

CHAPTER 7

SELECTION TECHNIQUE: NOWICKI-STRICKLAND & LEFCOURT I/E SCALES

7.1 Introduction [§]

Locus of control is a personality variable that has been defined as a generalised expectancy that rewards, reinforcements or outcomes in life are controlled by one's own actions (internally) or by other forces (externally) according to Spector (1988:335).

The concept "locus of control" was created by Rotter (1966:2) who described the internal-external locus of control construct as a generalised expectancy, relating behaviour to reinforcements in a variety of situations as mentioned in Lefcourt (1981:15). The internal pole of this continuum refers to the individual's belief that outcomes are a consequence of own striving, ability and initiative. The external pole, on the other hand, refers to the individual's belief that outcomes are independent of own behaviour according to O' Brien (1986: 134) and confirmed by Le Roux *et al* (1997:2).

7.2 Definition and description

Internal locus of control is a generalised expectancy that a person's own attempts will result in a positive reward. If a person perceives that external factors such as luck, faith or other influential people, are responsible for rewards it points to an external locus of control according to de Kock and Roodt (1995:12), Thebe (1992:12), as well as James (1957:84).

Gibson *et al* (1997:113) defines locus of control as:

“a personality characteristic that describes people who see the control of their lives as coming from inside themselves as internalizers. People who believe that their lives are controlled by external factors are externalizers”.

The largest body of empirical data about perceived control is provided by Rotter's (1954) social learning theory. The role of reinforcement, gratification and regard plays a crucial role in determining behaviour. Brewin (1988:110) argues that this construct reflects the degree to which individuals believe that reinforcements, such as the good and bad things that happen to them, are within their own control or subject to the control of external factors such as chance.

Rotter (1966:1) formulates the following definition of locus of control:

“When a reinforcement is perceived by the subject as following some action of his own but not being entirely contingent upon his action, then, in our culture, it is typically perceived as the result of luck, chance, fate, as under the control of powerful other, or as unpredictable because of the great complexity of the forces surrounding him. When the individual interprets the event in this way, we have labelled this a belief of external control. If the person perceives that the event is contingent upon his own behaviour or his own relatively permanent characteristics, we have termed this belief as an internal control.”

The attribution theory has given rise to the concept of locus of control. The attribution theory stems from the relationship between person-perception and internal behaviour. Both internal and external forces combine to cause behaviour. People's behaviour will be determined by the discrepancy in their perception of internal attributes and of external attributes according to Heider (1958:171), as well as Deci and Ryan (1985:166).

The construct of locus of causality is related to locus of control and Deci and Ryan (1985:166) state that:

- locus of causality refers to the perceived source of behaviour while

- locus of control refers specifically to whether people believe that outcomes are controllable.

The critical questions asked in research on locus of causality revolve around what factors energise and direct behaviour and how these factors relate to self determination. On the other hand locus of control revolves around who and what is believed to control these reinforcements or outcomes. Thus, locus of control seeks answers to what controls the person's outcomes, while locus of causality centres on why the person behaves as he/she does.

De Champs (1968:337) argues that locus of control refers specifically to beliefs about the source of control over reinforcement. A person is internal when he/she feels responsible for the consequences of his/her actions. Therefore, in order to control level of work performance a manager will control his/her actions by the achievement of his/her work objectives, creative thinking, initiative, leadership skills and other factors determining work performance. The manager will not feel that he/she controls his/her subordinates, organisational structures, superiors, but rather that there is a direct link between control and achievement of objectives, and personal performance.

High-need achievers have an internal locus of control and the strategies for maintaining control and for achieving are very similar according to Beck (1978:335).

Locus of control is not an expectancy concerning a particular type of reinforcement but rather a problem solving generalised expectancy, addressing the issue of whether behaviours are perceived to be instrumental to goal attainment regardless of the specific nature of the goal or reinforcer. It focuses on the belief that a response will, or will not, influence the attainment of a reinforcement according to Deci and Ryan (1985:167).

