scales needed to tap the Quinones et al.

(1995) framework to five.

Although some construct validity analyses (factor analysis) can be conducted without reference to external variables, additional variables of known construct validity were also collected to increase our understanding of the experience scales. The additional measures collected included the short form NEO-FFI (Costa & McCrae, 1992) and the Wonderlic IQ test (Wonderlic, 1992). A situational judgment measure, the Work Problems Survey was administered to collect additional construct correlates and validity coefficients for ongoing research on the Work Problems Survey. Prior research indicated that the Work Problems Survey had moderate correlates with aspects of experience, ie., length of job experience and supervisory experience (Smith & McDaniel, 1998, McDaniel, Finnegan, Morgeson, Campion, & Braverman, 1997).

Criterion related validity of the background experience inventory scales was assessed through performance appraisals collected from the subjects' supervisors. The performance appraisal form was modeled after one employed by the U. S. Department of Labor in its validity studies for the General Aptitude Test Battery (U. S. Department of Labor, 1977).

To assess the construct and criterion-related validity of scales in the background experience inventory, the inventory was administered to a third sample. A total of 278 subjects, all University students receiving extra credit for their participation in research, completed the background experience inventory, a demographic information form, the Wonderlic test, the Work Problems Survey, and the NEO-FFI. The Wonderlic was administered first and timed to the required 12 minutes. Subjects were given all the time they needed to adequately complete the remaining measures.

The test battery included a release form to allow the researchers to request a performance

appraisal from each subject's supervisor. Subjects had the opportunity to read a sample copy of the letter which was sent to the supervisor and examine the blank performance appraisal which the supervisor would receive with the signed release form and letter. The explanatory letter to the supervisor, signed release from the subject, blank performance appraisal, and postage paid return envelope were mailed to each supervisor. Both the subject and the supervisor were advised that all test results and performance appraisal information would remain confidential. Criterion data were collected for 87 subjects (31% of the sample).

A rare response key for the background experience inventory was constructed from answers which were endorsed by less than 2% of the subjects. Choosing more than 4 of the rare response items was an indication that the subject might be careless or might not have an adequate reading level for the inventory. A total of seven subjects were dropped from the background experience inventory sample based on their rare response score.

Results

A summary of the number of items and alpha reliabilities for each of the background experience inventory scales is provided in Table 1. The five scales related to the Quinones et al. (1995) framework are presented first, followed by the adapted, published scales (Hackman and Oldham's adapted seven job characteristic scales, Hackman and Lawler's adapted intrinsic motivation scale, Lawler and Hall's adapted intrinsic motivation scale, and Lodahl and Kejner's adapted job involvement scale), finally the scales representing developmental life experiences are presented. Two of Quinones et al. (1995) categories were assessed by single items on the demographic form rather than scales on the background experience inventory. The ten single item scales to assess type of organization (e.g. retail, food service, factory, etc.) and the job by type category (e.g. 'what was the most time you spent in any one job') were not included in

Table 1.

Insert Table 1 Here

Table 2 presents a correlation matrix of all the scales and measures used in the study. The format of presentation in Table 2 is similar to that of Table 1. The scales created to tap the Quinones et al. (1995) categories are presented first. In addition, the 10 demographic items are added to the correlational matrix. One demographic question, 'The most time I have spent in one job was ____' assessed Quinones et al. (1995) time by job category. Nine demographic questions, each targeting a different occupational group, were used to assess Quinones et al. (1995) type by organization category.

The adapted published scales followed the Quinones et al. (1995) scales and items. The scales created to tap developmental experiences, the personality scales, Work Problems Survey, and Wonderlic correlates were presented last.

Insert Table 2 Here

Criterion validity was assessed through the collection of job performance evaluations from the subjects' supervisors. Of the 278 subjects, 87 performance evaluations were returned for a response rate of 31%. The performance evaluations consisted of 9 forced choice questions. Possible scores on each question ranged from 1 point for poor performance to 5 points for excellent performance. The nine answers were then summed for a performance evaluation score

for each subject. Scores on the performance evaluations ranged from 25 to 45 with a mean of 35.4. Table 3 summarizes the criterion related validity of the scales and measures.

Insert Table 3 Here

The construct validity of the background experience inventory was explored through a maximum likelihood factor analysis. Three of the background experience inventory scales (military $n = 30$, sports $n = 197$, and volunteer work $n = 165$) had dissimilar N sizes from the majority of the background experience scales and were not included in the factor analysis. Parallel analysis criteria, as recommended by Lautenschlager (1989), suggests that three factors should be retained based on the N size and the number of items in the analysis. Eigenvalues of the obtained factor roots were compared to the eigenvalues of the roots in the Lautenschlager (1989) matrices. Based on the knowledge that the Lautenschlager (1989) criteria represent a conservative solution, the obtained scree plot, and a Chi-square statistic ($294.96, p < .001$), a five factor solution, explaining 51% of the variance, was determined to provide the most interpretable explanation of the background experience scales. The factor solution is presented in Table 4.

Insert Table 4 Here

Weighted factor scores were developed to facilitate more accurate correlational analysis of each factor with the various measures used in the study. The factor score was obtained by multiplying each scale by its factor loading and adding all the scales in the factor. Table five presents the correlations of the weighted factors with personality dimensions, the situational

judgment measure, total years work experience, and job performance.

Insert Table 5 Here

Discussion

Experience has been defined and measured in a variety of ways. It has been operationalized at both the micro level, repetition of task, and the macro level, content and lessons drawn from work. Little attention has been paid to job experience as a predictor domain with most researchers limiting the construct to length of experience (McDaniel et al., 1988b). Quinones et al. (1995) attempted to enlarge the picture of work experience by creating a multilevel (task, job, and organization) specificity dimension and a multilevel (amount, time, type) measurement mode. We endeavored to clarify and expand the picture of work experience by creating a broad bandwidth background experience assessment inventory and by examining the construct and criterion validity evidence of the scales in the background experience inventory.

The Quinones et al. (1995) conceptualization of work experience was a logical step in the attempt to standardize the construct of work experience. However, many of the scales created to operationalize Quinones et al. (1995) categories were highly intercorrelated, indicating that categories believed to be representative of distinct aspects of work experience by the researchers, may have been indistinguishable in the minds of the respondents. In a related vein, perceptions of job characteristics were studied by Stone and Gueutal (1985), who found that individuals viewed job characteristics as a global gestalt, possibly labeled job complexity, rather than as differential levels of separate job characteristics. The same type of macro processing may have been

operating for respondents in our study.

Quinones et al. (1995) scales - correlates with adapted published scales

The Quinones et al. (1995) scales appeared to be tapping the same dimensions as Hackman and Oldham's job characteristics scales, Hackman and Lawler's intrinsic motivation scale, Lawler and Hall's intrinsic motivation scale, and Lodahl and Kejner's job involvement scale. With only two exceptions, the adapted published scales and the Quinones scales were highly and significantly correlated. It seems reasonable to conclude that the scales created to tap the Quinones et al. (1995) categorization of work experience target general characteristics of jobs often measured in published research, and person variables which effect work experience, such as motivation, and involvement.

Quinones et al. (1995) scales - correlates with developmental scales

Of the three developmental scales which assessed childhood experiences in relation to work experiences (parent/guardian, grade school and high school), grade school and high school experiences were modestly correlated with the Quinones et al. (1995) job/task amount and time/task speed scales. This would indicate that grade school and high school experiences may contribute to the number of jobs or tasks one accomplishes and the speed at which the individual works relative to others. The parent/guardian scale showed no significant correlations with any Quinones et al. (1995) scales. Positive school experiences in which one was trusted or given responsibility had more impact on subsequent work experience, even though slight, than childhood experiences with parents or guardians.

