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# The Stimulation of an Internal Locus of Control in Employees in a Manufacturing Industry

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## ABSTRACT

South African society is characterised by rapid change as a result of various forces. This results in feelings of frustration, helplessness and uncertainty in employees, which affects their work performance. Helplessness, frustration and uncertainty are directly related to an external locus of control, whereas an internal locus of control is related to autonomy, a sense of responsibility and job performance. A two-group design was used to determine the impact of a training programme aimed at the stimulation of an internal locus of control on employees within manufacturing industry. The training programme contributed to increasing the internal locus of control and psychological optimality of participants, whereas their need for external support decreased and they started to act more autonomously.

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## INTRODUCTION

South African society is characterised by rapid change because of international competition, new organisation structures and pressure with regard to affirmative action (Morobe & Raubenheimer, 1994). As a result of past laws, some groups within South African society have been educationally deprived, which means that they are not adequately equipped for the pressures and demands of a changing work environment (Bothma & Schepers, 1997; Uys, 1993). Consequently employees often experience feelings of frustration, powerlessness and uncertainty, which are related to dysfunctional coping strategies and specific personality variables, one of which is locus of control (Marais, 1997; Raubenheimer, 1998).

Marais (1997) and Raubenheimer (1998) have found that there is a relationship between external locus of control and dysfunctional coping strategies. Agathagelou and Rothmann (in press) found that locus of control is related to job satisfaction. Moerdyk (1986) showed that a clear correlation exists between

external locus of control on the one hand and passivity, slow decision making and unrealistic expectations of the work environment on the other. In addition, Rahim (1996) found that persons with an external locus of control are not capable of managing the pressures, uncertainties and challenges of a demanding work situation. It would therefore appear that various researchers relate an internal locus of control to better work performance. Furthermore, it would appear that passive and dependent behaviour is considerably reduced when an internal locus of control is stimulated (Day & Matthes, 1991; Van den Berg, 1988).

According to Zenger (1996), research on programmes for the stimulation of an internal locus of control in the work situation has not received much attention. In addition, it is generally acknowledged that the contents of such programmes are often outdated and that they are not based on fundamental scientific research. Furthermore they only comprise the passive acquisition of skills and/or focus on the improvement of educational qualifications (Zenger, 1996).

The aim of this research is to determine the effect that a training programme aimed at the stimulation an internal locus of control has on employees within a manufacturing industry.

## LOCUS OF CONTROL THEORY

The concept *locus of control* developed from social learning theory (Rotter, 1966) and attribution theory (Heider, 1958). Social learning theory emanated from the view that the strengthening of behaviour leads to an increase in the expectation that the specific behaviour or a special occurrence will be followed by that strengthening of behaviour in future (Rotter, Chance and Phares, 1972). When the individual perceives that strengthening follows one's own behaviour, but is not the result of it, this is typically seen as the outcome of luck, fate or the influence of others, or as something unpredictable. If the occurrence is perceived in this way, it is defined as *external* locus of control. Should the person perceive the occurrence to be the result of own behaviour, abilities or personal characteristics, it is defined as *internal* locus of control (Lefcourt, 1966; Phares, 1976).

According to Plug, Louw, Gouws and Meyer (1997) the concept *locus of control* is a personality dimension which has to do with the extent to which people feel that they themselves (internal control) or factors within the situation (external control) determine their behaviour. The concept *locus of control* is related to work performance, autonomy, sense of responsibility and decision making (Burke & Gottesfield, 1986; Erwee & Pottas, 1982; Moerdyk, 1986).

With reference to the development of an internal locus of control, Meichenbaum and Goodman (1971) found that the addition of explicit self-instruction to modelling techniques adds to a significant change in behaviour because the individual develops the sensation of internal control. Hazareesing and Bielawski (1991) found that a significant relationship exists between cognitive self-instruction combined with didactic competency training and the development of an internal locus of control.