Hammerschlag (1984:24) postulates that locus of control relates to expectancies about the outcome of actions and views the phenomenon as a continuum of expectancy belief, ranging from extremely external views to extremely internal views. Brewin (1988:110) and Spector (1988:335) believe that these expectancies relate to how outcomes, rewards and reinforcements in life are controlled by either some other external forces or by one's own internal actions.

Bothma and Schepers (1997:2) cites that since the appearance of Rotter's Locus-of-Control-Questionnaire, viz the I-E scale, various other instruments have been developed to measure the construct, which include the Health-Locus-of-Control-Scale of Walston, Walston, Kaplan and Maides (1976), the Multidimensional Health-Locus-of-Control-Scale of Walston, Qalston and de Vellis (1978), the Nowicki-Strickland Scale of Nowicki and Strickland (1973) and the economic Locus-of-Control-Scale of Furnham (1986).

Locus of control refers specifically to beliefs about the source of control over reinforcements and not to beliefs about:

- control of personal actions;
- the competence to do tasks; and
- self control

according to O' Brien (1986:168) and Theron (1994:1).

Thebe (1992:20) states that the focus is not on being responsible for one's actions, but rather on the results or consequences of one's actions. Being in control does not imply that all problems can be solved by ability or will-power, but that a person feels responsible for the reinforcements and will therefore feel in control of the behaviours that produce these reinforcements.

Lefcourt (1976:26) states that a person's actions are predicted on the basis of values, expectancy, and the situation. The formula for prediction of behaviour at a specific time and place is:

$$BP_{x, S_1, R_a} = (E_{x, R_a, S_1} \& RV_{a, S_1})$$

This formula reads:

the potential behaviour x to occur in a situation 1 in relation to a reinforcement a , is a function of the expectancy of the occurrence of reinforcement a following behaviour a , in situation 1, and the value of reinforcement a in situation 1. In this formula the importance of expectancies is not secondary to values. This equal emphasis upon value, expectancy of reinforcement and situational specificity makes Rotter's theory unique among learning theories which, more commonly, accentuate only the value or motive end of predictive formulas.

The more general formula of Rotter's theory explains the place of perceived control within social learning theory and reads as follows:

$$NP = f (FM \& NV)$$

The potentiality of occurrence of a set of behaviours that lead to the satisfaction of some need (need potential) is a function of both the expectancies that these behaviours will lead to these reinforcements (freedom of movement) and the strength or value of these reinforcements (need value).

Perceived control is defined as a generalised expectancy for internal as opposed to external control of reinforcements. Freedom of movement is a generalised expectancy of success resulting from one's ability to remember and reflect upon a lifetime of specific expectancy behaviour or outcome sequences.

7.3 Locus of control and influence

Lefcourt (1976:36) examines locus of control and the resistance to influence and refers to research done by Arendts (1963) regarding Eichmann in Jerusalem: A report on the banality of evil which exposed at length a man who clearly supported the fact that the most horrendous acts

derive more from obedience or compliance to social order than from sadistic impulse.

"At that moment, I sensed a kind of Pontius Pilate feeling, for I felt free of all guilt. Who was he to judge? Who was he to have his own thoughts in this matter?" Arendt (1963) as mentioned in Lefcourt (1976:37).

In other words, the horrors perpetrated by the Nazi officials were legitimate, conforming to acceptable standards, and men like Eichmann felt that it was not for them to question, since what they were asked to do was legitimate. Evil in Nazi Germany had lost the aura by which most people recognize it,- a unique quality of temptation to violate standards; and the common man, such as Eichmann, no longer felt able to judge what was right on a transcendent scale of values.

Lefcourt (1976:37) continues the examination of influence and locus of control by scrutinising Milgram's (1963) experiments concerning obedience. Milgram, in the name of science, required subjects to administer a series of increasingly severe electric shocks to the hand of a respectable-looking middle-aged man. While no actual shocks were delivered, to the naïve subject it appeared as if he was administering painful shocks to the victim.

Milgram varied several elements in the experimental situation in the hope of deterring subjects from an easy compliance. While some variability in the subjects' behaviour was obtained, the overall results were such as to lead Milgram (1965) to conclude:

"With numbing regularity, good people were seen to knuckle under the demands of authority and perform actions that were callous and severe. Men who are in everyday life responsible and decent, were reduced by the trappings of authority, by the control of their perceptions, and by the uncritical acceptance of the experimenter's definition of the situation into performing harsh acts."