Five of the developmental scales, work satisfaction, training, initiative, first job, and supervisory experience, exhibited more significant relationships with the Quinones et al. (1995) scales. Work satisfaction and first job experiences were significantly correlated with every

Quinones et al. (1995) scale, while supervisory experience and initiative were related to all except the organizational amount mobility scale (moves within the organization). Taking advantage of training opportunities was related to the amount of work one accomplished, the complexity of the work and the number of moves one made across organizations. A large percentage of our subjects ($n=188$, 71.2%) indicated that they began work before the age of 17. Therefore, these first job experiences could be functioning as childhood developmental experiences which subsequently impacted later work experience perceptions.

Quinones scales - correlates with personality dimensions

Examination of the correlates of the Quinones et al. (1995) scales with the personality dimensions revealed some interesting relationships. First, neither the organizational amount scale, nor the organizational mobility scale, were related to any of the personality dimensions, which might suggest that personality type may not be connected to permanence within an organization or across organizations. The second interesting result of the correlations was that job/task amount was significantly and positively correlated with every personality dimension except neuroticism, which would suggest that the amount of work one accomplished was related to their level of extroversion, conscientiousness, openness to experience, and agreeableness. Conscientiousness was significantly related to the amount of jobs and tasks one did, the speed of the work, and the complexity of the work.

Quinones scales - correlates with other measures

Three of the Quinones et al. (1995) scales, job/task amount, job/task complexity, and time/task speed, correlated significantly with the Work Problems Survey, demonstrating that the Work Problem Survey tapped amount of work accomplished, the speed of accomplishment relative to others, and job complexity.

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The Wonderlic was significantly correlated with only Quinones et al.(1995) time/task speed scale, indicating that those higher in general mental ability worked faster relative to their co-workers than those lower in general mental ability.

Adapted published scales - correlates

Hackman and Oldham's job characteristics scales, Hackman and Lawler's intrinsic motivation scale, Lawler and Hall's intrinsic motivation scale, and Lodahl and Kejner's job involvement scale were all highly intercorrelated. The adapted published scales were correlated with each of the five work-related developmental scales (work satisfaction, training, initiative, first job, and supervisory experience). The spirituality scale was related significantly to the task significance and job involvement adapted published scales. Subjects endorsing higher levels of spirituality may need to perceive their job as significant to experience higher levels of job involvement.

Both the grade school and high school scales were significantly correlated with task significance and task identity, agent feedback, dealing with others, both of the intrinsic motivation scales, and the job involvement scale. Some aspects of positive school experiences may contribute to interpersonal skills, need for task knowledge, and internal motivation. Negative parental experiences had a significant negative correlate with dealing with others and intrinsic motivation but a significant positive correlate with job involvement. It may be that those who have had negative parental experiences, although not be as skilled in dealing with others may be more involved with their work by virtue of the poor home relationships.

Sports, volunteer work, and military scale - correlates

Young people are often told that their participation in sports and volunteer work is a beneficial proxy for work experience. However, the correlation matrix shows sports experience

to be most related to dealing with others, intrinsic motivation, and high school experiences.

Sports experience was not related to any other adapted published scale or any of the Quinones et al. (1995) scales. The advantageous effects of sports experience for future work performance is questionable.

The volunteer work scale was significantly related to Quinones et al. (1995) job/task complexity scale. Volunteer work was highly related to intrinsic motivation, dealing with others, job involvement, spirituality, and both school experience scales. While volunteer work may not have a direct effect on work experiences it appears to reveal an internal motivation and ability to deal with others. Internal motivation and positive school experience may be an origin of volunteer work but it appears that interpersonal skills, a valuable asset throughout ones job career, may be learned in the course of the volunteer work.

Military experience was most highly correlated with both of the feedback scales. Task identity, job/task complexity, work satisfaction, and training showed significant correlates with military experience. The significant correlates with autonomy and feedback may reveal coexisting, and possibly conflicting desires for feedback and a desire for autonomy in deciding how the job is to get done. Highly regimented military experience may contribute to both feedback seeking behavior and autonomy desires in the workplace.

Personality dimensions - correlates

Extroversion was significantly correlated with two Hackman and Oldham job characteristics scales (skill variety and task identity), three developmental scales (supervisory experience, initiative, and work satisfaction), and both school scales. Extroverts like to know what they are doing and they like variety while doing the work. It would appear from these correlations that one needs to be extroverted to have positive developmental experiences while in

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primary and secondary school. By extension, extroversion would then be related to other school correlates, the choice of involvement in volunteer activities, feedback, task knowledge, and job involvement. The extroverted child may demand more attention in the school setting and therefore, receive reinforcement to obtain feedback and to engage in volunteer activities. Surprisingly, sports was not significantly related to extroversion.

Conscientiousness was highly and positively correlated with 20 scales. Three of the Quinones et al. (1995), scales (job/task amount, time/task speed, job/task complexity), all of the adapted published scales, work satisfaction, training, both school scales, and the situational judgment measure were highly significant. Barrick & Mount (1991) and Tett, Jackson & Rothstein (1991) found that conscientiousness proved to be a pervasive predictor of job performance.

Other scales - correlates

The Work Problems Survey had significant correlations with most of the adapted published scales and the work-related developmental scales. It also correlated significantly with conscientiousness and agreeableness. It was not significantly correlated with extrinsic motivation, volunteer work, or military experience.

The Wonderlic exhibited a significant positive correlate with supervisory experiences and a significant negative correlate with neuroticism.

Criterion-related validity evidence - Quinones et al. (1995) scales

Criterion related validity evidence of the Quinones et al. (1995) scales revealed that the job/task amount scale had a validity coefficient of .34 which was identical to the validity coefficient of the time/task scale. None of the other Quinones et al. (1995) scales had significant validity coefficients. It would appear that an individual's job performance was enhanced if their

work experience included a higher number of similar, repetitious tasks, a higher number of aggregate tasks, or a higher number of jobs. Job performance was also enhanced for those employees who indicated that they could easily keep up with the work demands or could work faster than their co-workers. Our findings provided support for Quinones et al. (1995) conclusion that amount and task level measures had the strongest correlation with job performance.

Quinones et al. (1995) found that time and type measures had the weakest relationships with performance. In contrast, we found that time based task level measures were strong indicators of job performance.

Criterion-related validity - other scales

Of the adapted published scales, only Hackman and Oldham's job feedback scale showed a significant correlate ($r = .25$, $p < .01$) with job performance. The work-related developmental scales, work satisfaction and training were significant predictors ($r = .24$ and $.26$, $p < .01$) of job performance. Past research on the validity of conscientiousness, agreeableness, and IQ (as measured by the Wonderlic) as predictive of job performance was confirmed by this study.