According to Heider (1958) the attribution theory is concerned with the way in which the individual utilises information from the environment to provide explanations for occurrences (Collins, 1974). This theory makes it possible to focus on the individual's method of processing information during training opportunities in order to influence his/her attributes and feeling of control. During individual counselling people can be made aware of their own attributes (e.g. self-concept) and the influence this have on their internal or external control (Yamauchi, 1988). In this respect training should focus on cognitive self-insight and improvement of the self-concept.

Analytical theory (Jung, 1971) focuses on opposing sub-systems (attitude and functions) within the person. A balance between these polarities and the transition of an outwardly to an inwardly directed adaptation can lead to a feeling of control over self and the external environment (Meyer, Moore & Viljoen, 1994). Jung's theory (1971) relates the individualisation process to the experience of internal control. Individualisation not only comprises the initial development of dominant attitudes and functions, but also involves the consciousness of non-dominant attitudes and functions which lead to better adaptation and relationships (Day & Matthes, 1992). Exposure to a growth group eases this individualisation process as group members are encouraged to consciously experience their non-dominant attitudes and functions through continuous feedback from other group members (Whitmont, 1964). The consciousness of blind spots in the psyche leads to self-awareness and a feeling of internal control (Day & Mattes, 1992; Diamond & Shapiro, 1973).

Rogers's person-centred theory (1961) offers a structure for individual and group counselling aimed at the stimulation of an internal locus of control. According to this theory, the individual moves away from the idea of living according to the standards of others towards the perception of him/herself as a self-directed person with standards and values formulated through own experiences (Rogers, 1970, 1973). Rothmann, Sieberhagen and Cilliers (1998) found that individuals accept greater responsibility based on the application of the methods in this theory in a training program. Related to this Cilliers and Wissing (1993) found that a development programme in sensitive relating also contributes to the development of an internal locus of control.

From the above-mentioned theories it is clear that the development of an internal locus of control is also related to self-development or self-actualisation (Rothmann & Sieberhagen, 1997). It could therefore be deduced that methods directed at facilitating self-actualisation will be instrumental in stimulating an internal locus of control (see Cilliers & Wissing, 1993; Rothmann & Sieberhagen, 1997).

Various forms of competency training are related to the stimulation of an internal locus of control. James, Charlton, Leo and Indoe (1991) made use of individual counselling combined with competency training (e.g. reading and spelling) in order to simulate an internal locus of control. The results, however, gave no indication of significant changes in the participants' locus of control. The implication for the work situation is that training in technical skills, conflict management, interpersonal skills and problem-solving may be related to developing an internal locus of control.

Nurco *et al.* (1995) found that training in effective problem solving, communication, assertiveness and stress management contributed to respondents developing greater internal control. Johnson and Johnson (1991) found a statistically significant improvement in the direction of the internal locus of control as a result of exposure to a programme which focused on the acquisition of assertive behaviour, career skills, independence, building family ties and self-perception in encounter groups. Shechtman, Gilet, Fos and Flasher (1996) found that a training programme focused on problem solving, conflict management skills and group counselling, contributed to the development of an internal locus of control.

Zhang (1994) studied the relationship between effective conflict management and the stimulation of an internal locus of control, as well as a better self-concept and better academic performance. The content of the training programme covered the following four areas: prevention of violence, basic negotiation skills, the application of negotiation skills and basic facilitation skills. The results indicate that the acquisition of effective conflict management skills in conjunction with social support is directly related to an internal locus of control and an improved self-concept.

Gendron, Lemberg, Allender and Bohanske's (1992) training programme is aimed at the improvement of intrapersonal and interpersonal skills, and aspects such as identity, perfectionism and intimacy are included in this programme. In contrast with various other studies, this study found no statistically significant change in the development of an internal locus of control (Gendron *et al.*, 1992). Yong-She (1990) found that an internal locus of control and sense of responsibility could be improved in significant ways through instruction. He

found that various forms of instruction as well as the level of intelligence and age-various types were consequential to the development of an internal locus of control and a greater sense of responsibility.

Various studies have been conducted aimed at self-talk and cognitive self-instruction. Meichenbaum, Gilmore and Fedoravicius's (1971) programme involved the learning of self-talk styles by means of modelling in order to develop an internal locus of control. Knight (1994) found that interventions aimed at the awareness of new perspectives led to a greater internal locus of control.

