

THE PREDICTION OF JOB INVOLVEMENT FOR PHARMACISTS AND ACCOUNTANTS

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ABSTRACT

The job involvement of the individual seems to be potentially fundamental to the satisfaction of certain salient psychological needs that could lead to positive organizational implications. This study investigates the predictiveness of job involvement of 375 professionals in the pharmacy (n = 200) and accountancy (n = 175) occupations by means of Multiple Regression Analysis through personality characteristics and job satisfaction. A number of significant but weak relationships are reported varying between 1.29% and 9.85% common variance. Job involvement is predicted reasonably well for the total sample (19.35%) and the sub-samples of professionals (11.01% and 24.71% respectively).

OPSOMMING

Werkbetrokkenheid van die individu blyk potensieel 'n fundamentele rol te speel in die bevrediging van sekere onderliggende psigologiese behoeftes, wat kan lei tot positiewe organisasie uitkomst. Hierdie studie van 375 professionele persone vanuit die apteker- (n = 200) en rekenmeester- (n = 175) beroepe ondersoek die verhouding en voorspelbaarheid van werkbetrokkenheid deur middel van Meervoudige Regressie Analise en werksatisfaksie en persoonlikheidstreke faktore as onafhanklike veranderlikes. 'n Aantal statisties betekenisvolle, maar matige verwantskappe word gerapporteer (gemeenskaplike variansies tussen 1.29% en 9.85%). Werkbetrokkenheid is redelik goed voorspel vir die totale steekproef (19.35%) asook die professionele sub-groepe (11.01% en 24.71% onderskeidelik).

Involvement with different aspects of our lives, for instance work, family, religion or sport is characteristic of mankind. Individuals particularly get involved in certain activities when it is seen as having a potential of satisfying certain salient psychological needs (Kanungo, 1979, 1982b). Job involvement one of those fundamentally important factors in most people's work lives, implying being positively absorbed in fundamental aspects of the job (Kanungo, 1982b). It has positive organisational implications, influencing the degree to which the person supports organisational goals, and thus advancing productivity and efficiency (Brown, 1996). A positive state of intense psychological identification with one's job also leads to positive personal results of motivation, goal directed behaviour, personal growth and work satisfaction (Hackman & Lawler, 1971; Kahn, 1990; Lawler & Hall, 1970; Schultz & Schultz, 1994). In spite of the above positive organisational and personal implications, the literature findings also suggest weak or contradicting relationships with job satisfaction, biographic variables and certain personality variables. The reason for this could be the different manner in which the constructs have been conceptualised and operationalised.

Though job involvement seems to have been researched extensively in the past, the scale used to operationalise this construct in most cases, is that of Lodahl and Kejner, (1965). The Lodahl and Kejner, (1965) scale measures two dimensions of job involvement, firstly performance-self-esteem and secondly psychological total self-image of work importance. According to Kanungo (1982a, 1982b) the Lodahl and Kejner, (1965) as well as other job involvement scales do not measure the construct appropriately as described by the definition of Lawler and Hall (1970, p.310-311) namely the "psychological identification with one's work" as central to the person's identity.

Therefore, the development of the Kanungo (1982a) Job Involvement Scale, which measures job involvement as defined by Lawler and Hall (1970). Kanungo (1982a, b) argues that other

forms of job involvement measures are inadequate to assess the most precise conceptualisation of the job involvement concept, defined as a cognitive state of the individual. It is therefore called that previously assessed relationships between job involvement and different variables need to be re-evaluated in terms of the core definition of job involvement as a cognitive state of mind, as operationalised by the Kanungo Job Involvement Scale (Kanungo, 1982a).

Job satisfaction is for instance another important, widely researched work variable that has often been studied, but not in relation to the Kanungo (1982a) Job Involvement Scale. With the importance of the development of entrepreneurship for the advancement of a healthy economy (McClelland & Winter, 1969), especially in the South African society, an investigation into the relationship with job involvement seems deemed. It is further questioned to what degree job involvement as a cognitive state of mind, as measured by the Kanungo (1982a) Job Involvement Scale, could be related and predicted by important personality constructs in the work situation, such as career orientations, Type A behaviour, locus of control and self-concept. Subsequently a literature review is done on previous studies concerning the relationships between these variables.

