

Psychological correlates of the mobility decision*

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In a sample of 50 college students, geographic mobility plans were significantly related individually to a measure of past mobility ($r = .46, p < .01$) and the personality dimension of sensation seeking ($r = .38, p < .01$). A multiple combination of predictors, using past mobility and the extraversion scale of the Eysenck Personality Inventory, accounted for 32% of the variance in mobility plans [(RSQ = .32, $p < .001$); with a complete model (eight predictors)] accounting for 49% of the variance in mobility plans. A hold-out cross validation sample ($N = 10$) supported this finding ($R_c = .63, p < .05$) and similar relationships were observed in a second sample ($N = 100$).

Psychologists have not yet explained why some individuals appear to be more mobile than others. Clearly, some individuals are more mobile than others and it is only reasonable to assume that individual differences in the extent of mobility may be related to measurable personality dimensions. From these personality measures it should be possible to predict the differences in individual propensities for migration.

Since there apparently have been no published psychological investigations of the personality variables which relate to individual voluntary migration, it is necessary to examine some of the basic considerations of mobility (migration). One such consideration is the difference between actual and planned mobility. Actual mobility is the result of individual plans, desire, or willingness to undertake a geographic move or change in residence. Since this "planned" aspect of mobility appears to be basic to actual mobility, and is relatively free of factors which might prevent or force mobility, planned mobility has been selected as the criterion measure in this research. Planned mobility is presumably more closely related to individual personality dimensions than the actual mobility which may result from these plans.

A second major aspect of the conceptualization guiding this research has been that the mobility decision exists as a continuous dimension. As an example, the individual planning to move to another state is seen as being more mobile than an individual planning to move only to another city within the state, and both are seen as being more mobile than an individual who plans not to move from where he now lives. If personality correlates of mobility exist, they are conceptualized as being related to the dimension of distance which individuals plan to move, such that individuals moving over a long distance may differ along personality dimensions from individuals who are less mobile. As the first investigation into the personality dimensions of mobility, it is necessary to demonstrate that there are

personality dimensions which are related to mobility.

A number of relationships have historically been suggested (but not tested) between personality variables and mobility. Lee (1966) cites the laws of migration originally reported by Ravenstein in the late 19th century which explained differences in mobility according to a continuum of distance moved, sex differences in mobility, and a relationship between migration and environmental conditions. Lee modified the earlier laws to suggest that in addition to conditions at origin, destination, and in between, there are personal factors (sensitivities, intelligence, and personality traits) relating to migration. The personality traits have not, however, been delineated or studied in any detail. The demographic variables have been examined in somewhat more detail. Ladinsky (1967) reported that sex and age were major variables relating to the mobility of professional and technical workers. Miller (1969) emphasized the importance of military service and attending college, while Blau and Duncan (1967) suggested that family size and other antecedent family effects may contribute to mobility. A number of studies presented by Sauna (1970) provide conflicting evidence of the relationship between mobility and mental illness.

The research in prediction of mobility from either personality dimensions or biographical data has been very scarce and when present has been primarily archival leading to conflicting results. The studies presented here have attempted to provide a starting point for psychological investigation of mobility. Two separate investigations have been carried out in an attempt to identify and validate the findings. In the first study, reported in part at the annual meeting of the Psychonomic Society, a number of personality and biographical variables were correlated with mobility plans using a hold-out cross-validation paradigm (Jacobs & Koepfel, 1973). The second study was an attempt to determine if the previous findings would be present in a different sample 6 months later.

METHOD

Subjects

The Ss for these studies were recruited as unpaid volunteers from undergraduate psychology classes. In the first study,

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Table 1
Zero-Order Correlates of Planned Mobility

Variable	Study I (N = 50)	Study II (N = 100)
Sensation-seeking scale (SSS)	0.375†	0.22*
Eysenck extroversion score (EPI/E)	-0.204	
Eysenck neuroticism score (EPI/N)	-0.259	
Years individual has lived in the state	-0.460†	-0.60†
Family size	-0.255	0.10
Number of colleges attended	0.245	0.13
Number of organizations belonged to	-0.215	0.00
Cumulative grade point average	0.297*	0.09

*Indicates $p < .05$

†Indicates $p < .01$

approximately 150 student volunteers were administered various personality measures and biographical questionnaires. From this S pool, 60 Ss were selected on the basis of completing both psychological instruments and the biographical questionnaire. Ten of these Ss were set aside as a hold-out cross-validation sample. In the second study 100 Ss from the same undergraduate population were selected without use of a hold-out sample. There was no overlap between samples and approximately 6 months elapsed between the original sample (Study I) and the second investigation (Study II). Both groups were approximately equally divided between males and females, with mean ages of slightly less than 20 years in each group.

Procedure

Ss in the first sample (N = 60) were administered the 22-item male-female form of the sensation seeking scale (Zuckerman Kolin, Price, & Zoob, 1964), the Eysenck Personality Inventory (Eysenck & Eysenck, 1968), and an extensive biographical data blank. These three instruments were administered individually outside of class. In addition to measuring the biographical variables (family size, past mobility, grade point average, number of colleges attended, number of organizations belonged to, and other biographical items), the instrument asked the Ss to place themselves into one of four groups according to future mobility plans: plan to continue living where they now live, plan to move from where they now live but remain within the state of Mississippi, plan to move out of the state, and a group of students who were not residents of the state who had moved here temporarily to go to school. Ten independent judges agreed unanimously that these four groups represented a single rank ordered mobility variable. Therefore, numbers of 0, 1, 2, and 3 were assigned to these categorical groups to produce a single rank ordered variable. This variable was termed the mobility index (MI) and served as the criterion measure in both studies.