Fertman and Chubb (1992) studied the relationship between personal empowerment programmes and the self-concept, as well as internal locus of control. The workshop comprised small- and large-group activities focused on leadership, communication, assertiveness, stress management and decision making. Although the results of this study did not show a significant difference in locus of control, the locus of control in the experimental group became more internalised, while the locus of control in the control group became more externalised.

Stirling and Reid (1992) developed a training programme focused on participant control in order to stimulate a greater internal feeling of control in the sample individuals. The training programme was aimed at the learning of skills such as sensitivity, goal setting, communication, problem solving, the collection of information and the interpretation of behaviour. The results indicate that training in these competencies leads to a feeling of internal locus of control and a positive self-concept.

Wege and Möller (1995) found that competency training in problem solving gives rise to the development of an internal locus of control and post-testing after two months confirmed that results are permanent over the long term.

The development of self-insight often leads to the identification of a gap in skills. If skills in problem solving, conflict management, communication and assertive behaviour are learned, the individual experiences more autonomy and internal control in situations. It therefore makes sense to integrate the competency training of individuals in group counselling. Individual counselling, followed by an intensive growth group experience with concomitant skills training through active participation, will apparently lead to internal control and should be investigated more intensively by trainers within the industry.

## METHOD

### Research design

A two-group (pre and post-test) design was used to evaluate the training programme (Huysamen, 1993). The aim of this design was to determine the effect of the independent variable (training programme) on the dependent variable (self-actualisation and locus of control of participants) (Huysamen, 1993).

### Composition of the training programme

The training programme compiled was based on techniques, methods and personality theories from behaviouristic, humanistic and psycho-analytical paradigms. The training programme had the following components:

- *Individual counselling sessions.* The purpose of the individual counselling sessions was to create a climate of trust and openness. This offered the participant the opportunity to think about his/her self-actualisation. The discussion lasted approximately 30 minutes per person.
- *Growth group.* Two days of the training programme were presented in the form of a growth group experience, more specifically as an encounter group (Rogers, 1974). The purpose was to give the participants the opportunity to develop by awakening their intra- and interpersonal awareness in the situation that they found themselves to be. The growth group lasted 17,45 hours. A total of 14 hours were spent on group sessions and 3,45 hours on tea and meals.
- *Competency training.* The competency training component of the training programme was presented in one day and lasted 8 hours. A total of 6,15 hours were spent on training and 1,45 hours on tea and meals. The competency training focused on assertiveness, interpersonal skills, conflict management and problem solving. Participants also had the opportunity of applying theoretical knowledge and newly acquired self-knowledge to practice so that learning could be transferred to the work situation.

### Sample

The sample was drawn from various plants in the chemical industry. A random sample of 28 persons (white and black), fluent in Afrikaans and/or English, was involved. These persons were randomly assigned to the experimental group (N = 14) and the control group (N = 14).

### Measuring instruments

The following standardised measuring instruments were used to evaluate the effect of the training programme:

The Personal Orientation Inventory (POI) (Shostrom & Knapp, 1966) to measure the components of self-actualisation (see Table 1).

**Table 1 The POI-scales**

<b>PRIMARY SCALES</b>	
Time Ratio (TC)	Measures time competency, i.e. a reality-orientated awareness of the present, where experience from the past and future expectations exist in a meaningful continuity.
Support Ratio (I)	Measures reaction from the self in an independent and autonomous way, based on internalised principles and motivation.
<b>SUB-SCALES</b>	
Self-actualising Value (Sav)	Measures the confirmation of primary values of a self-actualising person.
Existentiality (Ex)	Measures the ability to act according to the demands of a situation - i.e. to act existentially, without the rigid maintenance of principles.
Feeling Reactivity (Fr)	Measures responsiveness to own feelings and needs.
Spontaneity (S)	Measures the freedom to act spontaneously or to be oneself.
Self-regard (Sr)	Measures the confirmation of the self based on own values or strengths.
Self-acceptance (Sa)	Measures the confirmation of the acceptance of the self despite weaknesses or shortcomings.
Nature of Man (Nc)	Measures the degree to which a constructive awareness regarding human existence is held.
Synergy (Sy)	Measures the ability to be synergistic - i.e. to transcend opposites.
Acceptance of Aggression (A)	Measures the ability to accept own natural aggression in contrast with denial, or a defensive attitude regarding aggression.
Capacity for Intimate Contact (C).	Measures the ability to develop meaningful, intimate relations with other persons, without expectations and duties.

