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Keywords

CAHRS, ILR, center, human resource, job, worker, advanced, labor market, satisfaction, employee, work, manage, management, training, HRM, employ, model, industrial relations, labor market, health care, economy, job satisfaction, job performance, productivity, measurement, compensation, pay, voluntary turnover, salary, attrition, professional, technical

Comments

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Attrition Hypothesis**

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Working Paper #90-13

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This paper has not undergone formal review or approval of the faculty of the ILR School. It is intended to make results of Center research, conferences, and projects available to others interested in human resource management in preliminary form to encourage discussion and suggestions.

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Abstract

This paper re-examines data originally reported by Cowan & Dreher (1983) in their examination of personality correlates of turnover among managerial, professional, and technical employees. It is intended to reframe the relationship between personality and turnover in light of recent attention on the attraction-selection-attrition hypothesis and to make the results of the original study more accessible to those studying these issues. Results show no relationship between homogeneity based on personality dimensions measured by the Guilford-Zimmerman Temperament Survey (GZTS) and attrition from the organization. Therefore, no support can be offered for the homogeneity hypothesis. Based on these and other failures to find significant relationships between personality dimensions and homogeneity, we suggest that future research about the causes and effects of homogeneity should be based on research that delineates the domain of organizational fit.

**REFRAMING TURNOVER/PERSONALITY RESEARCH IN THE CONTEXT
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Naturally occurring interactions between persons and their settings determine both the behavior that will be exhibited and the nature of the environment itself (Bowers, 1973). This hypothesis lead Schneider (1983, 1987) to further hypothesize that organizations will tend to attract, select, and retain a work force that shares common characteristics and becomes more homogeneous over time.

There are good theoretical foundations for this assumption. The vast vocational choice literature suggests that the drive for congruence between person and setting makes some occupational pursuits more attractive than others for particular individuals. Super (1953) suggested that vocational choice depended on a synthesis between the person's self concept and the occupational environment. Similarly, Holland (1966) stated that the drive for congruence between the individual's personality and the environment offered by the occupation would influence vocational preference. Decades of research have essentially confirmed the legitimacy of these hypotheses (Wanous, 1980). In other words, individuals attracted (and perhaps suited) to particular occupations tend to share some common characteristics.

Vocational choice and self-image appear to be related (e.g. Korman, 1966). However, attempts to study organizational choice using vocational choice theories have been limited. Tom (1971) extended Super's (1953) proposition to the organizational context by asking students to describe themselves and two organizations: one they would most prefer to work for and one they would least prefer to work for. He found more similarity between the individual's description of himself and the most preferred

organization than there was between the self description and that of the least preferred organization.

There appears to be a relationship between self-image and graduate school choice (Keon, Latack, & Wanous, 1982). Within-subject correlational analysis between self-image and school image showed that subjects with positive self-images chose schools similar to themselves, while those with negative self-images chose schools dissimilar to themselves. However, this appears to be nothing more than a main effect based on school. Noticing that students prefer schools with "good" images is not particularly enlightening.

Burke & Deszca (1982) investigated the relationship between Type A behavior and preferences for particular organizational climates. Type A behavior scores were related to working environments characterized by high performance standards, spontaneity, ambiguity, and toughness. Since the personality attributes describing Type A individuals include ambition, competitiveness, hostility, need for achievement, and impatience, it appears that the drive for congruence in vocational contexts extends to occupational preference as well.

Self-esteem has been shown to influence search related decision making. Ellis & Taylor (1983) measured subjects' self-esteem prior to beginning job search. They found several relationships between self-esteem and search/outcome activities. Subjects with low self-esteem used more formal sources of information. Self-esteem was also related to interviewer evaluation, number of offers received, acceptance of a position, and intended job tenure.

Subject classification on the basis of biographical data has also been used to predict job choice (Neiner & Owens, 1985). Entering freshmen provided biographical data. Several years after graduation, the same subjects completed questionnaires describing their

jobs. Jobs were classified into one of the six Holland job types (artistic, investigative, conventional, realistic, social, or enterprising). Discriminant analysis explained 24% of the variation in job type for males and 20% for women. Chance level is 16.67%. The results suggest that background that shapes a person's personality and provides opportunity for skill and ability development appears to influence both vocational and organizational choice.

