A VALIDATION STUDY OF LAWLER'S EXPECTANCY MODEL ON LOW-LEVEL RURAL BLACK WORKERS

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ABSTRACT

The object of this research is to validate the expectancy theory model propogated by Lawler (1971; 1973) on low level rural Black shop assistants in the Republic of Transkei. The criterion measure, performance, is measured by a performance appraisal instrument developed by the NIPR and the expectancy theory components by means of a translated version of the instrument which appears in the Michigan Organizational Assessment Package Part II. For a sample of 183 shop assistants from 10 organizations, the instrument yielded reliability coefficients ranging from 0,72 to 0,84. Evidence of validity was obtained by means of correlational analysis. A multiple correlation coefficient of R^2 = 0,29 was obtained. Further evidence of validity was found by means of maximum likelihood path analytic procedures.

OPSOMMING

Die geldigheid van Lawler se verwagtingsteorie vir landelike Swart winkelassistente in die Republiek van Transkei word in die studie ondersoek. Die komponente van die verwagtingsteorie is gemeet deur 'n vertaalde weergawe van die Michigan Organizational Assessment Package (Part II), terwyl die kriterium, werksprestasie, beoordeel is deur middel van 'n prestasiebeoordelingsvraelys ontwikkel deur die NIPN. Met 'n steekproef van 183 winkelassistente uit 10 organisasies het die motiveringsvraelys betroubaarheidskoëffisiënte gelewer van tussen 0,72 en 0,84. Met uitsondering van die E → P komponent was al die korrelasies met die kriterium beduidend op die 1%-peil en het gevarieer tussen 0,24 en 0,26 met 'n gekwadreerde meervoudige korrelasiekoëffisiënt van 0,29. Genoeg positiewe bewyse is in die studie verkry om met redelike sekerheid te aanvaar dat die verwagtingsteorie van toepassing gemaak kan word op lae-vlak landelike Swart werkers.

Expectancy theory is a widely researched theory of motivation. Although its cognitive assumptions limit its explanations to the rational portion of human behaviour, it nonetheless has served as the basis for research in such diverse areas as decision making (Edwards, 1961), learning theory (Rotter, 1954), verbal conditioning (Dulany in Horton and Dixon, 1968), coalition formation (Wahba and Lintzman, 1973), attitudes (Fishbein in Fishbein, 1967) and organizational behaviour (Vroom, 1964).

Industrial and organizational psychologists have further developed the original Vroom (1964) model to describe and predict a wide variety of work related variables. In a literature review Reinharth and Wahba (1975) enumerate the following variables which have been investigated in various studies: job effort and performance (Galbraith and Cummings, 1967; Gavin, 1970; Georgopolus, Mahoney and Jones, 1957; Goodman, Rose and Furcon, 1970; Graen, 1969; Hackman and Porter, 1968; Lawler and Porter, 1967; Mitchell and Albright, 1972; Vroom, 1964; Wofford, 1971); job satisfaction (Graen, 1969; Lawler, 1970; Porter and Lawler, 1968; Vroom, 1964; Wofford, 1971); organizational practices (Evans, 1969); managerial motivation (Campbell, Dunnette, Lawler and Weick, 1970); occupational choice (Mitchell and Knudson, 1973; Vroom, 1964); importance and pay effectiveness (Dunnette, 1967; Lawler, 1971); and leadership behaviour and leadership effectiveness (Evans, 1969; House, 1971).

Such widespread applicability indicates the degree of generality imputed by theorists to the expectancy concept. While evidence supporting the validity of the theory as a predictor of work motivation has been rapidly accumulating, such studies have tended to be limited to United States samples. In order to establish the generality of this theory, it should also be tested in a cross-cultural context. Three validation studies have been

carried out on Japanese samples and the results indicated that the expectancy model yields about the same level of validity in Japan as it has displayed in the United States (Matsui and Terai, 1975; Matsui and Ikeda, 1976; Matsui, Kogawa, Nogamatsu and Ohtsuka, 1977).

This study proposes to test the validity of the expectancy model propogated by Lawler (1970; 1971; 1973) on a low level rural Black sample in the Republic of Transkei. The model to be tested in this study is based on a formula such that work motivation is a function of the product of the effort-to-performance expectancy and the total sum of performance-to-outcome instrumentality weighted by the valence of the outcome (Lawler, 1970; 1971).