The reliability of the POI varies between 0,41 and 0,82 (Schulz, 1994). The POI comprises construct validity, as is apparent from the significant correlation with the Sixteen Personality Factor Questionnaire (16PF). The support ratio correlates positively with emotional stability, self-assertion and enthusiasm (as measured by the 16PF). Fouche (1998) found internal consistency coefficients varying between 0,24 and 0,75 at a tertiary education institution. Regarding the validity of the POI, she found that the construct validity of the POI was acceptable.

The Locus of Control Questionnaire (LCQ) (Scheppers, 1995) to measure the locus of control of participants. The LCQ consists of three scales, namely External Control, Internal Control and Autonomy.

External Control measures the extent to which the respondent attributes performance to forces outside his/her control (luck, fate, circumstances or influential people).

Internal Control measures whether the respondent attributes performance to causes within his/her control (ability, behaviour, or personal characteristics). Autonomy measures whether the respondent believes in his/her ability, acts independently with self-confidence, and decides and takes action to solve problems.

The three scales in this instrument were subjected to an item analysis and the reliability was higher than 0,80. Significant correlations with the following instruments confirm the construct validity of the LCQ: The General Scholastic Aptitude Test, the Sixteen Personality Factor Questionnaire; the Jung Personality Questionnaire; The Personal, Home, Social and Formal Relationship Inventory and the Survey of Study Habits and Attitudes (Scheppers, 1995). With regard to criterion related validity, it was found that the questionnaire correlated with a composite criterion of job success ( $r = 0,62$ )

### **Statistical analysis**

Data were processed with the aid of the SAS package (SAS Institute, 1985). T-tests were used to determine the significance of the differences between the averages in the pre-and post-measurements of the experimental and control groups, and to determine whether there was a significant difference in the changes between the two groups (Christensen & Stoup, 1991). Results are considered significant if the p-values are smaller than 0,05.



The practical importance of the results (effect sizes) is noted if the final p-values are statistically significant. Cohen (1988) identifies the following cut-off points with regard to effect sizes:

$d = 0,2$  small effect

$d = 0,5$  medium effect

$d = 0,8$  large effect

The practical importance (effect sizes) with regard to the comparison between the experimental and the control group is identified by the following symbols (Steyn, 1999):

$$d = (\bar{X}_E - \bar{X}_C) / s_{MAX}$$

where

$\bar{X}_E$  = the mean of the difference between the measurements of the experimental group,

$\bar{X}_C$  = the mean of the difference between the measurements of the control group, and

$s_{MAX}$  = the maximum standard deviation between the experimental and control group.

The practical importance is set at a significant level of  $d = 0,8$ , but the medium effect ( $d = 0,5$ ) is also taken into account.

## RESULTS

The differences between the LCQ results of the experimental and control group with regard to the different measurements are depicted in Table 2.

**Table 2 The Differences between Pre- and Post-Measurement in respect of Locus of Control of the Experimental and Control Groups**

Item	EG (N=14)		CG (N=14)		p	d
	$\bar{X}$	s	$\bar{X}$	s		
External	-27,28	18,06	6,07	8,81	0,0001*	1,17 <sup>++</sup>
Internal	14,64	11,73	-5,93	8,40	0,0001*	1,75 <sup>++</sup>
Autonomy	21,50	17,36	-4,29	4,95	0,0001*	1,49 <sup>++</sup>

\* Difference is statistically significant:  $p \leq 0,05$

++ Difference is practically significant:  $d \geq 0,80$  (large effect)

Based on the results in Table 2, it would appear that statistically significant and practically significant differences (of large effect) exist between the pre-and post-measurement of the experimental and the control group.