These are all of the studies of vocational choice theory in the organizational choice context that could be identified. However, the realistic job preview literature also supports the hypothesis that the drive for congruence between person and setting may facilitate homogeneity at the attraction and selection stages of the process. By receiving accurate information about the job and setting, applicants have the opportunity to assess the likelihood that the environment will either encourage or hinder the expression of internal need states, values, and interests. Those that deem the environment to be incongruent may self-select out of the process thereby leaving a more homogeneous applicant pool. (For a review of the realistic job preview literature see Wanous, 1980).

This literature suggests that accepted theories of vocational choice have relevance in the organizational choice context and appear to be useful in explaining some of the variance in job choice decisions. Based on the limited attempts to extrapolate vocational choice theory to the organizational choice context, and on the realistic job preview literature, it appears that homogeneity may be expected at least in the early stages of the cycle.

However, there are also some reasons to question the legitimacy of the homogeneity hypothesis, particularly at the retention/attrition stage. While there exists no known

empirical investigation of the extent to which homogeneity, per se, exists among those selected or retained by the organization, there is a vast literature that examines the correlation between personality and turnover. This literature seems to conclude that any relationships that might exist are weak and poorly understood (Mobley, Griffeth, Hand & Meglino, 1979; Muchinsky & Tuttle, 1979; Price, 1977; Bernardin, 1977). Given this, we would not expect to find homogeneity on personality-based dimensions.

In the only known empirical investigation of the homogeneity hypothesis, Bretz, Ash, & Dreher (1989) found some evidence of homogeneity among subjects attracted to different organizational reward systems. Using the second order factor structure from the Jackson Personality Research Form, they found that those attracted to individually oriented reward systems tended to possess a higher orientation toward work than did those attracted to organizationally oriented reward systems ($F = 4.2$, $p = .042$). However, mean differences between the groups were observed on this dimension only ($n = 58$ versus $n = 54$, respectively) and no differences in variance were found. The results provide only limited support for the homogeneity hypothesis and should therefore be interpreted cautiously. The experimental methodology used and the narrowness of the manipulations may have contributed to this result.

The current study examines the part of the attraction-selection-attrition hypothesis that suggests homogeneity within an organization will develop and strengthen over time. It is also a response to the Bretz, et al. (1989) call for field studies of the homogeneity issue. In particular, we examine the development of homogeneity at the retention/attrition stage of the cycle by analyzing the career mobility of managers in a multinational oil company.

This study reexamines data reported by Cowan & Dreher (1983) and expands the analyses performed in that paper. The current study frames the data Cowan & Dreher report as a test of two competing hypotheses. The homogeneity hypothesis predicts that the managers that remain in the organization will be more homogeneous than the total cohort with which they entered. Conversely, the accumulated knowledge from the turnover literature predicts that the personality-based profiles of the entering cohort will be no different than those of the managers remaining in the organization for long periods of time. This is a unique opportunity to test the power of the competing hypotheses because the organization examined here collected individual difference data using a validated, respected instrument as part of their normal assessment process for this cohort. This is an unobtrusive investigation of homogeneity on dimensions that the organization identified as important.

METHOD

Sample

The sample consisted of 529 managerial, professional, and technical exempt employees of a large multinational oil company. All employees were hired between 1964 and 1966 and assessed using the Guilford-Zimmerman Temperament Survey (GZTS) as part of the company's normal assessment procedure. Brief descriptions of the GZTS subscales are given in Table 1. All of these employees had less than two years of service when the tests were administered and their initial job grades were all at lower levels of the organization's exempt job hierarchy.

Insert Table 1 About Here

Procedure

The sample was split into four groups. Group one consisted of the 112 employees that left the organization with less than three years of service. Group two consisted of the 110 employees that left the organization with three or four years of service. Group three consisted of the 133 employees that left the organization after five or more years of service. Finally, group four consisted of the 174 employees that remained with the organization for a fifteen year time period. Employment records after the fifteenth year are not available.

Mean scores on the ten GZTS subscales were calculated for the entire entering cohort and for each of the subgroups defined above. One-way analysis of variance was used to test the significance of differences between the groups.

Results

Results indicating greater homogeneity among the remaining employees as the non-right types leave the organization would tend to support the homogeneity hypothesis. Results indicating little or no change in work force characteristics as individuals self-select out of the organization would tend to refute the homogeneity hypothesis. Table 2 reports means and standard deviations for the entire entering cohort and the group that remained after the short-term, medium-term, and long-term leavers had left the organization.