Lefcourt (1976:50) concludes that when a person believes that she is the responsible agent of her own life's fortunes, she will resist influence attempts which aim to bypass her own sense of moral justice, and will only respond to those appeals that address themselves to her own values and beliefs, thus the internaliser will not experience the "Pontius Pilate" feeling – a surrender of a sense of responsibility when one succumbs along with others to manipulation.

7.4 Locus of control and stress

Ivancevich and Matteson (1987:663) states that the traditional assumption is that to the extent that an individual has personal mastery, the less likely he/she will be to perceive a situation as threatening or stress inducing, and thus manifest stress related reactions. The locus of control stress relationship is a function of environmental realities en personal beliefs. When an individual's beliefs about where control resides are congruent with the actual locus of control in a given situation, there is less likelihood that stress will result, thus when realities and beliefs are not congruent, the likelihood of experiencing stress increases. Judelmann (1987) and Marino and White (1985), as cited in Thebe (1992:18), confirm this.

Lefcourt (1983:265) concludes that various research that has been conducted on stress, states that it is obvious that beliefs about one's ability to alter or change one's circumstances are meaningful. Stress is often found to be moderated by beliefs concerning efficacy and control. The belief that the adverse situation, which a person experiences, is controllable is limited by the fact that one can act to alleviate duress.

The more anxious or depressed an individual is, the more external locus of control tends to manifest itself according to Strickland (1978) as cited in Brewin (1988:111) and Magwaza and Bhana (1991:162).

7.5 Locus of control as an enduring attitude

Lefcourt (1976:25) concludes that perceived control is positively associated with access to opportunity. Internal control expectancies are held by those who are able, through position and group membership, to attain more readily the valued outcomes that allow a person to feel personal satisfaction. It follows that minority groups and previously disadvantaged communities who do not enjoy as much access to opportunity as do the predominant caucasian groups in different societies are apt to hold fatalistic, external control beliefs. (Lewis (1961); Gurin et al (1969); Griffin (1962); Lewin (1940); and Frazier (1962) as mentioned in Lefcourt (1976: 17)).

7.6 Locus of control and the process of modernisation

Modern individuals are less likely to believe that life is essentially a game of chance and that man has little control over his fate. Nagelschmidt and Jakob (1977:103) distinguish between:

- 'traditional individuals' who tend to manifest fatalism which appear to be parallel to external locus of control; and
- 'modern individuals' who tend to manifest personal efficacy, which appear to be parallel to internal locus of control.

7.7 Locus of control and culture

Parson and Schneider (1974:460) researched the differences between students from Eastern societies and Western societies regarding locus of control. The following countries are included in the research:

- Eastern countries - Japan and India
- Middle Eastern country – Israel
- Western countries

- North America
- United States of America
- Canada
- Western Europe - France, Italy and Germany.

Japanese students had significantly higher external locus of control than all the other countries. Indian students rated significantly lower than those of France, Canada and Japan.

Beliefs and values are shaped differently across cultures and this is confirmed by studies by Hofstede (1980), Tannenbaum (1960), Danziger (1963:31), Weisz, Rothbaum and Blackburn (1984), as mentioned by O' Brien (1986:288). However, holding an extreme belief in external control would have similar consequences in North America and Japan. There is substantial evidence that the effects of job contentment on personal control and psychological distress are similar across cultures that vary widely in work values.

Ryckman et al (1978:165) suggest that care must be exercised in cross-cultural research concerning locus of control, since various components may have different meanings or be non-applicable in certain cultures. On the other hand research conducted by Riordan (1981:159) concludes that locus of control can be meaningfully applied to South Africans ethnic groups. This research included Black, Indian, Coloured, and White South African students and pupils across socio-economic groups, sex and gender.