Factor structure

The 29 scales of the background experience inventory were explained by five factors. Factor 1, which we labeled Job Complexity With Inherent Competency, was composed of scales which targeted job complexity, skill requirements for the job, and scales that reflected personal competency. Of the Quinones et al. (1995) scales, the job/task complexity scale and the job/task amount scale loaded on factor one. The inclusion of Hackman & Oldham's task significance scale in factor 1 may indicate that the belief one is doing an important job contributes to job involvement, training attitudes, initiative, and the amount of work one gets done. Job complexity and individual competency, commonly treated as distinct constructs, were united in this factor,

which may indicate that personal competency is inherently required to perform a complex job. It may be that job complexity, as identified in this study, was synonymous with job experience and individual competency, as measured in this study, may have served as a proxy for general intelligence. The validities of job experience (McDaniel, Hunter, & Schmidt, 1988a,b) and intelligence (Hunter & Hunter, 1984, Ree & Earles, 1993) as useful predictors of work performance have been well documented.

Schmidt, Hunter, Outerbridge, and Goff (1988) tested three theories of the relationship between experience and intelligence and found that the validity of general mental ability measures remained constant with experience. Additional work experience did increase the measured job performance of lower ability employees over time but only in parallel to the increased performance of higher ability employees. There was no interaction of ability and job experience. Factor 1 connected these critical elements of work experience from the 29 background experience inventory scales.

Factor two, which was labeled Relational Aspects of Work, linked knowledge of one's job performance and knowledge of the whole task with relationships with others in the work setting. The combination of feedback, whether from the job or from agents, task identity, dealing with others, work satisfaction, and first job experiences suggests that need for achievement may be intertwined with need for affiliation in the work realm rather than at opposite ends along a continuum. Hackman and Oldham's autonomy scale tapped individual control over the work and freedom in deciding how the work was done. This too, is a relational aspect of work, although in a negative direction. Work experience, as measured by the background experience inventory includes a relational dimension as well as tenure and narrow elements of the work itself. Social information processing theory (Salancik & Pfeffer, 1978) suggested that multiple social

influences impact an employee's attitude toward work. It could also be suggested that multiple relational experiences within the social context impact an employee's work experience.

The third factor found in the background experience inventory, labeled Developmental School Experiences, consisted of both grade school and high school experiences. School situations that were positive, giving an individual responsibility, trust, and achievement experiences were separated from other developmental life experiences.

Factor four, labeled Intrinsic Motivation, contained both of the adapted published intrinsic motivation scales.

Factor five, labeled Permanence, was composed of two Quinones et al. (1995) scales, organizational amount and organizational mobility. High scores on these scales indicated that one did not often leave an organization or seek a different position within the same company.

Factor correlates

Several interesting relationships were apparent in Table 5, the correlational matrix of the five factor scores of the background experience inventory, the personality dimensions, Work Problems Survey, Wonderlic, total years worked, and job performance scores.

A quick summary of the factors revealed that factor 1, Job Complexity with Inherent Competency (weighted) was significantly correlated with conscientiousness, the Work Problems Survey, total years of work experience, and job performance. Factor 2, Relational Aspects of Work (weighted) was significantly related to all the measures in this table except total years work experience. Factor 3, Developmental School Experiences (weighted) was related to conscientiousness, extroversion, and the Work Problem Survey. Factor 4, Intrinsic Motivation (weighted) was related to conscientiousness, neuroticism, and the Work Problems Survey. Factor 5, Permanence (weighted) was not significantly related to any measure in this table.

Conscientiousness, although not related to openness to experience, or the Wonderlic had a predominant relationship with every factor and measure in this table, with one exception, factor five, permanence, and was more highly related to job performance than any other measure or factor. Therefore, it seems reasonable to suggest that conscientiousness may have a primary role in the construct of work experience.

Neuroticism, which was negatively and significantly correlated with almost every scale and factor in this study, achieved a positive significant correlation with factor 4, intrinsic motivation. Possibly, those who experience higher levels of anxiety and frustration may also be internally driven to perform on their jobs. It may be that the internal drive a person has contributes to their level of neuroticism or that the stable personality trait of neuroticism contributes to intrinsic motivation. The converse of neuroticism, adjustment, which is the amount of emotional stability one possess, may be a better operationalization of neuroticism (Hough 1992) when used in work related research.

Examination of the correlates of the Developmental School Experiences factor (factor 3) provides some insight into the personality characteristics which might be more typical of individuals who are impacted by positive school events. These individuals appear to primarily be internally motivated, conscientious, agreeable, and extroverted. The school setting, although structured and educational, is social in nature. Some children can survive and thrive in that type of atmosphere but some, possibly those who are introverted and shy, may not attach positive experiences to their school years. The shy, introverted children may not lack in conscientiousness, agreeableness, or internal drive. They may achieve equal or greater academic success but their enjoyment and memory of the school experience may be dissimilar to that of their extroverted peers. The significant correlation with intrinsic motivation suggests that even at

an early developmental stage of one's life, internal drive may have a directive influence on a child's experiences.

The Work Problem Survey, a low fidelity paper and pencil situational judgment test, was significantly related to factors 1 through 4, and all the personality dimensions. Not only did the Work Problem Survey significantly tap into factor one, Job Complexity With Inherent Competency, it was also highly associated with the Relational Aspects of Work. It may be that the responses chosen by the subjects to the difficult work situations on the Work Problems Survey expose job-related qualities, relational strategies, and personality characteristics. Situational judgment tests, in comparison to personality inventories, are more face valid tests for selection and may not be as subject to socially desirable responses. The criticisms of personality inventories have been addressed by Hogan, Hogan, and Roberts (1996) and Hough, Eaton, Dunnette, Kamp, and McCloy (1990). Although our study did not find the situational judgment measure to significantly predict the job performance of respondents, other studies have verified the validity of situational judgment tests as useful predictors of performance (Motowidlo, Dunnette, & Carter, 1990; McDaniel et al., 1997; Smith & McDaniel, 1998).

Tenure, which has been the most frequently used measure of work experience, was assessed by the demographic question asking the respondent to indicate their total amount of work experience. In contrast to prior research (McDaniel et al., 1988a) total work experience had virtually no relationship to job performance ($r = .01$) in this study. However, total work experience was significantly related to factor 1, job complexity with inherent competency ($r = .18$), conscientiousness ($r = .14$), and negatively with neuroticism ($r = -.12$). The significant relationships reported above support our suggestion that job complexity in factor 1 may be synonymous with work experience.

Five of the scales contained within factor 1 and factor 2 were developmental scales, training, initiative, supervisory experience, work satisfaction, and first job. Factors 1 and 2 were significantly correlated with job performance, therefore, these developmental scales bear some of the relationship to job performance. It is important to note that these five developmental scales were more work-related than other developmental scales, such as the school experiences scales.

Another area often addressed in work experience research has been the role of general mental ability in the prediction job performance. This study addressed the relationship of intelligence to background experience inventory scales and other measures as well as correlates of intelligence with job performance. The Wonderlic IQ Test was significantly correlated with the openness to experience personality dimension, often labeled as intellectance because some of the questions tap an intelligence factor. The Wonderlic was significantly correlated with job performance which was to be expected. Most interestingly, the Wonderlic was significantly correlated with factor 2, relational aspects of work, but not related to factor 1, job complexity and inherent competence. It seemed reasonable to assume that intelligence would be related to job complexity and competency but that was not the case in this study. It might be interesting in a future study to explore the linkage between relational aspects of work and intelligence.