Job involvement and job satisfaction

Luthans (1998) explains job satisfaction as the outcome of employees' approximation of the significance of their job, due to experiences in previous (but especially) current work situations. The relationship between job involvement and job satisfaction has often been studied, but rarely in relation to the Kanungo (1982a) job involvement measure. Out of a total of 26 studies reported from 1980 up to date only 8 used the Kanungo (1982a) Job Involvement Questionnaire (Adams, King & King, 1996; George, 1995; Harris & Mossholder, 1996; Kaplan, 1990; Knoop, 1995; Riipinen, 1994; Riordan & Griffeth, 1995; Strümpher, 1997) the remaining 18 studies used other measurements not measuring job involvement as a cognitive state of mind (Batlis, 1980; Brown, Cron & Leigh, 1993; Efraty & Wolfe, 1998; Feldman & Turnley, 1995; Heaven, 1994; Holton & Russel, 1997; Jamal & Badawi, 1995;

Jenkins & Maslach, 1994; Kimmons & Greenhaus, 1976; Kumar & Achamamba, 1993; Mael & Tetrick, 1992; Mishra, 1007; Newcome, 1997; Parasuraman & Aluto, 1984; Patel, 1995; Reitz & Jewel, 1979; Rosin & Korabik, 1995; Siegall & McDonald, 1995; Smart, 1998; Smith & Tisak, 1993). All these studies showed significant relationships between job involvement and job satisfaction with only 5 studies indicating a non-significant relationship (Kaplan, 1990; Knoop, 1995; Patel, 1995; Reitz & Jewel, 1979; Rosin & Korabik, 1995). None of these studies however used job satisfaction as independent variable in the prediction of job involvement.

Job involvement and personality variables

The following personality variables are investigated in relation to job involvement: entrepreneurial attitude, career orientations, Type A behaviour, locus of control and self-concept.

Job involvement and entrepreneurial attitude

Schein and Kommers (1972) view the role that professionals play as an important part in the rendering of service and acting as role models to society. In this regard entrepreneurship attract considerable attention. Jackson and Rodkey (1994) indicated the importance of successful entrepreneurial activities for the development of a healthy market economy as a major source of job creation in many countries. As far as could be established the relationship between job involvement and entrepreneurial attitude has, however, not been investigated previously.

Job involvement and career orientations

The term Career Orientation was coined by Schein (1978) as a description of the occupational self-concept of an individual. This author sees career orientations as the individual's self-perceived clusters of skills, needs, and expectations evolving in the development of a career. An investigation into the relationship between career orientations and job involvement was done by Mouton, (1998). He reported no significant difference between the job involvement of psychologists (N = 62) concerning career orientations of entrepreneurship, technical/functional, autonomy, service dedication and challenge.

Boshoff, Bennett and Kellerman (1994) indicated in a study of 1791 professionals, that job involvement was predicted by 25.3% by means of scores on the career orientations. Multiple Regression models were similarly built to predict the job involvement of the members of each of the 14 professions included in the study. The proportion of common variance found varied between 9.9% in the case of engineers and 35.3% in the case of accountants.

Job involvement and Type A behaviour

Type A behaviour individuals are described as hard driving, competitive, ambitious and alert (Friedman & Rosenman, 1959). These seem to be characteristics that could be related to being involved in one's job. Chusmir and Hood (1986, 1988) did two studies in which they correlated scores of 799 participants on the Lodahl and Kejner (1965) job involvement questionnaire with their scores on the Frammingham Type A questionnaire. In the 1986 study a correlation of .27 ($p = .05$) was found. In the second study, in which 358 men and 439 women from 34 organisations participated, significant correlations at the .001 level were found for the scores of women (N = 439, $r = .23$), non-managerial women (N = 340, $r = .23$), men (N = 358, $r = .30$), non-managerial men (N = 231, $r = .26$) and managerial men (N = 127, $r = .35$). The correlation between the two constructs was not significant ($r = .14$) in the case of the non-managerial women participants. Chusmir and Hood's findings indicate that low but significant relationships existed between job involvement and Type A behaviour. This seems to be an almost constant finding, regardless of the composition of the sample or sub-sample concerned. The direction of the relationship is, however, not clear.