Ss in the second study (N = 100) were administered the sensation-seeking scale (SSS) and a shortened version of the biographical data blank in a classroom situation. These Ss did not receive the Eysenck Personality Inventory.

RESULTS

Data from each study were analyzed by computer using program REGAN for iterative multiple correlation and regression (Veldman, 1967). Analysis was carried out separately for each study. The zero-order correlates of mobility index (MI) in each study are presented in Table 1. In neither study were the variables of age, sex, marital status, or college classification related to future plans and, therefore, they are not included in Table 1.

The variables in the first study were combined iteratively to form multiple correlation-regression models, beginning with the largest zero-order correlation and adding to it the variable which maximally increased the proportion of variance in mobility index which could be accounted for by the equation. Table 2 shows squared multiple Rs obtained from the addition of predictor variables to the largest zero-order variable (years individual has lived in the state). While each model provides a significantly better than chance prediction of mobility plans ($p < .001$), only the addition of the second predictor, Eysenck extraversion score, adds a significant amount of accounted-for variance in MI suggesting that the optimal prediction model includes only these two variables.

It is apparent that the use of all eight predictor variables accounted for 49% of the variance in MI. To examine the multiple effects of personality and biographical variables separately, models were constructed containing only these predictors. The use of the five biographical items accounted for 40% of the variance in MI ($R = .64, p = .004$). The use of the two Eysenck scales and the SSS accounted for only 20% of the variance in MI ($R = .44, p = .0342$).

The regression weights obtained in the full model (eight predictors) were applied to the raw scores of the 10 Ss in the hold-out group to provide a cross-validation of these findings. The correlation between actual and predicted mobility index scores for these Ss was $r = .63$ ($p < .05$) with the use of only 10 Ss in the cross-validation sample.

DISCUSSION

The potentially mobile person in this study has a high-optimal level of stimulation, a history of being mobile, somewhat introverted, and possibly having higher grades than the person whose plans do not include mobility. These findings need to be validated against mobility measures in other populations before they can be more generally applied.

One of the more general implications of this research is that geographic mobility is a fairly normal aspect of individual functioning. In this study, mobility was not significantly related to Eysenck's neuroticism scale (some negative relationship suggested), or to the expected variables of age or sex.

The results of these two studies strongly suggest that there are both personality and biographical factors which are related to the extent of geographic mobility which individuals plan in the

Table 2
Multiple-Correlation Regression Models

Number of Predictors	Variable Added to Model	Multiple R Squared	Significance of Model
1	Years lived in the state	0.2119	.0011
2	Eysenck extroversion (EPI/E)	0.3217	.0003
3	Number of organizations belonged to	0.3631	.0002
4	Sensation-seeking score	0.4044	.0002
5	Family size	0.4355	.0002
6	Grade point average	0.4629	.0002
7	Eysenck neuroticism	0.4750	.0003
8	Number of colleges attended	0.4826	.0004

future. In the university population from which these Ss were drawn it appears that the decision to be mobile is highly related to the individuals' optimal level of stimulation and the extent to which he has been mobile in the past. It is an open question as to whether the same predictors would apply to other populations in the South or in other parts of the country. The ability to predict mobility plans for this population, using a relatively small sample size, and the observation of the same pattern of relationship in a different sample suggests that these variables are related to mobility plans at least in this sample. In the broadest sense, the psychologist has a place in the investigation of population mobility.

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Quality reward preference in the rat

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Rats' preferences among three qualitatively different food pellets (alfalfa, regular, and 93% sucrose) were determined by a free-choice and barpress procedure. In both situations, it was found that reward qualities can be ordered on an ordinal scale with sucrose most preferred, then regular, and finally alfalfa. The results raise the question of extending the vast literature which now exists on reward quantity to include reward quality.

The present studies were designed to determine the rats' preference among three qualitatively different Noyes food pellets (alfalfa, regular, and 93% sucrose). While it has been known for some time that animals prefer more palatable to less palatable solid rewards (e.g., Young, 1961), little information exists on the relative preference for qualitatively different food pellets that are readily available from the same manufacturer. Such an investigation could yield practical information regarding the single best choice for an appetitive reward. In addition, if the assumption is made that larger quantities of reward are more preferable than smaller quantities, the obtained preference data might suggest that quantity and quality have some parallel effects on performance and/or learning. If different reward qualities can be ordered on an ordinal scale, it appears

that future research could be directed toward the extension of the vast literature which now relates to the influence of reward quantity and behavior.

EXPERIMENT I

Method

The Ss were 11 experimentally naive male albino rats, obtained from Carworth Farms, Portage, Michigan. They were approximately 130 days old at the beginning of the experiment. The animals were housed in individual cages and placed on a 23-h food-deprivation schedule 10 days prior to the start of the study. Water was freely available in the home cages. Directly after each experimental session, all Ss were given 1 h access to Purina Lab Chow.

The test compartment consisted of a standard wire mesh rat cage equipped with a feeding tray located at floor level and