The construct of work experience, as Quinones et al. (1995) stated is indeed complex and multidimensional. In attempting to standardize and explain work experience we dissected the construct into a multitude of minuscule component elements yet still found ambiguous relationships which frustrated the attempt to establish a clear definition of work experience. An indication of this was the collapse of several of the Quinones et al. (1995) categories and the further reduction by the factor structure of the original nine measures for Quinones categorization of work experience to a maximum of four, a job complexity dimension, relational dimension,

permanence dimension, and organizational type dimension. In support of Quinones et al. (1995), we found that most of the developmental experience scales which were constructed from critical incidents bore no relationship to job performance, even though the subjects when completing the critical incident forms were instructed to relate situations which they felt impacted the formation of their work philosophy and work performance. It may be that the situations that subjects believed to be important may not have had the effect on their work performance that they perceived, or that developmental experiences did not supercede the impact of work-related experiences but were subsumed by work-related experiences.

This study is limited in that it is but one way to operationalize Quinones et al. (1995) conception of work experience. Perhaps different questions or scales might reveal stronger relationships not apparent through the questions used in the background experience inventory.

Earlier research (McDaniel, Schmidt & Hunter, 1988; Schmidt, Hunter, & Outerbridge, 1988) found that work experience constructs associated with length and amount of job experience were valid predictors of job performance, that intelligence was a valid predictor of job performance (Ree and Earles, 1993; Hunter & Hunter, 1984), and that, of the big five personality dimensions, conscientiousness was the best predictor of job performance (Barrick & Mount, 1991). We found the construct of work experience to be multidimensional rather than unidimensional, with developmental and relational elements in addition to work-related elements. Therefore, we agree with Quinones et al.(1995) that experience is, indeed, a multi-faceted construct worthy of further study.

References

Barrick, M. R., & Mount, M. K. (1991). The big-five personality dimensions and job performance: A review. Personnel Psychology, *44*, 1-26.

Carlisle Smith, K., & McDaniel, M. A. (1998). Criterion and construct validity evidence for a situational judgment measure. Paper presented at the Society for Industrial and Organizational Psychology, 13th Annual Conference, Dallas, Texas.

Cook, J. D., Hepworth, S. J., Wall, T. D., Warr, P. B. (Eds.). (1981). The experience of work: A compendium and review of 249 measures and their use. London: Academic Press.

Costa, P. T., & McCrae, R. R. (1992). NEO PI-R Professional Manual. Odessa, Florida: Psychological Assessment Resources, Inc.

Flanagan, J. C. (1954). The critical incident technique. Psychological Bulletin, *51*, 327-358.

Hogan, R., Hogan, J., & Roberts, B. W. (1996). Personality measurement and employment decisions. American Psychologist, *51*, 469-477.

Hough, L. M. (1992). The "big five" personality variables-construct confusion: Description versus prediction. Human Performance, *5*, 139-155..

Hough, L. M., Eaton, N. K., Dunnette, M. D., Kamp, J. D., & McCloy, R. A. (1990). Criterion-related validities of personality constructs and the effects of response distortion on those validities. Journal of Applied Psychology, *75*, 581-595.

Hough, L. & Paullin, C. (1994). Construct-oriented scale construction: The rational approach. In G. S. Stokes, M. D. Mumford, W. A. Owens (Eds.), Biodata handbook: Theory, research and use of biographical information in selection and performance prediction (pp. 109-145). Palo Alto, CA: CPPBooks.

Hunter, J. E., & Hunter, R. F. (1984). The validity and utility of alternative predictors of job performance. Psychological Bulletin, *96*, 72-98.

Levine, E. L., & Flory, A. III. (1975). Evaluation of job applicants: A conceptual framework. Public Personnel Management, *4*, 378-385.

McClelland, D. C. (1976). A guide to job competency assessment. Boston:McBer.

McCrae, R. R., & Costa, P. T. (1985). Validation of the five-factor model of personality across instruments and observers. Journal of Personality and Social Psychology, *1*, 81-90.

McDaniel, M. A., Finnegan, E. B., Morgeson, F. P., Campion, M. A., & Braverman, E. P. (1997). Predicting job performance from common sense. Paper presented at the Society for Industrial and Organizational Psychology, 12th Annual Conference, St. Louis, Missouri.

McDaniel, M. A., Schmidt, F. L., & Hunter, J. E. (1988a). A meta-analysis of methods for rating training and experience in personnel selection. Personnel Psychology, *41*, 283-314.

McDaniel, M. A., Schmidt, F. L., & Hunter, J. E. (1988b). Job experience correlates of job performance. Journal of Applied Psychology, *73*, 327-330.

Motowidlo, S. J., Dunnette, M. D., & Carter, G. W. (1990). An alternative selection procedure: The low-fidelity simulation. Journal of Applied Psychology, *75*, 640-647.

Mumford, M. D., & Owens, W. A., (1987). Methodology Review: Principles, procedures, and findings in the application of background data measures. Applied Psychological Measurement, *11*, 1-31.

Mumford, M. D., Snell, A. F., & Reiter-Palmon, R. (1994). Personality and background data: Life history and self-concepts in an ecological system. In G. S. Stokes, Mumford, & W. A. Owens (Eds) Biodata Handbook: Theory, research, and use of biographical information in selection and performance prediction. Palo Alto, CA: CPP Books.

Owens, W. A., & Schoenfeldt, L. F. (1979). Toward a classification of persons. Journal of Applied Psychology Monograph, 65, 569-607.

Quinones, M. A., Adams, A., Longoria, R., Thomas, L., & Torres, S. (1997). Perceptions of the Dimensionality of Applicants' Work Experience. Paper presented at the Society for Industrial and Organizational Psychology, 12th Annual Conference, St. Louis, Missouri.

Quinones, M. A., Ford, J. K., & Teachout, M.S. (1995). The relationship between work experience and job performance: A conceptual and meta-analytic review. Personnel Psychology, 48, 887-910.

Ree, M. J., & Earles, J. A. (1993). Intelligence is the best predictor of job performance. Current Directions in Psychological Science, 1, 86-89.

Russell, C. J., Mattson, J., Devlin, S. E., & Atwater, D. (1990). Predictive validity of biodata items generated from retrospective life experience essays. Journal of Applied Psychology, 75, 569-580.

Salancik, G. R. & Pfeffer, J. (1978). A social information procession approach to job attitudes and task design. Administrative Science Quarterly, 23, 224-253.

Schmidt, F. L., Hunter, J. E., Outerbridge, A. N. (1986). The impact of job experience and ability on job knowledge, work sample performance, and supervisory ratings of job performance. Journal of Applied Psychology, 71, 432-439.

Schmidt, F. L., Hunter, J. E., Outerbridge, A. N., Goff, S. (1988). Joint relationship of experience and ability with job performance: Test of three hypotheses. Journal of Applied Psychology, 73, 46-57.

Stone, E. F. & Gueutal, H. G. (1985). An empirical derivation of the dimensions along which characteristics of jobs are perceived. Academy of Management Journal, 28, 376-398.

Tett, R. P., Jackson, D. N., & Rothstein M. (1991). Personality measures as predictors of job performance: a meta-analytic review. Personnel Psychology, 44, 703-742.

U. S. Department of Labor (1977). Dictionary of Occupational Titles (Fourth Edition). Employment and Training Administration, U. S. Employment Service. Washington, DC.

Wonderlic Personnel Test & Scholastic Level Exam, Users Manual (1992). Libertyville, IL: Wonderlic Personnel Test, Inc.

Appendix A

A: Scales developed from critical incidents with representative questions.