METHOD

Subjects

The subjects in the study were 183 low level rural Black shop assistance selected from 10 organizations in the Herschel District of the Republic of the Transkei. The sample consisted of 67 males and 116 females. The age varied from 16 to 81 years with a mean of 30,56 years. The mean level of education in the sample was standard 6.

Procedure

The subjects were asked to respond to a translated – retranslated questionnaire containing measures of expectancy, valence and instrumentality. As the concept of completing a questionnaire was foreign to most of the subjects a translator was used to explain the procedure to them and in some cases read the questions to them explaining what each response would indicate. These questionaires were matched to a performance appraisal form completed by their supervisors.

Measures

The motivation questionnaire consists of three subscales. The first scale measures the effort-to-performance expectancy (E → P) which is defined as the person's subjective probability

about the likelihood that he or she can perform at a given level, or that effort on his or her part will lead to successful performance. This scale has eight items. The second scale measures the performance-to-outcome expectancy (P→O) which is defined as a number of beliefs about what the outcome of successful performance will be. This scale has eight items. The valence (V) scale is defined as the worth, value or attractiveness which each outcome has to specific individual. This scale has 18 items. This motivational questionnaire was developed by Nadler, Cammann, Jenkins and Lawler (1975) and forms part of the Michigan Organizational Assessment Package.

The criterion measure was a performance appraisal form developed by Christierson (1979) of the National Institute of Personnel Research, for the specific purpose of appraising low-level Black employees. It consists of 12 items on a Likert type five point scale and is simplistically designed with the intent that it should be used by Black supervisors. A factor analysis was carried out and two factors were determined, that is, work-adjustment and development potential. The inter-correlation between the two factors is relatively high (r = 0,66) which indicates that the factors are measuring similar attributes. The sample size was 118.

RESULTS AND DISCUSSION

The reliabilities for the components were E→P, r = 0,72; P→O, r = 0,84 and valence r = 0,84 when the split half procedure was used and corrected by the Spearman-Brown formula for length. Thus the questionnaire was found to be reliable for measuring work motivation amongst Black Xhosa-speaking people.

The model was found to be correlated with the criterion measure to about the same degree for the Black Xhosa sample as for the American samples. The correlation matrix is presented in Table 1. Performance and the total work motivation score correlated r = 0,2578 (p < 0,001) while the P→O and valence components correlated r = 0,2614 (p < 0,001) and r = 0,2409 (p < 0,001) respectively with performance.

Further, evidence for validity was found when a stepwise multiple regression analysis was carried out with performance as the dependant variable. The P→O component was entered first and $R^2 = 0,26$ was found. The valence component was entered second and $R^2 = 0,29$ was found. The E→P component was found to make no additional contribution.

A further analysis was carried out in order to determine whether there were in fact differences in motivation between high and low performers. The sample was split into the top and bottom 27% according to Kelly (1939) and a t-test was carried out.

After finding a non-significant F ($F = 1,02 p < 0,944$) the pooled estimate of variance was used and a significant difference between high and low performances was found (t (98) = 3,53 (p < 0,001). The difference can most probably be ascribed to