One-Way Analysis of Variance identified no significant differences between the groups means on any of the GZTS subscales. The only subscale that approached significance was the measure of personal relations ($F = 1.91, p = .126$). On this dimension, the group means tended to increase slightly as the medium and long-term leavers left the organization. However, the changes were not statistically significant. As Table 2 indicates, none of the other dimensions even approached significance (all $F < .758, p > .518$).

Homogeneity may be noticed in two ways. Failure to identify differences on means does not preclude the possibility of increasing homogeneity. If the variation on a dimension decreases as some members leave the cohort, one could also argue that the population is becoming more homogeneous. Bartlett's Box F and Cochran's C tests were used to examine variance differences between the groups. No significant differences were found using either of these procedures [$(.2548 < C < .2692, \text{all } p > .187), (.080 < \text{Box F} < 1.122, \text{all } p > .339)$].

Insert Table 2 About Here

Discussion

This study can do little to support the contention that people with similar individual characteristics will tend to remain in organizations while those with dissimilar attributes will leave the situation. The data here is more supportive of the alternative hypothesis that

there is little or no relationship between personality and retention. However, it should be noted that the two hypotheses are not mutually exclusive.

A fundamental problem with the current understanding of the homogeneity issue is that there are literally thousands of individual difference measures on which homogeneity may be assessed (e.g. Owens and Schoenfeldt, 1979) and yet there is very little theoretical guidance provided suggesting which dimensions should be examined for the presence of homogeneity and what the effects of homogeneity on different dimensions might be. The fact that homogeneity was not noticed on these particular personality dimensions does not preclude its existence on other personality dimensions or on non-personality dimensions such as attitudes, interests or values.

How to choose the dimensions on which to study homogeneity is a question that remains largely unanswered. Bretz, Ash, & Dreher (1989) found only weak support for homogeneity on personality-based dimensions at the attraction stage of the cycle. Similarly, we find no evidence of homogeneity on personality-based dimensions at the retention stage. This is particularly noteworthy since the dimensions we examined are those which the organization identified as important, not dimensions suggested by researchers for the purpose of testing hypotheses.

Before drawing conclusions about the homogeneity hypothesis, it is useful (perhaps necessary) to examine the power of the current investigation. The GZTS is a personality inventory designed to assess ten broad personality characteristics. It utilizes a 300-item inventory with each of the ten dimensions being assessed by 30 statements (Gormly, 1985). Over 500 studies have reported using the GZTS and the internal consistency for the ten

dimensions are all respectable (approximately .80). For scale-specific internal consistency coefficients see Guilford, Zimmerman & Guilford (1976).

Additionally, both the first-order and second-order factor structures are highly correlated with other measures of personality (Gormly, 1985; McCrea & Costa, 1985). In particular, McCrea & Costa interpret the high level of agreement between the second order factor structures of the GZTS and several other personality-based instruments as a parsimonious specification of the infinite universe of personality characteristics.

The sample used in this study consists of the actual managerial, professional, and technical exempt employees that were hired by the organization from 1964 to 1966. Some of them stayed with the organization over a fifteen year time frame and others left at various points during that period. There were no experimental manipulations required to determine the relative attractiveness of this organization vis-a-vis other organizations. While we are unable to determine from this data the exact reason for departure, the instance of company-initiated turnover is fairly low and the great majority of these employees left on their own volition presumably for employment opportunities elsewhere. Since manipulations were not required, the stayers and leavers alike were exposed to all organizational conditions not just ones that might be manipulated in an experimental setting. This is important since it is one of the potential reasons why Bretz, et al. (1989) noticed only small effects.

Further, the sample size this study provides is sufficient to detect very small homogeneity effects with very high levels of power. With an average sample size of 356 [(529 + 417 + 307 + 174) -- 5] and an alpha level of .05 we would be able to detect a homogeneity effect as small as $f = .10$ with power of .90 (Cohen, 1988, Table 8.3.14, p

316). An effect size of this magnitude would explain only one percent of variance in the population. Similarly, we had sufficient sample size to detect an effect as small as $f = .15$ with power of .99. Stated another way, virtually any homogenization effect on these dimensions could have been detected in this sample.