SCALE	REPRESENTATIVE QUESTION
Work Satisfaction	Most of the time I had to force myself to go to go to work.
Training	Any training the company offered was beneficial.
Spirituality	I felt I owed it to God to do the best I could on any job.
Extrinsic Motivation	I needed money so I went to work.
Grade School Experiences	A grade school teacher gave me responsibility.
High School Experiences	When I was in high school, I learned that achievement and accomplishment felt good.
Initiative	I welcomed the opportunity to try any new job my supervisor gave me.
First Job Experiences	My first job was a positive experience.
Parent/Guardian Experiences	My family was poor when I was young. (reverse scored)
Supervisory Experiences	I have supervised from 1 to 5 people.
Sports Experiences	Sports taught me dedication and responsibility.
Military Experiences	The military gave me good opportunities for work experiences.
Volunteer Work Experiences	Volunteering taught me to work hard.

Appendix B

B1: Quinones et al. (1995) categorization in top portion of cell and scale title below

ORG	number of organizations _____ organizational amount mobility scale	org. tenure/seniority _____ organizational amount scale	type of organization _____ nine demographic questions
JOB	number job or aggregate # of tasks _____ merged with task by amount into the job/task amount scale	job tenure/seniority _____ demo. question, The most time I have spent on one job was ?	job complexity _____ merged with task by type into job/task complexity scale
TASK	# times performing a task _____ merged with job/task	time on task _____ time/task speed scale	task difficulty _____ merged with job/type
	AMOUNT	TIME	TYPE

B2: Quinones et. al. (1995) scale title and representative question

Scales created to tap Quinones et al. (1995) cells	Representative question
Job/Task Amount	My work included many different types of tasks.
Organizational/Amount Mobility	I have not changed jobs often.
Task/Time Speed	I usually completed my work before my co-workers.
Job/Task Complexity	I felt that my past job skills were challenged on a difficult job.
Organizational Amount	It was important to me to stay with the same company.
Job/Amount Stability	I stayed on the same job within the company for a long time.
Organization by Type Demographic Question	My work experience has been primarily in the clerical field. True or False
Job Level, Time Measure Demographic Question	The most time I have spent on any one job is _____?

Appendix C

Hackman and Oldham's adapted job characteristic questions.

1. *Skill variety-* My past jobs required a great variety of skills and talents.
2. High level skills were required in my past jobs.
3. My jobs have been simple and repetitive. (Reverse score = R)
4. *Task identity-* My past jobs enabled me to see the end product of my work
5. In my past jobs I did not see the finished product of my work. (R)
6. I was able to finish what I started on the job.
7. *Task significance-* The results of my work had a significant effect on other people.
8. A lot of people were affected by the good quality of my work.
9. My past jobs were not significant or important in the broad scheme of things. (R)
10. *Autonomy-* My jobs gave me control over how I did my work.
11. I was unable to use any personal initiative or judgment on my jobs. (R)
12. My jobs gave me freedom in how I did the work.
13. *Job feedback-* My past jobs were set up so I could tell how I was doing.
14. My work gave me the opportunity to figure out how I was doing.
15. I could not tell how I was doing on the job. (R)
16. *Agent feedback-* My supervisors gave me constant feedback on my performance.
17. My supervisors never gave me feedback on my work. (R)
18. My supervisors let me know how well I was doing.
19. *Dealing with* I had to work closely with people in my past jobs.
20. *others-* My jobs required much cooperation between co-workers.
21. My jobs did not need the cooperation of other workers. (R)

Hackman and Lawler's adapted intrinsic motivation questions.

1. I felt a great sense of personal satisfaction when I did a good job.
2. I felt badly when my performance was poor on the job.
3. When I performed well my-self esteem increased.

Lawler and Hall's adapted intrinsic motivation questions.

1. I experienced a feeling of accomplishment when I did a good job.
2. When I made mistakes on the job my self-esteem decreased.
3. When I performed well it contributed to my growth and personal development.
4. If I did a good job I felt a great sense of personal satisfaction.

Lodahl and Kejner's adapted short job involvement scale.

1. My jobs have defined who I am.
2. My jobs have been the major source of satisfaction in my life.
3. The most important things that have happened to me happened at work.
4. I was a perfectionist about my work.
5. Other activities were more important to me than work.
6. I was usually personally involved in my work.

Table 1
Number of questions per scale and scale alphas

QUINONES SCALES	# of Questions	Alpha
Job/Task Amount Scale	4	.73
Time/Task Speed Scale	5	.80
Job/Task Complexity	6	.76
Organizational Amount Mobility Scale	4	.73
Organizational Amount	5	.80
ADAPTED PUBLISHED SCALES		
Hackman & Oldham's Skill Variety	3	.73
Hackman & Oldham's Task Significance	3	.65
Hackman & Oldham's Feedback From the Job	3	.61
Hackman & Oldham's Feedback From Agents	3	.68
Hackman & Oldham's Autonomy	3	.48
Hackman & Oldham's Task Identity	3	.60
Hackman & Oldham's Dealing with Others	3	.62
Lawler & Hall's Intrinsic Motivation	4	.57
Hackman & Lawler's Intrinsic Motivation	3	.64
Lodahl & Kejner's Job Involvement	6	.70
DEVELOPMENTAL SCALES		
Training	6	.83
Supervisory Experience	7	.86
Initiative	2	.57
Work Satisfaction	5	.72
High School	3	.71
Grade School	3	.75
Spirituality	6	.88
Extrinsic Motivation	3	.58
First Job Experiences	4	.78
Parent/Guardian Experiences	6	.56
Sports	4	.66
Military Experience	6	.69
Volunteer Work	5	.78