TABLE 1

INTER-CORRELATION MATRIX OF ALL VARIABLES FOR THE TOTAL SAMPLE

	PERFOR-MANCE	WMS	P→OXV	E→P	P→O	V	SEX	AGE	ADUCA-TION	AMOUNT
PERFOR-MANCE	1,0000 (183) S=0,001	0,2578 (183) S=0,001	0,2848 (183) S=0,001	0,0684 (183) S=0,179	0,2614 (183) S=0,001	0,2409 (183) S=0,001	-0,0139 (183) S=0,426	-0,1379 (183) S=0,031	0,2964 (183) S=0,001	0,2914 (183) S=0,001
WMS	0,2578 (183) S=0,001	1,0000 (183) S=0,001	0,8549 (183) S=0,001	0,6802 (183) S=0,001	0,7129 (183) S=0,001	0,7599 (183) S=0,001	0,0106 (183) S=0,443	0,0153 (183) S=0,419	0,1663 (183) S=0,012	0,1439 (183) S=0,026
P→OXV	0,2848 (183) S=0,001	0,8549 (183) S=0,001	1,0000 (182) S=0,001	0,2641 (183) S=0,001	0,8278 (183) S=0,001	0,9101 (183) S=0,001	0,1421 (183) S=0,027	-0,0830 (183) S=0,132	0,2470 (183) S=0,001	0,1275 (183) S=0,043
E→P	0,0684 (183) S=0,179	0,6802 (183) S=0,001	0,2641 (183) S=0,001	1,0000 (183) S=0,001	0,1911 (183) S=0,005	0,2450 (183) S=0,001	-0,1101 (183) S=0,069	0,1481 (183) S=0,023	-0,0338 (183) S=0,325	0,1225 (183) S=0,049
P→O	0,2614 (183) S=0,001	0,7129 (183) S=0,001	0,8278 (183) S=0,001	0,1911 (183) S=0,005	1,0000 (183) S=0,001	0,5569 (183) S=0,001	0,0782 (183) S=0,146	-0,0172 (183) S=0,409	0,1372 (183) S=0,032	0,0338 (183) S=0,325
V	0,2409 (183) S=0,001	0,7599 (183) S=0,001	0,9101 (183) S=0,001	0,2450 (183) S=0,001	0,5569 (183) S=0,001	1,0000 (183) S=0,001	0,1542 (183) S=0,019	-0,1126 (183) S=0,065	0,2811 (183) S=0,001	0,1735 (183) S=0,009
SEC	-0,0139 (183) S=0,426	0,0106 (183) S=0,443	0,1421 (183) S=0,027	-0,1101 (183) S=0,069	0,0782 (183) S=0,146	0,1542 (183) S=0,019	1,0000 (183) S=0,001	-0,2186 (183) S=0,001	0,3454 (183) S=0,001	-0,0229 (183) S=0,379
AGE	-0,1379 (183) S=0,031	0,0153 (183) S=0,415	-0,0830 (183) S=0,132	0,1481 (183) S=0,023	-0,0172 (183) S=0,409	-0,1126 (183) S=0,065	-0,2136 (183) S=0,001	1,0000 (183) S=0,001	-0,3220 (183) S=0,001	0,0901 (183) S=0,113
EDUCA-TION	0,2964 (183) S=0,001	0,1663 (183) S=0,012	0,2470 (183) S=0,001	-0,0338 (183) S=0,325	0,1372 (183) S=0,032	0,2811 (183) S=0,032	0,3454 (183) S=0,001	-0,3220 (183) S=0,001	1,0000 (183) S=0,001	0,2223 (183) S=0,001
AMOUNT	0,2914 (183) S=0,001	0,1439 (183) S=0,026	0,1275 (183) S=0,043	0,1225 (183) S=0,049	0,0338 (183) S=0,325	0,1735 (183) S=0,009	-0,0229 (183) S=0,379	0,0901 (183) S=0,113	0,2223 (183) S=0,001	0,1000 (183) S=0,001

the difference in motivational level between the two groups.

Further evidence of validity was found in that the data were analysed by means of a path analytic approach using the LISREL VI computer programme (Joreskog and Sorbom, 1981). This approach uses a maximum likelihood solution to determine a hypothesized model after which six statistical criteria are used in order to assess how well the obsersved data fit the model. A good fit between the observed data and the hypothesized model indicates that the relationship between variables is valid for the data. The first model hypothesized the latent variables sex, age, total work motivation, education, performance and pay in a causal/paradigm as exhibited in Figure 1.

The results indicated that the observed data fit the hypothesized model satisfactorily. The goodness of fit index (GFI) was 0,996 and the adjusted goodness of fit index (AGFI) was 0,973 while a root mean squared residual (RMSR) of 0,021 was found and a stability index of 0,164. A non-significant x^2 of 2,15 (p <0,542) was found indicating that the observed data fit the hypothesized model. An $R^2 = 0,29$ was found which verified the results of the stepwise multiple-regression analysis.

A second model was tested which differed from the first model only in that the total work motivation score was deleted and the three components, that is, effort-to-performance expectancies, performance-to-outcome expectancies and valence, were included individually as latent variables. This model is exhibited as Figure 2.

The criteria indicating the degree of fit between the hypothesized model and the observed data were GFI = 0,995, AGFI = 0,975, RMSR = 0,020, stability index 0,158 and $x^2 = 0,354$ (p < 0,831). The $R^2 = 0,327$ accounting for a slightly larger proportion of the variance than the previous model and the

stepwise multiple-regression analysis. Overall the two models achieved the same degree of fit, which serve to verify one another and provide evidence of construct validity (Guion, 1982).