Job involvement and locus of control

Anastasi (1990) referred to "locus of control" as a term assessing internal versus external control of reinforcement by a person.

Internal locus of control refers to the perception of the individual that certain life outcomes are conditional of one's own relatively permanent or stable characteristics. Alternatively external control is seen as the perception that outcome variables are the result of external conditions out of the control of the individual. Both these forms of control could lead to positive or negative reinforcement. This kind of positive or negative reinforcement could possibly also play a role in job involvement.

Kimmons and Greenhaus (1976) reported a significant difference in the job involvement (measured by the Lodahl & Kejner, 1965 scale) of internal versus external oriented individuals as measured by 23 items of the Rotter (1966) scale, $t = 2.79$; $p < 0.05$.

Reitz and Jewel (1979) investigated the relationships between job involvement (measured by a 45-item Likert-scale by Greene) and locus of control (measured by Rotter's Internal-External scale) for males and females from six different countries. The results indicate that the negative correlations between locus of control and job involvement scores imply that internals score higher on job involvement than externals, significantly in the case of males across cultural settings, but only true for females from Yugoslavia.

Some studies indicated a significant positive relationship between internal locus of control and job involvement (Dailey, 1980; Edwards & Walters, 1980; Heaven, 1994; Knoop, 1981; Parasuraman & Alutto, 1984; Remondet & Hansson, 1991). Three studies however indicate a non-significant relationship between internal locus of control and job involvement (Batlis, 1980; Noe, 1988; Reddy & Rahman, 1984). The relationship seems therefore to be uncertain and needs further investigation.

Job involvement and self-concept

It is indicated by Anastasi (1990) that implications of cognitive and affective self-concept evaluations could directly or indirectly influence the performance of the individual. It is therefore envisaged that the self-concept could also play a role in the cognitive state of job involvement.

Orpen (1982) found a significant correlation of .31 ($p < .05$) between job involvement and self-concept amongst policemen and .41 ($\leq p < .01$) amongst black clerks. This was a South African sample consisting 38 policemen and 51 bank clerks, using the 20-item Lodahl & Kejner job involvement measure with an 18 item self-concept measure derived from the California Psychological Inventory). Further studies investigating these relationships could not be verified.

Aim

The aim of this study is to investigate the relationships between job involvement on the one hand, job satisfaction and different personality characteristics (namely entrepreneurial attitude, career orientations, Type A behaviour, locus of control and self-concept) on the other hand. A survey design was used with job involvement as the dependent variable, and job satisfaction and personality characteristics as independent variable.

METHOD

Sample

This consisted of 375 professionals namely pharmacists (N = 200) and accountants (N = 175). The total group's mean age was 41.6 years (SD = 12.46, range 22-84) for the pharmacists 39.46 years (SD = 12.70, range 22-84) and accountants 44.05 (SD = 11.95, range 24-82 years). The gender split was 221 men with a mean age of 45.72 years (SD = 12.79, Range 22-84) and 154 females with a mean age of 35.70 years (SD = 9.52, Range = 22-72). The sample consisted of 211 English speakers (56,3%) and 158 Afrikaans speakers (42.1%) and the respectively one, two and two participants were Venda, Zulu and North Sotho

speaking. The employment status included employees (N = 201; 53,6%), private practitioners (N = 169; 45,1%) and unknown (N = 5; 1,3%). Participants have held between one and eight jobs, with 93% of the participants having held five or fewer jobs. The number of years work experience varied between one and sixty with the mean years of working experience being 18.7 (SD = 12.56). The number of former organisations employed at varied between one and eight (Mean = 2.83; SD = 1.56). Marital status was reported as married (N = 295, 78,7%); single (N = 62, 16,5%); divorced (N = 10, 2,7%); widowed (N = 7, 1,9%) and cohabiting (N = 2, 0,5%). The participants mainly grew up in an urban environment (77,6%), with the largest number in the Gauteng province of South Africa (56,8%) and the rest more or less evenly spread over the other eight provinces.