It therefore follows that the training programme contributed significantly to the improvement of the experimental group's internal locus of control and autonomy. The programme also contributed significantly to the decrease of an external locus of control. On the basis of the results it is concluded that the experimental group ascribes their performance to consequences within their own control, not to causes outside of their control, while steps were confidently taken to solve problems.

The difference between the POI results of the experimental and the control group is shown in Table 3.

**Table 3 The Differences between Pre- and Post-Measurement in respect of the POI of the Experimental and Control Groups**

Item	EG (N=14)		CG (N=14)		p	d
	$\bar{X}$	s	$\bar{X}$	s		
TC	0,50	3,35	-0,21	2,83	0,5474	-
I	79,36	8,20	70,71	8,31	0,010*	1,04 <sup>++</sup>
Sav	2,36	3,15	0,21	2,36	0,052	0,68 <sup>+</sup>
Ex	2,93	5,08	1,86	3,01	0,502	-
Fr	1,71	3,75	0,21	2,04	0,203	-
S	2,07	2,33	1,21	2,49	0,355	-
Sr	1,79	2,64	0,14	1,23	0,048*	0,63 <sup>++</sup>
Sa	2,07	2,73	0,00	2,57	0,048*	0,76 <sup>++</sup>
Nc	0,92	2,34	0,36	2,28	0,517	-
Sy	1,86	1,51	0,00	1,57	0,003*	1,18 <sup>++</sup>
A	2,36	3,82	-0,29	3,91	0,081	-
C	4,79	5,10	2,21	3,00	0,115	-

\* Difference is statistically significant:  $p \leq 0,05$

+ Difference is practically significant:  $d \geq 0,50$  (medium effect)

++ Difference is practically significant:  $d \geq 0,80$  (large effect)

On the basis of the results in Table 3, it would appear that a statistically significant and practically meaningful difference (of medium effect) exists between the pre- and post-measurement of the experimental and control groups with regard to the Sav dimension of the POI. Statistically significant and

practically significant differences (of large effect) exist between the pre- and post-test of the experimental and control groups with regard to the I, Sr, Sa, and Sy dimensions of the POI.

The experimental group showed increased reaction from within the self and reached decisions independently, while striving increasingly towards self-actualisation. An increasing feeling of self-regard was experienced by the experimental group, which is characterised by self-acceptance in spite of shortcomings or weaknesses. It is clear from the experimental group's actions that they increasingly possessed the ability to act synergistically and see opposites in a meaningful relation. As a result, it follows that the training programme added to the improvement of the participants' self-actualisation.

## DISCUSSION

The training programme in locus of control and self-actualisation did contribute to the participants' internal locus of control and positively influenced their psychological optimality, as measured by the various instruments used to determine this. Concerning external locus of control, it can be predicted that participants will be less inclined to ascribe performance to causes outside their control, such as luck, fate or influential people. With regard to autonomy it can be expected that the participants would believe in their own abilities following the training programme and will act independently and with self-confidence in decision making and problem solving.

In relation to personality characteristics, the training programme succeeded in increasing the experimental group's level of psychological optimality. This was in contrast to the control group. The following dimensions, as measured by the relevant instruments, are indicative of the experimental group's self-actualisation:

With regard to the *support ratio*, it may be expected that participants will act independently and autonomously. They will be more inclined to act from internalised principles and motivation and succeed in taking decisions independently, immediately following the training programme.

Regarding *self-actualisation*, it may be expected that participants will strive towards self-actualisation immediately following the training programme. This tendency indicates that participants live according to values belonging to self-actualisation.

Concerning *self-regard*, it may be expected that the participants' feelings of self-worth will improve immediately following the training programme.

With regard to *self-acceptance* it may be expected that participants will accept their own weaknesses and shortcomings immediately following the training programme.

Regarding *synergy*, it may be expected that the participants will possess the ability to see and transcend opposites meaningfully immediately following the training programme.

A combination of stimulating self-awareness and self-development through individual counselling and a growth group experience (Day & Matthes, 1992), and training in conflict management, interpersonal effectiveness as well as problem solving (Nurco *et al.*, 1995; Shechtman *et al.*, 1996) may lead to employees accepting responsibility from an internal locus of control.