Rieger and Blignaut (1996:35) in South Africa researched individuality and collectivity as micro-variables of diversity and statistically significant positive correlations were found. Theron (1994:2) refers to the relation between locus of control and ethnicity and concludes that Asians, Coloureds, Africans and English-speaking Whites measure high on the external dimension of locus of control, which could be ascribed to the political environment. Locus of control and socio-economic status are

interrelated therefore lower status groups have expectancies of external locus of control.

7.8 Locus of control and intelligence

De Kock and Roodt (1995:16) found significant statistical correlation between intelligence and locus of control. This is confirmed by Blount *et al* (1987:175). However, Little and Kendall's (1978:282) research indicates the opposite in institutionalised juvenile delinquents.

Internals have been found to be more perceptive to and ready to learn about their surroundings. They are more inquisitive, curious and efficient processors of information than externals according to Lefcourt (1976:65).

7.9 Locus of control and academic success

In the educational context it was found that students with a high internal locus of control performed better than those with a high external locus of control according to Maqsood *et al* as cited in Walters (1994).

Lefcourt (1983:18) and Warehime (1972:314) indicate that internal locus of control relates to higher academic performance among pupils at schools.

Lefcourt (1976:71) concludes that intelligence-test performance and socio-economic status have a reliable and robust relationship with achievement criteria and that a sense of control, measured by different devices, can add to the already high-magnitude relationships between socio-economic class, IQ, and achievement behaviour attests to the value of locus of control in formulas devised to predict achievement behaviour.

Walters (1994: 68) states that locus of control is a contributing factor to school dropout rates. These dropouts tend to display an external locus of

control. Various research indicates that locus of control is related to academic achievement according to Lefcourt (1983:30).

7.10 Locus of control and motivation

Thompson (1984:3) defines achievement motivation as the ability to overcome obstacles, competence, the ability to accomplish goals of high standard and a positive self-image.

Thebe (1992:12) cites the definition of Lever (1987) as a:

“motive to maintain one’s own level of capability and to compete (with others and with oneself), once a personal goal has been set, with a subjective, internal standard of excellence in mind.”

The findings of various studies with regard to the relationship between the constructs locus of control and achievement motivation have indicated that there are significant correlations between internal locus of control and achievement motivation as quoted in Rotter cited in Erwee & Pottas (1982:79); Erwee (1986:1); Rotter (1966:22); Haines *et al* (1980:200); Theron (1994:3); and Le Roux *et al* (1997:2).

A further conclusion made from the literature on locus of control is that locus of control does not influence the ability to handle complex tasks, but rather the motivation to become involved spontaneously in complex tasks according to Dailey (1980:860) and Perrewé and Mizerski (1987:48).

In order for people to function effectively in society and experience personal satisfaction from their endeavours Bothma and Schepers (1997:46) argue that intrinsic motivation and internal locus of control has to be developed. Personal power and the perception of inner control contribute to well being and achievement of success.

Thebe (1992:41) is adamant that individuals with a high need for achievement motivation have some belief in their own ability to determine

the outcome of their actions thus an internal locus of control. This is confirmed by Biggs and Felton (1977) as cited in Thebe (1992:79); Erwee and Pottas (1982:98); and O' Brien (1986:179).

FIGURE 7.1: THE PERCEIVED DETERMINANTS OF SUCCESS AND FAILURE.

LOCUS OF CONTROL			
		INTERNAL	EXTERNAL
STABILITY	Fixed	Ability	Task difficulty
	Variable	Effort	Luck

(Source: Lefcourt, 1976:78)

7.11 Locus of control, performance incentives and participation

Evidence according to Hackman and Old (1976) as cited in Kren (1992:991) suggests that an organisation's social environment and objective job attributes determine employees' responses to duties, affect individual performance and shape their perceptions of work-related tasks. Decisions regarding the design of control-system attributes usually involve the use of economic incentives and participation in setting performance goals.

Studies conducted by Kren (1992:1006) indicate that the relationship between locus of control and incentives is significantly stronger for internals than externals. Subsequently, when the incentives are absent the internals' effort was less than that of the externals. The effort of the externals was less dependent on the level of incentives. The motivation to exert effort to accomplish a task, therefore, is more dependent on internal resources (locus of orientation) than on external resources (incentive compensation). If personal orientation is external the benefits of expending organisational resources on performance incentives may not always be seen. Some

organisational resources must be utilised to change employees' personal orientation to ensure effective organisational control. The interaction of locus of control with incentive significantly impacts not only on effort but performance as well. Therefore, if incentives primarily affect performance via the effort dimension, then locus of control will moderate that relationship.