Measuring instruments

Job involvement was measured by the 10-item Job Involvement Questionnaire (Kanungo, 1982a, 1982b). Kanungo (1982a, 1982b) reported this to be a uni-dimensional variable yielding a Cronbach Alpha coefficient of 0.81. The response scale categories on a 10-point scale varied between "do not agree/not applicable to me" to "fully agree/fully applicable". Kanungo (1982b) reports the questionnaire to have reasonably high levels of internal consistency, test-retest reliability and validity. Test-retest coefficients of respectively 0.74, 0.85 and 0.82 and both convergent and discriminant validity are reported (Kanungo 1982b). The Principal Factor Analysis carried out in the present study indicated a one-factor solution with the scale having a Cronbach Alpha coefficient of 0.88 (Van Wyk, 1998). All the items in this solution loaded >0.35 on the single dimension.

Job satisfaction was measured by the Minnesota Satisfaction Questionnaire (Weis, Dawis, England and Lofquist (1967). It consists of 20 items and measures two factors, intrinsic and extrinsic job satisfaction. The developers report Cronbach Alpha coefficients of respectively 0.86 and 0.80. Satisfactory reliability and validity were reported in different South African work environments by Boshoff and Hoole (1998), as well as Kamfer, Venter and Boshoff (1998). The Principal Factor Analysis carried out in the present sample identified three factors namely general job satisfaction, intrinsic job satisfaction and satisfaction with supervision (Van Wyk, 1998). The three factors consisting of respectively 6, 6 and 2 items yielded Cronbach Alpha coefficients of respectively 0.82, 0.82 and 0.85. Six items were excluded in the Principal Factor Analysis.

Entrepreneurial attitude orientation was measured by the Entrepreneurial Attitude Orientation Scale (Robinson, Stimpson, Heufner & Hunt, 1991). It consists of 75 items and measures four entrepreneurial attitudes namely achievement, self-esteem, personal control and economic innovation. The developers reported Cronbach Alpha coefficients of respectively 0.84, 0.73, 0.70 and 0.90. The test-retest reliabilities are reported as 0.76, 0.76, 0.71 and 0.85. Principal Factor Analysis on the responses of participants in the present sample showed 13 of the original items of the questionnaire not loading satisfactorily on any of the three identified factors in the solution (Van Wyk, 1998). The three factors in this solution were identified as attitude towards economic innovation, achievement/personal control and self-esteem yielding Cronbach Alpha coefficients of respectively 0.90, 0.80 and 0.77. The three factors consisted of 29, 21 and 12 items respectively.

Career orientation was measured by the Career Orientation Instrument (Schein, 1977). It consists of 40 items and measures eight career orientations identified as managerial competence, technical functional competence, entrepreneurship, security, lifestyle integration, pure challenge, service dedication and autonomy/Independence (Schein, 1995). No recent internal reliability information of this

instrument was available. By means of Principal Factor Analysis on the responses of the present sample only four factors were identified (Van Wyk, 1998). These factors were distinguished as service dedication, job security, entrepreneurship and lifestyle integration, had Cronbach Alpha coefficients of respectively 0.86, 0.81, 0.80 and 0.72 for 11, 5, 5 and 3 items. Sixteen of the original 40 items were excluded by means of Principal Factor Analysis.