It is clear from the literature study that the locus of control cannot be seen in isolation and that various personality dimensions, as measured by the POI, are related to the locus of control. Self-assurance, a healthy self-concept, socio-economic status, job autonomy, contentment and meaningful interpersonal relationships have been related to the locus of control by various researchers. The empirical research results of this study are therefore supported by other research in the literature too (see Day & Matthes, 1992; Hazareensing & Bielawski, 1991; Rothmann *et al.*, 1998).

The empirical research included members from various job levels within the chemical industry. This led to a very heterogeneous experimental and control group, which could have influenced the results of this study. The nature of the research however placed restrictions on the size of the research group. The experimental group was limited to 14 participants which limited the generalisation of the results. Half the control group ( $N = 7$ ) were not employed in the industry after three months, and the long term results of the programme could therefore not be determined.

Certain sections in the industry where the research took place were characterised by authoritarian supervisors, which resulted in the desirability of the internal locus of control being questioned and regression to a lower internal locus of control and higher external locus of control being highly likely. From a systems approach, it is recommended that variables within the organisation, which exercise a limiting influence on the development and maintenance of internal locus of control and leads to weaker performance, be researched.

## REFERENCES

- 1 AGATHAGELOU, A.M. & ROTHMANN, S. (1999) "Die Verband tussen Lokus van Beheer en Werkstevredenheid by Polisielede", *Tydskrif vir Bedryfsielkunde*, in press.
- 2 BOTHMA, A.C. & SCHEPERS, J.M. (1997) "The Role of Locus of Control and Achievement Motivation in the Work Performance of Black Managers", *Journal of Industrial Psychology*, 23(3): 44-52."
- 3 BURKE, E & GOTTESFELD, H. (1986) "Internal Power and Individuality", *Psychological Reports*, 59(7): 792-4.
- 4 CHRISTENSEN, L.B. & STOUP, C.M. (1991) *Introduction to Statistics for the Social and Behavioural Sciences*, 2<sup>nd</sup> ed., CA: Brooks/Cole, Pacific Grove.
- 5 CILLIERS, F.V.N. & WISSING, M.P. (1993) "Sensitiewe Relasievorming as Bestuursdimensie: Die Evaluering van 'n Ontwikkelingsprogram", *Tydskrif vir Bedryfsielkunde*, 19(1): 5-10.
- 6 COHEN, J. (1988) *Statistical Power Analysis for the Behavioral Sciences*, Revised ed., Academic Press, Orlando.
- 7 COLLINS, B.E. (1974) "Four components of the Rotter Internal-External Scale: Belief in a Difficult World, a Just World, a Predictable World and a Politically Responsive World", *Journal of Personality and Social Psychology*, 29(3): 381-91.
- 8 DAY, B & MATTHES, W. (1992) "A Jungian Stage Theory of Individual Development in Personal Growth Groups", *The Journal for Specialists in Group Work*, 7(2): 168-82.
- 9 DIAMOND, M.J. & SHAPIRO, J.L. (1973) "Changes in Locus of Control as a Function of Encounter Group Experiences", *Journal of Abnormal Psychology*, 82(3): 514-8.
- 10 ERWEE, R. & POTTAS, C.D. (1982) "Locus of Control and Achievement Motivation of Managers", *Psychologia Africana*, 21: 79-102.
- 11 FERTMAN, C.I. & CHUBB, N.H. (1992) "The Effects of a Psycho Educational Program on Adolescents' Activity Involvement, Self-esteem, and Locus of Control", *Adolescence*, 27(107): 517-27.
- 12 GENDRON, M., LEMBERG, R., ALLENDER, J. and BOHANSKE, J. (1992) "Effectiveness of the Intensive Group Process-retreat Model in the Treatment of Bulimia", *Group*, 16(2): 69-78.
- 13 GEORGE, W.W. (1983) "How Honeywell Takes Advantage of National Cultural Differences", *Forum*, 72(9): 29-36.
- 14 HAZAREESINGH, N.A. & BIELAWSKI, L.L. (1991) "The Effects of Cognitive Self-instruction on Student Teachers' Perceptions of Control", *Teacher & Teacher Education*, 7(4): 383-93.