Kren (1992:1007) found that participation is effective regardless of locus of control orientation, although it is more effective with internally orientated subordinates.

7.12 Locus of control and job complexity

De Kock and Roodt (1995:16) found that intelligence acts as moderator between locus of control and job complexity. This is confirmed by Blount et al (1987:175).

Internals do better on jobs of a complex nature demanding initiative and independent action according to Theron (1994:3).

7.13 Locus of control and job satisfaction

According to Dailey (1980:855), Perrewé and Mizerski (1987:43) and Eichler (1980:957) people with internal locus of control experience greater job satisfaction than those with external locus of control when completing complex tasks. This is confirmed by the research of Lichtman (1970) as mentioned in Pryer and Distefano (1971:535).

Locus of control, in organisational settings, refers to rewards or outcomes such as promotions, favourable working condition, salary increases and general career advancement. According to Spector (1988:335) internals tend to be:

- more satisfied with their jobs than externals;

- more satisfied with their supervisors about consideration and initiating structure;
- less stressed about their roles;
- more perceptions about autonomy and control; and
- employed for longer.

7.14 Locus of control and job performance

Research done by Bothma and Schepers (1997:52) concludes that locus of control predicts work performance of black managers and can be used for selection. The studies of Coetzer and Schepers (1997:34) found a modest but statistically significant relationship between external locus of control and the work performance of black marketers. Job performance was measured by: the commission earned per month by the marketer, the number of policies generated as well as percentage of lapsed policies.

O'Brien (1986:179) confirms that there is reasonable evidence that internals perform better than externals and that the locus of control depends on the situation and the ability of the individual. Add into the equation perceived competence which reflects the individual's belief in his/her ability to perform tasks and it is possible to conclude that jobs which lead to changes in employee control beliefs can also, in some circumstances, produce changes in performance levels of employees.

7.15 Locus of control and management style

Locus of control influences supervisory and management styles according to Perlow and Latham (1993:831). Internal managers are more likely to consider rewards, respect and expertise as the means to motivate people whereas externals are more likely to use coercion in power situations.

Research by Bugental, Blue & Cruzcosa (1989) as mentioned in Perlow and Latham (1993:831) links externals with child abuse. Direct-care

workers in mental retardation facilities reporting higher levels of external locus of control are more likely to display aggressive work behaviour than those reporting internal locus of control in a study conducted by Perlow and Latham (1993:831).

Kren (1992:1008) suggests that supervisory style should differ depending on the subordinate's locus of control. Directive supervision is more effective for externals, while internals appear to be more responsive to performance-contingent incentives and to participative budget goal-setting.

7.16 Skill-utilisation, alienation and locus of control

O' Brien (1986:152) cites various research findings that are in agreement on the fact that internals prefer occupations which use their skills and provide autonomy. Once internals are in a job they tend to work harder than externals on those jobs that provide opportunities for the use of initiative, skills and autonomy. Internals experience more job satisfaction from job content and will become more involved in their work than externals, therefore internals will tend to occupy posts with higher income and occupational status.

Scrutinising previous research, O' Brien (1986:152) concludes that locus of control is a significant determinant of organisational performance and behaviour, but he does not investigate the relationship between locus of control and organisational structure, and job content.