Table 2
Correlation Matrix of all scales and measures

	1	2	3	4	5	6	7	8	9
1 Q job/task amount	----	----	----	----	----	----	----	----	----
2 Q org'l amount mobility	.11	----	----	----	----	----	----	----	----
3 Q time/task speed	.26**	.24**	----	----	----	----	----	----	----
4 Q job/task complexity	.40**	.24**	.08	----	----	----	----	----	----
5 Q organizational amount	.19	.51**	.20*	.40**	----	----	----	----	----
6 Food service	.05	.08	-.03	.14*	.02	----	----	----	----
7 Other types of service	-.07	-.08	-.02	-.05	-.02	-.21**	----	----	----
8 Clerical	-.07	-.04	.01	-.04	.05	-.18**	-.01	----	----
9 Factory	.00	.14*	.04	-.12	.04	-.04	.09	-.08	-.02
10 Research	-.07	-.06	.11	-.13*	-.10	-.05	.02	.03	-.04
11 Retail	-.16**	-.09	-.13	*-.02	-.09	-.03	.17**	.09	.07
12 Management	-.10	-.04	-.06	-.21**	-.18**	.04	.02	-.12*	-.03
13 Medical field	-.12	-.11	.05	-.05	-.04	-.07	.07	-.03*	-.03
14 Educational field	.07	.11	.07	.05	.17**	-.16**	.06	.09	-.01
15 Most time in one job	.23**	.24**	.12	.23**	.35**	.11	-.05	-.01	.02
16 H & O Skill variety	.38**	.14*	-.02	.60**	.28**	.22**	-.11	-.17**	.00
17 H & O Task identity	-.40**	.24**	.25**	.28**	-.13*	.04	-.12	-.06**	-.01
18 H & O Task significance	.35**	.154**	.23**	.50**	.13*	.14*	-.11	-.10	-.08
19 H & O Autonomy	.26**	.18**	.21**	.38**	.21**	.12*	-.05	-.09	-.06
20 H & O Job feedback	.28**	.28**	.27**	.33**	.24**	.05	-.04	-.07	-.03
21 H & O Agent feedback	.17**	.28**	.30**	.28**	.19**	.07	-.05	-.03	-.08
22 H & O Dealing with others	.33**	.25**	.30**	.33**	.19**	-.09	-.06	-.04	.00
23 H & L intrinsic motivation	.29*	.15*	.30**	.27**	.13**	.07	-.15*	-.04	-.06
24 L & H intrinsic motivation	.31**	.17**	.28**	.35**	.24**	.08	-.20**	-.04	-.12
25 L & K Job involvement	.21**	.19**	.05	.49**	.34**	-.02	.02	.01	-.08
26 Work satisfaction	.29**	.29**	.27**	.31**	.29**	.01*	.01	-.06	-.02
27 Training	.29**	.07	.06	.42**	.21**	.19	-.02	-.10	-.02
28 Spirituality	-.00	.04	-.06	.08	.06	.05	.07	.00	-.14*
29 Extrinsic motivation	.14*	.07	.11	.03	.07	-.10	-.16**	-.03	-.04
30 Grade school	-.16**	-.11	-.19**	-.11	-.01	.01	-.11	-.12	-.01
31 High school	.12*	.14*	.12*	.10	.01	.07	-.09	-.15*	.07
32 Initiative	.31**	.09	.29**	.27**	.25**	-.08	-.10	-.09	.02
33 First job experiences	.24**	.21**	.16**	.26**	.18**	.14*	.01	-.02	-.04
34 Parent/guardian scale	-.08	-.04	-.07	.10	.06	-.15*	.04	.03	.00
35 Supervisory experience	.36**	.11	.22**	.34**	.27**	.03	-.14*	.12*	-.04
36 Sports experience	-.03	.12	.08	.13	-.01	.01	-.07	.02	.15*
37 Volunteer work	.15	.11	.08	.23**	.08	-.05	-.02	-.09	.12
38 Military	.17	.38*	.37*	.48**	.20	.02	-.04	.01	-.41
39 Neuroticism	-.09	-.13	-.07	.06	-.07	-.08	.06	.03	.00
40 Extroversion	.14*	.01	.06	.17**	-.00	-.15*	.04	-.01	.04
41 Openness	.22**	-.04	.17**	-.02	.00	.02	-.18**	-.02	.10
42 Agreeableness	.12*	.01	.04	.05	-.07	.07	.09	-.02	.04
43 Conscientiousness	.25**	.06	.21**	.18**	.10	.12	.05	.01	.01
44 Work Problem Survey	.21**	.05	.14*	.21**	-.01	.00	.01	-.06	-.04
45 Wonderlic	.10	-.03	.23**	-.06	-.06	.06	-.12*	.02	.08

* = $p < .05$ ** = $p < .01$

Table 2 continued
Correlation Matrix of all scales and measures

	10	11	12	13	14	15	16	17	18
1 Q job/task amount	----	----	----	----	----	----	----	----	----
2 Q org'l amount mobility	----	----	----	----	----	----	----	----	----
3 Q time/task speed	----	----	----	----	----	----	----	----	----
4 Q job/task complexity	----	----	----	----	----	----	----	----	----
5 Q organizational amount	----	----	----	----	----	----	----	----	----
6 Food service	----	----	----	----	----	----	----	----	----
7 Other types of service	----	----	----	----	----	----	----	----	----
8 Clerical	----	----	----	----	----	----	----	----	----
9 Factory	----	----	----	----	----	----	----	----	----
10 Research	----	----	----	----	----	----	----	----	----
11 Retail	-.02	----	----	----	----	----	----	----	----
12 Management	.21**	.13*	----	----	----	----	----	----	----
13 Medical field	.15*	-.04	.09	----	----	----	----	----	----
14 Educational field	.08	-.13	-.01	-.02	----	----	----	----	----
15 Most time in one job	.10	.01	-.07	.01	.21**	----	----	----	----
16 H & O Skill variety	-.16*	-.02	-.20**	-.09	.06	.21**	----	----	----
17 H & O Task identity	-.05	-.03	-.07	-.04	.04	.06	.21**	----	----
18 H & O Task significance	-.08	.12	-.05	-.09	.08	.05	.50**	.35**	----
19 H & O Autonomy	-.07	.06	-.11	-.10	.13*	.08	.36**	.39**	.36**
20 H & O Job feedback	-.06	-.08	-.05	-.05	.06	.13*	.30**	.45**	.39**
21 H & O Agent feedback	-.08	-.02	-.02	.03	.12	.06	.17*	.35**	.38**
22 H & O Dealing with others	.04	.02	-.02	-.15*	.10	.12	.29**	.36**	.46**
23 H & L intrinsic motivation	.04	-.17**	-.01	-.09	.13*	.10	.15**	.34**	.28**
24 L & H intrinsic motivation	.11	-.10	-.08	-.04	.08	.13*	.27**	.24**	.33**
25 L & K Job involvement	-.12	-.04	-.16**	-.04	-.04	.08	.38**	.17**	.41**
26 Work satisfaction	-.03	-.05	-.10	-.07	.06	.24**	.25**	.34**	.21**
27 Training	-.14*	.03	-.11	-.11	-.05	.27**	.39**	.19**	.36**
28 Spirituality	-.03	.02	-.07	-.02	-.02	-.08	-.04	.10	.12*
29 Extrinsic motivation	.02	-.09	.00	.01	.01	.17**	-.02	.11	-.02
30 Grade school	.08	.11	-.03	-.08	.02	.00	-.10	.31	.24
31 High school	-.05	-.07	-.06	.01	-.07	-.07	.09	.25**	.13
32 Initiative	-.01	-.23**	-.09	.03	.07	.08	.26**	.18**	.25**
33 First job experiences	-.04	.06	-.06	-.08	.02	.08	.20	.24**	.24**
34 Parent/guardian scale	.03	-.04	-.11	.00	.04	-.02	.05	-.09	-.07
35 Supervisory experience	-.11	-.03	-.39**	-.05	-.03	.27**	.36**	.25**	.25**
36 Sports experience	.11	.09	.08	.01	-.07	.05	.12	.12**	.12
37 Volunteer work	-.01	-.13	.01	-.10	.02	-.08	.12	.25**	.11
38 Military	-.09	-.01	-.32	-.06	-.20	.06	.36	.54**	.34
39 Neuroticism	.01	.04	.11	-.08	.05	-.15*	-.18**	-.14*	-.07
40 Extroversion	.01	-.11	-.09	.15*	.07	.02	.13*	.15*	.05
41 Openness	-.12*	-.15*	-.01	.00	-.08	.07	.08	.10	-.01
42 Agreeableness	.01	.08	.03	.06	-.05	.01	.10	.10	.16**
43 Conscientiousness	-.02	-.08	-.07	.02	-.08	.08	.23**	.20**	.24**
44 Work Problem Survey	-.10	-.11	-.07	.01	-.13	.03	.21**	.15	.16*
45 Wonderlic	.09	.01	.03	.09	.04	.08	.04	.08	.02