Type A behaviour was measured by the Jenkins Activity Survey-Sort version (Spence, Helmreich & Pred, 1987). It consists of 13 items and measures two factors namely achievement striving and impatience/irritability with Cronbach Alphas of 0.79 and 0.65 respectively. The reliability of the instrument is reported as 0.79 and 0.65. Significant inter-correlations were found with the Jenkins Activity Survey (Jenkins, Rosenman, & Zyzanski, 1974) with Cronbach Alphas between 0.83 and 0.85 test-retest reliabilities of 0.65 and 0.82 after intervals of four to six months respectively. Principal Factor Analysis in the present study yielded three factors consisting of five, four and three items (Van Wyk, 1998). Only one item in the original instrument was excluded due to Principal Factor Analysis. These items were named Achievement, Hard Driving/Competitive and Speed/ Impatience with Cronbach Alpha coefficients of respectively 0.65, 0.52 and 0.49. These low Alpha coefficients were possibly due to the shortness of the sub-scales. The Confirmatory Factor analysis carried out on this three-factor structure indicated a satisfactory fit between the measurement model and the data. Confirmatory Factor Analysis of the three-factor model with item score aggregation yielded a Goodness of Fit Index of 0.98.

Locus of control was measured the Locus of Control Questionnaire (Scheppers, 1995). It consists of 80 items and measures three factors, namely belief in internal locus of control, belief in external locus of control and autonomy. The author reports Cronbach Alpha coefficients of respectively 0.83, 0.84 and 0.87. Scheppers (1995) confirms the construct validity. In the present study 23 items of the questionnaire was excluded by means of Principal Factor Analysis (Van Wyk, 1998). Three factors were identified, namely internal locus of control, external locus of control and vicissitudes of life yielding Cronbach Alpha coefficients of respectively 0.91, 0.78 and 0.84. The internal, external and Vicissitudes factors contained 38, 14 and 5 items respectively.

Self-concept was measured by the Six-Factor Self-Concept Scale (Stake, 1994). It consists of 36 items and measures six dimensions namely power, morality, likeability, task accomplishment, vulnerability and giftedness as being measured by her instrument. Test-retest reliabilities are reported to vary between 0.74 and 0.88 (Stake, 1994). Principal Factor Analysis carried out on the responses of the participants in the present study revealed three factors with four of the original 36 items eliminated (Van Wyk, 1998). The three factors were identified as power (14 items), task accomplishment (12 items) and likeability (6 items) yielding Cronbach Alpha coefficients of respectively 0.85, 0.84 and 0.84.

Procedure

A systematic random sample, as described by Kerlinger (1986), was selected from the professional registers of the professions of pharmacists and accountants. The sampling frame consisted of the members of these two occupations living in the regions of Gauteng and the Western Cape provinces (chosen as two main areas of economic activity in South Africa). The above eight measuring instruments were book-binded and mailed to the total of 1210 participants - 110 in Gauteng and 100 in the Western Cape. Reminder letters were sent one week and one month after the mailing. Finally, 418 completed questionnaires were received back. Individual questionnaires with one or more items left incomplete were discarded. This left 375 questionnaires for the analyses.

Statistical analysis

Construct validity of the personality instruments was investigated in order to eliminate error variance due to measurement error as far as possible (see Van Wyk, Boshoff & Owen, 1999). Principal Factor Analysis with Direct Quartimin rotation was done for this purpose. When "clean" structures were obtained Confirmatory Factor Analysis was done. Pearson Product-Moment Correlation and Stepwise Multiple Regression were used to determine the relationships between dependent and independent variables by means of the SAS-programme (SAS Institute, 1996).

RESULTS

Factor analysis

The factors identified as being measured by each instrument in this research, the final items are listed in Table 1.