- 15 HEIDER, F. (1958) *"Psychology of Interpersonal Relations"*, Wiley, New York.
- 16 HUYSAMEN, G.K. (1993) *Metodologie vir die Sosiale en Gedragswetenskappe*, Southern Boekuitgewers, Halfweghuis (SA).
- 17 JAMES, J., CHARLTON, T., LEO, E. and INDOE, D. (1991) "Using Peer Counsellors to Improve Secondary Pupils' Spelling and Reading Performance", *Maladjustment & Therapeutic Education*, 9(1): 33-40.
- 18 JOHNSON, C.L. & JOHNSON, J.A. (1991) "Using Short-term Group Counselling with Visually Impaired Adolescents", *Journal of Visual Impairment and Blindness*, 85(4): 166-70.
- 19 JUNG, C.G. (1971) "Psychological types", In J. Campbell (ed.), *The Portable Jung*, Viking, New York.
- 20 KNAPP, P.R. & SHOSTROM, E.L. (1976). "POI Outcomes in Studies of Growth Groups: A Selected Review", *Group and Organization Studies*, 1(2): 187-202.
- 21 KNIGHT, B.A. (1994) "The Effects of a Teaching Perspective of Guided Internality on Intellectually Disabled Students' Locus of Control Orientation", *Educational Psychology*, 14(2): 155-66.
- 22 LEFCOURT, H.M. (1966) "Internal versus External Control of Reinforcement", *Psychological Bulletin*, 63(4): 206-20.
- 23 MARAIS, C. P. (1997) "Salutogenesis as Paradigm in Change Management", Unpublished masters dissertation, Unisa, Pretoria.
- 24 MEICHENBAUM, D., GILMORE, D. and FEDORAVICIUS, A. (1971) "Group Insight versus Group Desensitization in Treating Speech Anxiety", *Journal of Consulting and Clinical Psychology*, 36: 410-21.
- 25 MEICHENBAUM, D.H. & GOODMAN, J. (1971) "Training Impulsive Children to Talk to Themselves", *Journal of Abnormal Psychology*, 77(2): 115-26.
- 26 MEYER, W.F., MOORE, C. and VILJOEN, H.G. (1994) *"Persoonlikheidsteorieë van Freud tot Frankl"*, Lexicon, Johannesburg.
- 27 MOERDYK, A.P. (1986) "Planning and Implementing a Black Advancement Programme", In R. Smollan (ed.), *Black Advancement in the South African Economy*: 155-77, Houndmills, Macmillan, Basingstake.
- 28 MOROBE, K.G. & RAUBENHEIMER, J.R. (1994) "Leadership Training for Black Managers", *Psychosocial Research and Practice*, 7: 29-32
- 29 NURCO, D.N., PRIMM, B.J., LERNER, M., STEPHENSON, P., BROWN, L.S. and AJULUCHUKWU, D.C. (1995) "Changes in Locus-of Control Attitudes about Drug Misuse in a Self-help Group in a Methadone Maintenance Clinic", *The International Journal of Addictions*, 30(6): 765-78.
- 30 PHARES, E.J. (1976) *Locus of Control in Personality*, General Learning Press, New York.