* = $p < .05$

** = $p < .01$

Table 2 continued
Correlation Matrix of all scales and measures

	19	20	21	22	23	24	25	26	27
1 Q job/task amount	----	----	----	----	----	----	----	----	----
2 Q org'l amount mobility	----	----	----	----	----	----	----	----	----
3 Q time/task speed	----	----	----	----	----	----	----	----	----
4 Q job/task complexity	----	----	----	----	----	----	----	----	----
5 Q organizational amount	----	----	----	----	----	----	----	----	----
6 Food service	----	----	----	----	----	----	----	----	----
7 Other types of service	----	----	----	----	----	----	----	----	----
8 Clerical	----	----	----	----	----	----	----	----	----
9 Factory	----	----	----	----	----	----	----	----	----
10 Research	----	----	----	----	----	----	----	----	----
11 Retail	----	----	----	----	----	----	----	----	----
12 Management	----	----	----	----	----	----	----	----	----
13 Medical field	----	----	----	----	----	----	----	----	----
14 Educational field	----	----	----	----	----	----	----	----	----
15 Most time in one job	----	----	----	----	----	----	----	----	----
16 H & O Skill variety	----	----	----	----	----	----	----	----	----
17 H & O Task identity	----	----	----	----	----	----	----	----	----
18 H & O Task significance	----	----	----	----	----	----	----	----	----
19 H & O Autonomy	----	----	----	----	----	----	----	----	----
20 H & O Job feedback	.43**	----	----	----	----	----	----	----	----
21 H & O Agent feedback	.34**	.51**	----	----	----	----	----	----	----
22 H & O Dealing with others	.36**	.42**	.32**	----	----	----	----	----	----
23 H & L intrinsic motivation	.20**	.33**	.19**	.36**	----	----	----	----	----
24 L & H intrinsic motivation	.28**	.33**	.18**	.39**	.66**	----	----	----	----
25 L & K Job involvement	.27**	.26**	.25**	.26**	.22**	.34**	----	----	----
26 Work satisfaction	.33**	.38**	.32**	.21**	.19**	.23**	.28**	----	----
27 Training	.17**	.22**	.14*	.19**	.37**	.35**	.30**	.35**	----
28 Spirituality	.02	.05	.11	.00	.08	.10	.17**	-.11	.07
29 Extrinsic motivation	.05	.14**	.03	.10	.09	.17**	-.02	.04	-.02
30 Grade school	.14*	.23*	.22**	.26**	.29**	.27**	.13*	.07	.15*
31 High school	.11	.16	.19**	.27**	.32**	.18**	.07	.13*	.19**
32 Initiative	.19**	.20**	.18**	.27**	.20**	.30**	.24**	.30**	.22**
33 First job experiences	.32**	.32**	.28**	.26**	.23**	.21**	.26**	.32	.25**
34 Parent/guardian scale	-.06	-.05	-.03	-.15*	-.13*	-.06	.16**	-.06	-.40
35 Supervisory experience	.28	.26**	.18**	.26*	.20*	.28**	.26**	.34**	.30**
36 Sports experience	.10	.10	.00	.33**	.20**	.26**	.10	.08	.07
37 Volunteer work	.25**	.13	.09	.21**	.38**	.35**	.20*	.14	.26**
38 Military	.31**	.60**	.63**	.24	.51**	.27**	.22	.48**	.46*
39 Neuroticism	-.08	-.08	-.02	-.01	.17**	.17**	.02	-.24**	-.01
40 Extroversion	-.03	.12*	.05	.11	.10	.07	.08	.15*	.06
41 Openness	.10	.15*	.09	.15*	.07	.01	-.15*	.04	-.02
42 Agreeableness	.10**	.09	.11	.10	.04	.02	.01	.16	.17**
43 Conscientiousness	.17**	.20**	.12*	.16**	.18**	.15**	.22**	.27**	.25**
44 Work Problem Survey	.20**	.21**	.14	.22**	.25**	.20**	.20**	.32**	.16*
45 Wonderlic	.05	.08	.09	.09	.08	-.02	-.13*	.10	.02

* = $p < .05$ ** = $p < .01$

Table 2 continued
Correlation Matrix of all scales and measures

	28	29	30	31	32	33	34	35	36
1 Q job/task amount	----	----	----	----	----	----	----	----	----
2 Q org'l amount mobility	----	----	----	----	----	----	----	----	----
3 Q time/task speed	----	----	----	----	----	----	----	----	----
4 Q job/task complexity	----	----	----	----	----	----	----	----	----
5 Q organizational amount	----	----	----	----	----	----	----	----	----
6 Food service	----	----	----	----	----	----	----	----	----
7 Other types of service	----	----	----	----	----	----	----	----	----
8 Clerical	----	----	----	----	----	----	----	----	----
9 Factory	----	----	----	----	----	----	----	----	----
10 Research	----	----	----	----	----	----	----	----	----
11 Retail	----	----	----	----	----	----	----	----	----
12 Management	----	----	----	----	----	----	----	----	----
13 Medical field	----	----	----	----	----	----	----	----	----
14 Educational field	----	----	----	----	----	----	----	----	----
15 Most time in one job	----	----	----	----	----	----	----	----	----
16 H & O Skill variety	----	----	----	----	----	----	----	----	----
17 H & O Task identity	----	----	----	----	----	----	----	----	----
18 H & O Task significance	----	----	----	----	----	----	----	----	----
19 H & O Autonomy	----	----	----	----	----	----	----	----	----
20 H & O Job feedback	----	----	----	----	----	----	----	----	----
21 H & O Agent feedback	----	----	----	----	----	----	----	----	----
22 H & O Dealing with others	----	----	----	----	----	----	----	----	----
23 H & L intrinsic motivation	----	----	----	----	----	----	----	----	----
24 L & H intrinsic motivation	----	----	----	----	----	----	----	----	----
25 L & K Job involvement	----	----	----	----	----	----	----	----	----
26 Work satisfaction	----	----	----	----	----	----	----	----	----
27 Training	----	----	----	----	----	----	----	----	----
28 Spirituality	----	----	----	----	----	----	----	----	----
29 Extrinsic motivation	-.03	----	----	----	----	----	----	----	----
30 Grade school	.24*	-.08	----	----	----	----	----	----	----
31 High school	.12*	.08	.57**	----	----	----	----	----	----
32 Initiative	-.04	.10	-.25**	.25**	----	----	----	----	----
33 First job experiences	-.02	.04	.16	.22**	.21**	----	----	----	----
34 Parent/guardian scale	.00	.08	.10	-.13*	.00	.22*	----	----	----
35 Supervisory experience	-.05	.14*	-.12	.06	.29**	.18*	.08	----	----
36 Sports experience	-.02	.02	-.09	.30**	.07	.26**	-.15*	.06	----
37 Volunteer work	.27**	.08	-.30**	.41**	.29**	-.17*	.12	.10	.40**
38 Military	-.24	.23	.05	.25	.01	.17	.08	.35	-.10
39 Neuroticism	.08	.04	-.02	.00	-.11	-.03	.03	-.10	.06
40 Extroversion	-.03	-.10	-.15 *	.20**	.18**	-.06	-.09	.13	.12
41 Openness	-.22**	.05	-.14	.00	.16**	.02	-.02	.19**	-.04
42 Agreeableness	.14*	-.17**	-.11	.13**	.02	.18**	-.24	-.10	.02
43 Conscientiousness	.03	-.06	-.26	.19**	.22**	.22**	-.10	.10	-.05
44 Work Problem Survey	-.02	.04	-.14	.20**	.14*	.20*	-.02	.23	.22
45 Wonderlic	-.15	.06	-.03	-.01	-.03	.05	-.14*	.12	-.04