The disappointing finding with regard to the E→P component, namely, a non-significant correlation when correlated with performance (r = 0,0993), the fact that it made no additional contribution in the multiple-regression analysis and the fact it was eliminated in the second path analysis, can possibly be explained by the fact that this format was different to the other formats used and that these partially educated Blacks could not understand that segment of the questionnaire. This is supported by the fact thaat the reliability of this component was relatively low, (r = 0,72).

To summerize, the data support the conclusion that the expectancy model as developed by Lawler, yields about the same level of validity when applied to rural Xhosa speaking persons in the Transkei as it does when applied to American and Japanese samples. This seems to indicate that the model exhibits construct validity across cultures although more evidence is required before a categorical statement can be made in this regard.
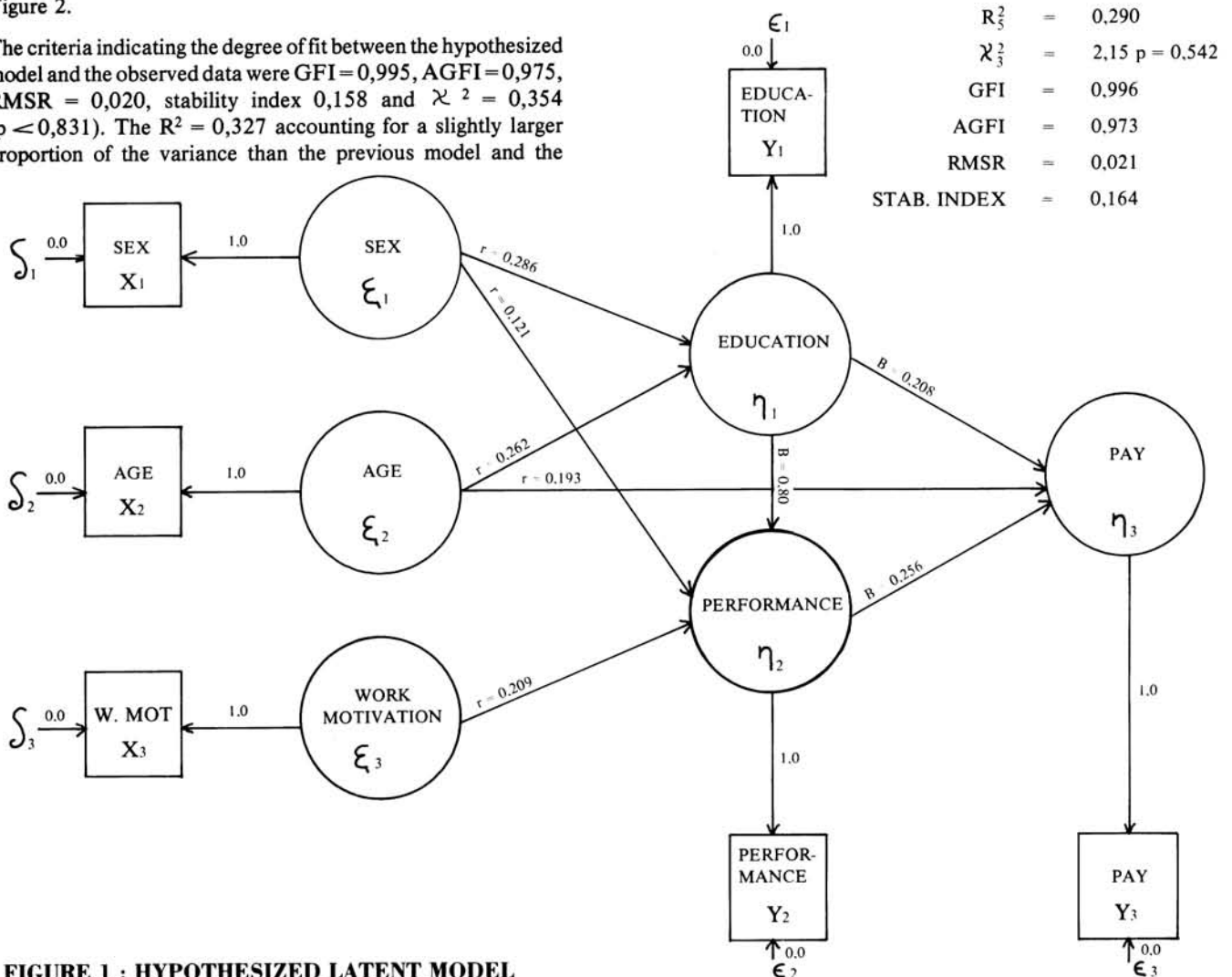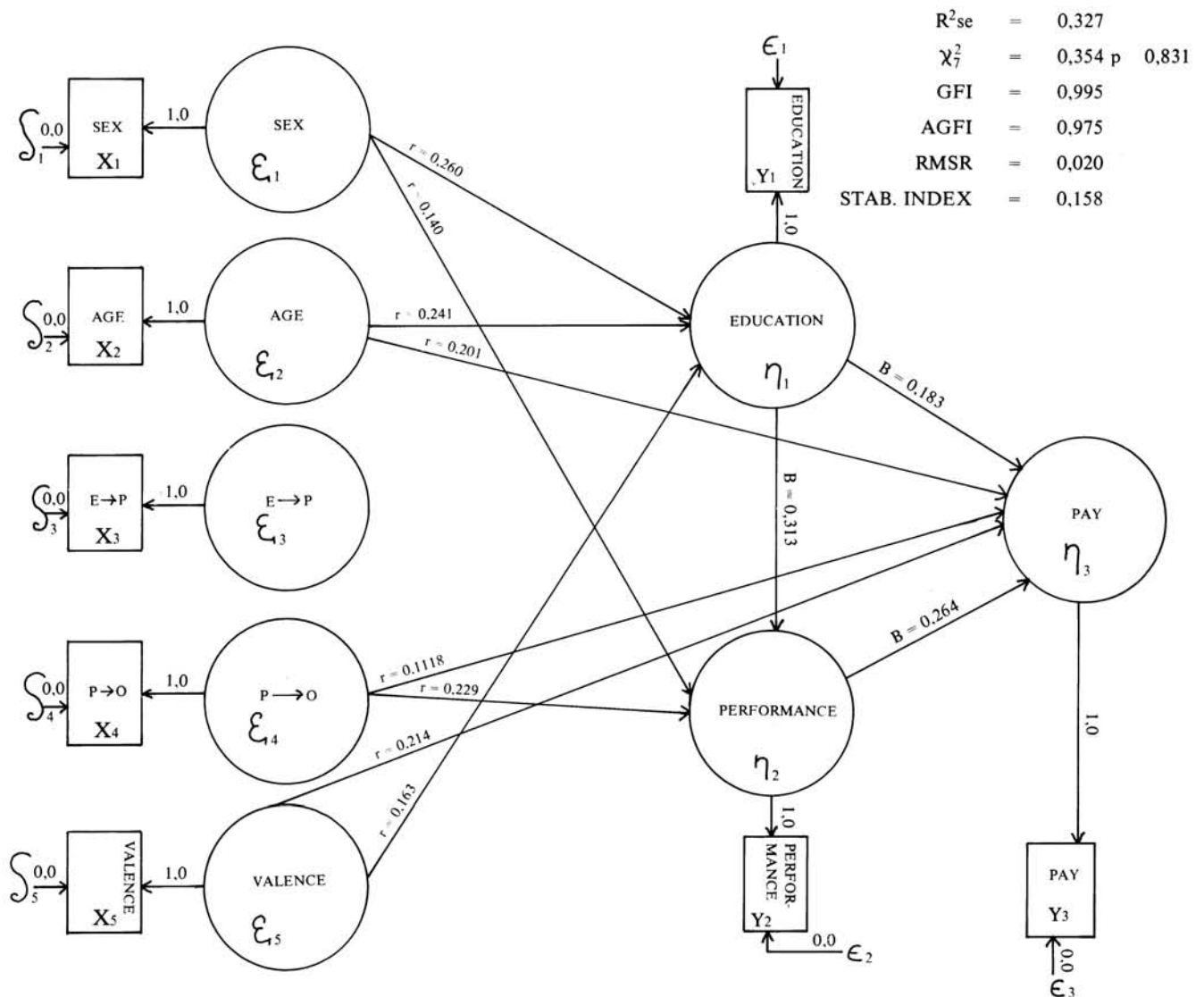

FIGURE 1 : HYPOTHESIZED LATENT MODEL

FIGURE 2 : SECOND HYPOTHESIZED LATENT MODEL

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