- 31 PLUG, C.L., LOUW, D.A.P., GOUWS, L.A. and MEYER, W.F. (1997) *Verklarende en Vertalende Sielkundewoordeboek*, Heinemann, Johannesburg.
- 32 RAHIM, A. (1996) "Stress, Strain, and their Moderators: An Empirical Comparison of Entrepreneurs and Managers", *Journal of Small Business Management*, Jan.
- 33 RAUBENHEIMER, B. (1998) "Coping in die Suid-Afrikaanse Geheime Diens: 'n Fortigene-benadering", Unpublished masters dissertation, PU vir CHO, Potchefstroom.
- 34 ROGERS, C.R. (1961) *On Becoming a Person: A Therapist's View of Psychotherapy*, Houghton-Mifflin, Boston, MA.
- 35 ROGERS, C.R. (1970) *Carl Rogers on Encounter Groups*, Harper and Row, New York.
- 36 ROGERS, C.R. (1973) *"Client-centered Therapy"*, Constable, London.
- 37 ROTHMANN, S. & SIEBERHAGEN, G. (1997) "Die Samestelling en Evaluering van 'n Groepfasiliteringskursus", *Tydskrif vir Bedryfsielkunde*, 23(3): 9-14.
- 38 ROTHMANN, S., SIEBERHAGEN, G. and CILLIERS, F.V.N. (1998) "Die Kwalitatiewe Effek van 'n Groepfasiliteringskursus", *Tydskrif vir Bedryfsielkunde*, 24(3): 9-14.
- 39 ROTTER, J.B. (1966) "Generalized Expectancies for Internal versus External Control of Reinforcement", *Psychological Monographs*, 80: 1-28.
- 40 ROTTER, J.B., CHANCE, J.E. and PHARES, E.J. (1972) *Applications of a Social Learning Theory of Personality*, Holt, Rinehart & Winston, New York.
- 41 SAS INSTITUTE INC. (1985) *SASR Users Guide: Statistics*, 5<sup>th</sup> ed., SAS Institute Inc, Cary, NC.
- 42 SCHEPERS, J.M. (1995) *"Die Lokus van Beheer-vraelys: Konstruksie en Evaluering van 'n Nuwe Meetinstrument"*, RAU, Johannesburg.
- 43 SCHULZ, G.M. (1994) "Reliability and Validity of the Personal Orientation Questionnaire in South Africa", Unpublished masters thesis, Unisa, Pretoria.
- 44 SHECHTMAN, Z., GILAT, I., FOS. L. and FLASHER, A. (1996) "Brief Group Therapy with Low-achieving Elementary School Children", *Journal of Counselling Psychology*, 43(4): 376-82.
- 45 SHOSTROM, E.L. & KNAPP, R.R. (1966) "The Relationship of a Measure of Self-actualization (POI) to a Measure of Pathology (MMPI) and to Therapeutic Growth", *American Journal of Psychotherapy*, 20: 193-202.
- 46 STEYN, H.S. (1999). "Praktiese Beduidendheid: Die Gebruik van Effekgroottes", *Wetenskaplike Bydraes van die PU vir CHO: reeks B. PU vir CHO, Potchefstroom*.

- 47 STIRLING, G., & REID, W. (1992) "The Application of Participatory Control to Facilitate Patient Well-being: An Experimental Study of Nursing Impact on Geriatric Patients", *Canadian Journal of Behavioural Science*, 24(2): 204-19.
- 48 UYS, H. (1993) "Obstacles to Black Advancement: Unrealistic Expectations versus Self-empowerment", *Acta Academica*, 25(2&3): 173-89.
- 49 VAN DEN BERG, G.C. (1988) "Perseptuele Verskille tussen Werknemers en Bestuur ten opsigte van Swart Vooruitgang in die Werksituasie." *South African Journal of Labour Relations*, 12(3-4): 24-44.
- 50 WEGE, J.W. & MÖLLER, A.T. (1995) "Effectiveness of a Problem-solving Training Program", *Psychological Reports*, 76: 507-14.
- 51 WHITMONT, E.C. (1964) "Group Therapy and Analytical Psychology", *Journal of Analytical Psychology*, 9(1): 1-22.
- 52 YAMAUCHI, H. (1988) "Effects of Actor's and Observer's Roles on Causal Attributions by Japanese Subjects for Success and Failure in Competitive Situations", *Psychological Reports*, 63: 619-26.
- 53 YONG-SHENG, Z. (1990) "Development of 'Locus of Control' Related to Responsibility in Middle-school Students", *School Psychology International*, 11(3): 209-15.
- 54 ZENGER, J.H. (1996) "Great Ideas Revisited", *Training and Development Journal*, 48-51.
- 55 ZHANG, Q. (1994) "An Intervention Model of Constructive Conflict Resolution and Cooperative Learning", *Journal of Social Issues*, 50(1): 99-116.