* = $p < .05$

** = $p < .01$

Table 2 continued
Correlation Matrix of all scales and measures

	37	38	39	40	41	42	43	44	45
1 Q job/task amount	----	----	----	----	----	----	----	----	----
2 Q org'l amount mobility	----	----	----	----	----	----	----	----	----
3 Q time/task speed	----	----	----	----	----	----	----	----	----
4 Q job/task complexity	----	----	----	----	----	----	----	----	----
5 Q organizational amount	----	----	----	----	----	----	----	----	----
6 Food service	----	----	----	----	----	----	----	----	----
7 Other types of service	----	----	----	----	----	----	----	----	----
8 Clerical	----	----	----	----	----	----	----	----	----
9 Factory	----	----	----	----	----	----	----	----	----
10 Research	----	----	----	----	----	----	----	----	----
11 Retail	----	----	----	----	----	----	----	----	----
12 Management	----	----	----	----	----	----	----	----	----
13 Medical field	----	----	----	----	----	----	----	----	----
14 Educational field	----	----	----	----	----	----	----	----	----
15 Most time in one job	----	----	----	----	----	----	----	----	----
16 H & O Skill variety	----	----	----	----	----	----	----	----	----
17 H & O Task identity	----	----	----	----	----	----	----	----	----
18 H & O Task significance	----	----	----	----	----	----	----	----	----
19 H & O Autonomy	----	----	----	----	----	----	----	----	----
20 H & O Job feedback	----	----	----	----	----	----	----	----	----
21 H & O Agent feedback	----	----	----	----	----	----	----	----	----
22 H & O Dealing with others	----	----	----	----	----	----	----	----	----
23 H & L intrinsic motivation	----	----	----	----	----	----	----	----	----
24 L & H intrinsic motivation	----	----	----	----	----	----	----	----	----
25 L & K Job involvement	----	----	----	----	----	----	----	----	----
26 Work satisfaction	----	----	----	----	----	----	----	----	----
27 Training	----	----	----	----	----	----	----	----	----
28 Spirituality	----	----	----	----	----	----	----	----	----
29 Extrinsic motivation	----	----	----	----	----	----	----	----	----
30 Grade school	----	----	----	----	----	----	----	----	----
31 High school	----	----	----	----	----	----	----	----	----
32 Initiative	----	----	----	----	----	----	----	----	----
33 First job experiences	----	----	----	----	----	----	----	----	----
34 Parent/guardian scale	----	----	----	----	----	----	----	----	----
35 Supervisory experience	----	----	----	----	----	----	----	----	----
36 Sports experience	----	----	----	----	----	----	----	----	----
37 Volunteer work	----	----	----	----	----	----	----	----	----
38 Military	.17	----	----	----	----	----	----	----	----
39 Neuroticism	.07	-.11	----	----	----	----	----	----	----
40 Extroversion	.23*	.21	-.33**	----	----	----	----	----	----
41 Openness	-.10	.01	-.12 *	.12	----	----	----	----	----
42 Agreeableness	-.19	*-.13	-.25	.27	.09	----	----	----	----
43 Conscientiousness	.15	.09	-.33	.17	-.01	.30**	----	----	----
44 Work Problem Survey	.14	.38	-.18	.31	.22	.27	.25**	----	----
45 Wonderlic	-.07	.26	-.14	.05	.25	.10	.06	.11	----

* = $p < .05$ ** = $p < .01$

Table 3
Job Performance Criterion Related Validity (N = 87)

Scale	<i>r</i>
Quinones job/task amount	.34**
Quinones organizational mobility	.08
Quinones time/task	.34**
Quinones job/task complexity	.12
Quinones organizational amount	.12
Food service	.09
Other types of service	.08
Clerical	-.07
Factory	-.07
Research	-.20
Retail	-.09
Management	.01
Medical field	.16
Educational field	.00
Most time in one job	.28**
Hackman & Oldham's skill variety	.06
Hackman & Oldham's task identity	.13
Hackman & Oldham's task significance	.12
Hackman & Oldham's autonomy	-.07
Hackman & Oldham's job feedback	.25**
Hackman & Oldham's agent feedback	.11
Hackman & Oldham's dealing with others	.03
Hackman & Lawler's intrinsic motivation	-.04
Lawler & Hall's intrinsic motivation	.02
Lodahl & Kejner's short job involvement	.14
Work satisfaction	.24*
Training	.26*
Spirituality	.07
Extrinsic motivation	.06
Grade school	.09
High school	.03
Initiative	.11
First job experiences	.08
Parent/guardian experiences	-.15
Supervisory experiences	.18
Sports	-.14
Volunteer work	-.07
Military experiences	.13
Neuroticism	-.17
Extraversion	-.05
Openness to experience	-.02

Table 3 continued

Job Performance Criterion Related Validity

Scale	<i>r</i>
Agreeableness	.16**
Conscientiousness	.38**
Work Problems Survey	.15
Wonderlic	.23*

* = $p < .05$

** = $p < .01$

Table 4

Factor structure and scale loadings of the background experience inventory

SCALES	FACTOR 1 Job complexity with inherent competency	FACTOR 2 Relational aspects of work	FACTOR 3 School Experiences	FACTOR 4 Intrinsic Motivation	FACTOR 5 Permanence
Hackman & Oldham's skill variety	.792				
Quinones job task complexity	.750				
Hackman & Oldham's task significance	.617				
Lodahl & Kejner's job involvement	.530				
Training	.521				
Quinones job task amount	.483				
Supervisory experience	.428				
Initiative	.329				
Hackman & Oldham's job feedback		.616			
Hackman & Oldham's agent feedback		.614			
Hackman & Oldham's task identity		.522			
Quinones time task speed		.464			
Hackman & Oldham's autonomy		.447			
Hackman & Oldham's deals with other		.411			
Work satisfaction		.383			
First job		.320			
High school experience			.991		
Grade school experience			.547		
Hackman & Lawler's intrinsic motivation				.709	
Lawler & Hall's intrinsic motivation				.704	
Quinones organizational amount					.886
Quinones organizational mobility					.506

Table 5

Correlational matrix of the weighted five background experience factors, the five personality dimensions, the Work Problems Survey, Wonderlic and Total years work experience

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Factor 1- Job complexity with inherent competency														
2. Factor 2- Relational aspects of work														
3. Factor 3- School experiences	.58**													
4. Factor 4- Intrinsic motivation	.21**	.33**												
5. Factor 5 - Permanence	.44**	.45**	.33**											
6. Neuroticism	.35**	.41**	.08	.22**										
7. Extroversion	-.12	-.12*	.00	.19**	-.11*									
8. Openness to experience	.17**	.14*	.21**	.10	.00	-.33**								
9. Agreeableness	.07	.15*	.06	.04	-.02	-.12*	.12*							
10. Conscientiousness	.11	.17**	.14*	.03	-.04	-.25**	.27**	.09						
11. Work Problem Survey	.31**	.28**	.25**	.18**	.09	-.33**	.17**	-.01	.30**					
12. Wonderlic	.28**	.31**	.20**	.25**	.02	-.18**	.31**	.20**	.27**	.25**				
13. Total work experience	.02	.14*	.00	.04	-.05	-.14*	.05	.25**	.09	.06	.11			
14. Job performance	.17**	.03	-.10	.09	.07	-.12*	.08	.05	-.01	.14*	.07	.03		
	.23*	.23*	.02	-.01	.12	-.17	.05	-.02	.16	.38**	.15	.23*	.01	----

* = $p < .05$ ** = $p < .01$