TABLE 1
LIST OF IDENTIFIED FACTORS FOR EACH INSTRUMENT

Abbreviation	Variable	Factor name
JS1	Jenkins Factor 1	Achievement
JS2	Jenkins Factor 2	Hard driving/Competitive
JS3	Jenkins Factor 3	Speed and Impatience
JSG	Jenkins G	Jenkins Global
LC1	Locus of control 1	Internal
LC2	Locus of control 2	External
LC3	Locus of control 3	Vicissitudes of life
CO1	Career orientations 1	Service integration
CO2	Career orientations 2	Job security
CO3	Career orientations 3	Entrepreneurial
CO4	Career orientations 4	Life style
JI	Job involvement	
JS1	Job satisfaction 1	General
JS2	Job satisfaction 2	Internal
JS3	Job satisfaction 3	Supervision
SC1	Self-concept 1	Power
SC2	Self-concept 2	Task accomplishment/Moral
SC3	Self-concept 3	Likeable
ENT1	Entrepreneurial attitude 1	Economic innovation
ENT2	Entrepreneurial attitude 2	Achievement/personal control
ENT3	Entrepreneurial attitude 3	Self-esteem

From: Van Wyk, et al. (1999).

Correlations

A Pearson Correlation coefficient was done to investigate the relationships between job involvement, job satisfaction and personality factors. These relationships are shown in Table 2.

The percentage common variances in Table 2 shows that although 13 out of 20 of the correlations were significant at least the 5% level, the relationships were not strong. None of these relationships between job involvement and an die individual variables reached 10%. A Stepwise Multiple Regression Analysis was done to further investigate this relationship (table 3) with job involvement as dependent variable and job satisfaction and personality factors as independent variables. Table 3 indicates that 19.35% common variance existed between job involvement and the four variables included in the Multiple Regression model.

In order to investigate whether job involvement is predicted differently amongst pharmacists and accountants Stepwise Multiple Regression Analysis was done on the responses of the separate professional groups. The results are shown in Tables 4 and 5. Table 4 shows job involvement scores to be predicted by the scores on four of the personality sub-scales for

pharmacists. The model yielded a total prediction of 24.71% of the variance in job involvement as the dependent variable. Table 5 shows that in the case of accountants, job involvement as dependent variable was predicted by three of the personality sub-scales yielding a total prediction of variance of only 11.01%.

TABLE 2
RESULTS FROM PEARSON CORRELATION COEFFICIENTS
OF FACTOR VARIABLES WITH JOB INVOLVEMENT
FOR THE TOTAL SAMPLE (N=375)

Predictor Variable	Job Involvement (p)	% Common variance
Jenkins F1	0.27 (0.0001)***	7.25
Jenkins F2	0.20 (0.0002)**	3.76
Jenkins F3	0.01 (0.81)	.15
Jenkins Total	0.29 (0.0001)***	8.32
Locus Control 1	0.26 (0.0001)***	6.78
Locus Control 2	-0.05 (0.37)	.02
Locus Control 3	-0.00 (0.97)	.004
Career Orient. 1	0.31 (0.0001)***	9.85
Career Orient. 2	0.01 (0.91)	.004
Career Orient. 3	0.14 (0.006)**	2.02
Career Orient. 4	-0.16 (0.002)**	2.59
Job Sat 1	0.24 (0.0001)***	5.85
Job Sat 2	0.19 (0.0002)**	3.56
Job Sat 3	0.08 (0.10)	.07
Self Concept 1	0.23 (0.0001)***	5.35
Self Concept 2	0.04 (0.40)	.017
Self Concept 3	-0.04 (0.43)	.017
Entrepreneurial 1	0.29 (0.0001)***	8.41
Entrepreneurial 2	0.12 (0.02)*	1.55
Entrepreneurial 3	-0.11 (0.03)*	1.29

*p < .05

**p .01

***p < .001

TABLE 3
RESULTS OF STEPWISE MULTIPLE REGRESSION ANALYSIS OF SUB-SCALE
SCORES ON JOB INVOLVEMENT AS DEPENDENT VARIABLE FOR
PHARMACISTS AND ACCOUNTANTS (N = 375)

Variable entered	F(df)	p	R ²	C(p)
CO 1	40.74 (1;374)	0.0001	0.0985	44.60
CO 4	25.37 (2;373)	0.0001	0.1560	20.07
JF 1	11.19 (3;372)	0.0009	0.1807	10.68
JF 2	5.86 (4;371)	0.160	0.1935	6.79