Conclusions

This study fails to support the homogeneity hypothesis in regard to attrition from organizations. Instead it supports earlier hypotheses that there is little or no relationship between personality and turnover. This should be viewed as a preliminary attempt to assess whether homogeneity has affected the content of an organization's labor force. We have found preliminary evidence suggesting that an organization's labor force does not appear to homogenize on the basis of personality dimensions. This is in agreement with Bretz, et al.'s (1989) results suggesting little homogenization on personality dimensions at the attraction stage. We do not find this conclusion to be particularly surprising. While Schneider's hypothesis is based on sound theoretical ground, when applied to personality dimensions it does tend to contradict a well developed literature. In that regard, further research designs that utilize personality dimensions to assess the presence or effects of homogeneity are ill-advised. The exception might be studies using the second order factor structures to many of the leading personality-based instruments. These dimensions may be more job-related and therefore provide a better basis for homogeneity to develop.

This is not to suggest that research on the homogeneity issue should cease. Rather, it appears that attitudes, values, and interests may be better dimensions to explore. One reason for this suggestion is that homogenization may be a function of person-environment

fit. That is, homogeneity may be more likely to be observed on dimensions that apply to both the individual and the organization. This suggestion is completely consistent with Schneider's interactionist perspective. Since the individual alters the situation and the situation alters the individual, dimensions common to both offer the greatest potential for noticing the effects of the interaction. The suggestion is also completely consistent with the vocational choice literature which suggests that individuals will seek congruence between person and setting. What this suggestion does is offer a basis for limiting the characteristics to consider when examining the presence and effects of homogeneity.

Chatman (1989) has suggested that ideally, individuals and organizations should be assessed using common instruments. She has suggested that fit should be assessed on the basis of values because they are an enduring quality of both people and organizations. We suggest a more fundamental research question: What is the domain of person-organization fit? We further suggest that the answers to this question drive homogeneity research. This research agenda is admittedly ambitious. Basic construct validation research is needed. Non-leading, open-ended inquiry into how organizational representatives and job seekers ascertain fit with one another is required. Once the domain of person-organization fit is known, dimensions on which to examine homogeneity should become more obvious. We suggest that this strategy is most likely to limit the number of potential individual difference measures one must consider when examining homogeneity. Until some rationale is provided that does so, the chances of noticing homogeneity using any particular individual difference measure, regardless of how good it is, are remote.

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Table 1.

Guilford-Zimmerman Temperament Survey Personality Dimensions.

Dimension	Description
General Activity	Energetic, Fast-Moving vs. Slow, Fatigued
Restraint	Serious, Deliberate vs. Carefree, Impulsive
Ascendance	Willing to speak, Assume Leadership vs. Submissive, Hesitant
Sociability	Socially Active vs. Shy, Seclusive
Emotional Stability	Even Mood, Cheerful vs. Fluctuating Mood, Gloomy
Objectivity	Thick-Skinned, Realistic vs. Hypersensitive, Self-Centered
Friendliness	Compliant, Respectful vs. Belligerent, Hostile
Thoughtfulness	Interested in Thinking vs. Interested in Overt Activity
Personal Relations	Cooperative, Tolerant vs. Critical, Fault-Finding
Masculinity	Masculine Interests vs Feminine Interests

Excerpted with editing from Guion (1965, p. 317).

Table 2.

Dimension means, standard deviations, and ANOVA results as the cohort gets smaller.

DIMENSION	Total Cohort N=529	All Less Short-term Leavers N=417	All Less Medium-Term Leavers N=307	Stayers N=174	F	Sig F
General Activity	20.565 (5.324)	20.585 (5.253)	20.518 (5.164)	20.609 (5.216)	.014	.998
Restraint	19.603 (3.588)	19.624 (3.551)	19.710 3.557)	20.052 (3.455)	.758	.518
Ascendance	21.794 (5.041)	21.811 (5.069)	21.720 (4.877)	21.310 (4.975)	.473	.701
Sociability	23.639 (4.868)	23.631 (4.759)	23.397 (4.691)	23.218 (4.838)	.477	.698
Emotional Stability	23.032 (4.062)	23.192 (3.942)	23.072 (4.045)	23.270 (4.313)	.220	.882
Objectivity	22.176 (4.156)	22.317 (4.101)	22.303 (4.064)	22.552 (4.058)	.410	.746
Friendliness	15.353 (4.990)	15.384 (4.980)	15.449 (4.953)	15.954 (4.845)	.690	.558
Thoughtfulness	19.520 (4.190)	19.370 (4.216)	19.486 (4.060)	19.397 (4.271)	.117	.950
Personal Relations	21.658 (4.985)	21.643 (4.974)	21.866 (4.716)	22.609 (4.524)	1.91	.126
Masculinity	22.055 (3.356)	22.129 (3.243)	22.182 (3.229)	22.218 (3.202)	.158	.924