*

TABLE 4
RESULTS FROM STEPWISE MULTIPLE REGRESSION ANALYSIS OF
SUB-SCALE SCORES ON JOB INVOLVEMENT AS DEPENDENT
VARIABLE FOR PHARMACISTS (N = 200)

Variable entered	F(df)	p	R ²	C(p)
CO 1	36.51 (1;199)	0.0001	0.1557	21.31
CO 4	13.61 (2;198)	0.0003	0.2103	9.26
JF 1	9.58 (3;197)	0.0023	0.2471	1.79

*

TABLE 5
RESULTS FROM STEPWISE MULTIPLE REGRESSION ANALYSIS OF
SUB-SCALE SCORES ON JOB INVOLVEMENT AS DEPENDENT
VARIABLE FOR ACCOUNTANTS (N = 175)

Variable entered	F(df)	p	R ²	C(p)
JF 1	9.48 (1;174)	0.0024	0.0520	8.02
CO 4	4.81 (2;173)	0.0297	0.0777	5.15
CO 1	6.22 (3;172)	0.0136	0.1101	1.05

*

* explanation of symbols (Kaplan, 1990)

F(df): The F value is an indication of the ratio of the regression mean square to the error mean square. The strength of the independent variable entering stepwise on the dependent variable is indicated by this value. The (df) symbol indicates the degree of freedom applied in the computation.

p implies the significance of the calculated relationship/s between the independent and dependent variables of each step. It is an inference of the probability of the chance of occurrence of the larger F value.

R² demonstrates the combination of strength of the "prediction" of the independent variables. The variation of the dependent variable, ascribed to variation in the independent variables is represented by this symbol.

Cp represents the quality of the fit of the number of variables in the model, including the intercept, represented by the p symbol

DISCUSSION

The results of the present study are discussed in comparison with that of previous research findings. This discussion will take into consideration the effect of inflated findings due to the large N's and mono-method variance.

The relationship between job involvement and job satisfaction was significantly positive concerning general job satisfaction ($r = 0.24$), internal job satisfaction ($r = 0.19$) and the job satisfaction total ($r = 0.23$). Although previous studies used many and diverse instruments, most studies confirm a positive significant relationships between job satisfaction and job involvement (Adams, King, & King, 1996; Batlis, 1980; Brown, Cron & Leigh, 1993; Feldman & Turnley, 1995; George, 1995; Harris & Mossholder, 1996; Heaven, 1994; Holton & Russel, 1997; Jamal & Badawi, 1995; Jenkins & Maslach, 1994; Mael & Tetrick, 1992; Mishra, 1997; Newcombe, 1997; Parasuraman & Alutto, 1984; Riipinen, 1994; Riordan & Griffeth, 1995; Rosin & Korabik, 1995; Siegall & McDonald, 1995; Smart, 1998; Smith & Tisak 1993; Strümpher, 1997). Only the study by Efraty & Wolfe (1988) indicate a significant negative relationship between job involvement and the job satisfaction total ($r = -0.26$). It could be argued that the sample of participants in the Efraty & Wolfe (1988) study might have had particular circumstances that contributed to this negative relationship. However in the Stepwise Multiple Regression with job involvement as dependent variable, none of the job satisfaction scales entered into the prediction model.

Low but significant correlations were found between job involvement and the entrepreneurial attitude orientations of: economic innovation ($r = 0.29$; $p = 0.0001$); achievement/personal control ($r = 0.12$; $p = 0.02$) and ENT self-esteem ($r = -0.11$; $p = 0.03$). No previous research on these relationships could be found. In the Stepwise Multiple Regression Analysis with job involvement as dependent variable, none of the entrepreneurial attitude orientations entered into the prediction model.

The relationship between job involvement and career orientations sub-scales were significant in terms of service dedication (CO 1) $r = 0.31$; entrepreneurship (CO 3) $r = 0.14$; and life style integration (CO 4) $r = -0.16$. As far as could be

established no previous research concerning the relationship between these two variables could be found. In the Stepwise Multiple Regression Analysis with job involvement as dependent variable, dedication (CO1) and life style integration (CO4) entered into the prediction models in all three predictions of the total sample and the sub-samples of pharmacists and accountants. The career orientations of dedication and life style integration therefore seem to be strongly related to job involvement.

In the relationships between job involvement and the Type A total and sub-scale scores significant positive relationships were found with achievement ($r = 0.27$); hard driving/competitive ($r = 0.19$) and Jenkins total ($r = 0.29$). This is similar to the findings of Chusmir and Hood (1986, 1988). The Jenkins factors 1 (achievement) and 2 (hard Driving/Competitive) both entered into the prediction model of job involvement as dependent variable. According to the findings of the present study, a fair relationship seems to exist between job involvement and Type A behaviour.

A significant positive relationship is indicated between job involvement and internal locus of control ($r = 0.26$). This corresponds with previous findings (Dailey, 1980; Edwards & Walters, 1980; Heaven, 1994; Knoop, 1981; Parasuraman & Alutto, 1984; Remondet & Hansson, 1991). In the prediction model of job involvement as dependent variable, none of the locus of control sub-scales contributed to the prediction. On the other hand locus of control entered into the prediction model of job involvement in the Meta-Analysis by Brown (1996) explaining 12.5% of the variance. It is concluded that the relationship between these components is not yet clear.

The relationship between job involvement and the power self-concept sub-scale indicated a significant correlation ($r = 0.23$). The study by Orpen (1982) also indicates a positive significant relationship between job involvement and the self-concept of policemen (N = 31; $r = 0.05$) and bank clerks (N = 41; $r = 0.05$). The Meta-Analysis by Brown (1996) indicated self-esteem as explaining 11.5% of the variance in job involvement. Brown (1996) explains the strong relationship between self-esteem and job involvement, that persons with high self-esteems tend to evaluate themselves as skilled and capable and would be more inclined to seek challenges in the work situation than those with low self-esteem. In the current study however, self-esteem did not enter the prediction with job involvement as dependent variable.

The models developed by Stepwise Multiple Regression Analysis indicate a rather weak prediction of job involvement with common variances varying between 11.01% and 24.71%. This was, as far as could be established, a first attempt. Of importance, however is that the career orientations sub-scales dedication and life style integration as well as the Jenkins factor achievement entered all three prediction models (the total sample and the two careers separated).

The contribution of the present study is to explore the relationship between the job involvement and biographic variables, job satisfaction and different personality variables in a sample of professional people. The sample was defined systematically and seemed to portray a distinct statistical set. The results indicate that only a small proportion of the variance of job involvement could be explained by the variables included in the present study. As far as could be established the relationship between job involvement and career orientations and entrepreneurial attitude orientations were investigated for the first time.

It would be advisable to use instruments with higher internal reliability in future studies by revalidating these instruments for the South African population (with the exception of the job involvement questionnaire). Future studies should be done on

other professionals aside from pharmacists and accountants. Future analysis of the data gathered in this study is possible.

The question arises whether personality variables should be seen as related to or causes of job involvement. Though some weak predictions were indicated, they are probably inflated due to the high N value. The results of the present study seem to indicate that the relationships are indeed tenuous, if they exist at all. The weak predictions job involvement by the career orientations of dedication and life style integration, Type A achievement and hard driving behaviour, could be an indication to management that the development of these areas could improve job involvement. Keeping in mind the weak predictions of job involvement, the determination of the causal factors of job involvement should probably now be in other directions, rather than to continue searching for relationships between job involvement, biographic variables, satisfaction and personality variables. Brown (1996) suggests that certain unidentified psychological mediating factors, for instance emotion or creativity, could play a role in the relationships between antecedents and job involvement. Future research on the relationship between the organisational variables of job involvement and job satisfaction should consider the influence of psychological determinants as mediating factors.

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