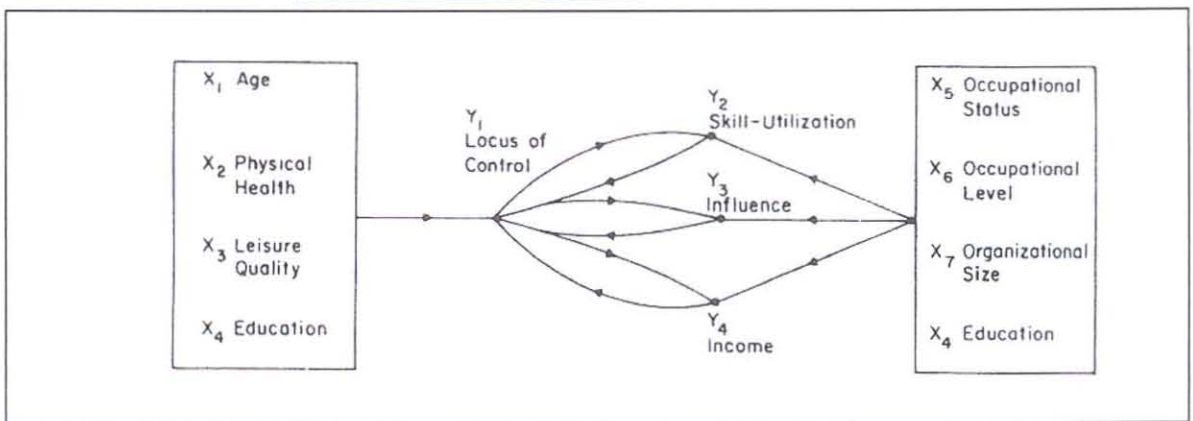
O' Brien (1986:153) defines skill-utilisation as:

"the degree of match between employee skills and skills required by the job." On the other hand influence is the amount of autonomy that an employee has over various aspects of the job including interaction, design of workplace, work organisation and rest periods. These factors are rewards valued by employees. Employees who experience these become internally controlled and perceive that their own effort was instrumental in

obtaining these intrinsic rewards and the opposite applies to those employees who do not experience these intrinsic rewards.

The same applies to income as a reward. High income induces internal orientation and low income induces external orientation. O' Brien (1986:154) depicts the reciprocal relationship between skill-utilisation, influence and income, and locus of control in Figure 7.2.

FIGURE 7.2: RECIPROCAL RELATIONSHIP BETWEEN SKILL UTILISATION, INFLUENCE, AND INCOME, AND LOCUS OF CONTROL.



(Source: O' Brien , 1986:155)

According to Figure 7.2 a reciprocal relationship was found between locus of control and income, as well as between locus of control and skill-utilisation, but not between locus of control and influence.

By the time managers achieve a reasonable amount of success – judged by status, income and security of tenure – they are in mid-life where the physical signs of ageing bear witness to the limitations of personal control. Not only are energy and ability declining, but there is also an increased awareness that some personal goals will not be reached. Not everyone will reach the highest echelons of management. These factors contribute to a sense of external control and are especially painful to managers whose entire education and career have centred on the belief in the efficacy of internal control.

More likely than not these people have few friends and often the quality of family life has been impoverished by the absence of intimacy.

The alienated manager, unable to bear the contradictions between the reality of life and life as he/she prefers to see it, may develop severe emotional illnesses, physical ailments and even contemplate suicide.

7.17 Locus of control and leadership

Leader behaviour is described in two dimensions e.g. consideration and initiating structure, as identified in the Ohio state leadership studies according to Hellriegel et al (1998:308).

Pryer and Distefano (1971:534) found positive correlations between leadership and internal locus of control and this is confirmed by research by Nealey and Blood (1968), as well as Stogdill (1963) as cited by Pryer and Distefano (1971:535).

7.18 Locus of control and entrepreneurship

People with a internal locus of control have a greater interest in starting their own business according to Erwee and Pottas (1982:89). Miller et al (1982:238) indicates that research by Brockhaus (1975), Durand and Shea (1974), and Shapiro (1975) confirm that internals are more activity orientated and more likely to possess entrepreneurial qualities than externals.

7.19 Top executive locus of control and its relationship to strategy-making, structure and environment

Miller *et al* (1982:237) confirm, in their research in Canada, that locus of control of top executives was found to have a direct and significant relationship with the nature of corporate strategy but an indirect relationship with structure and environment. More internal chief executives tended to undertake greater risks and more product-market innovation and to lead rather than to follow, competitors. This relationship is confirmed in studies by Nightingale and Toulouse (1977) as cited in Miller *et al* (1982:250).

O' Brien (1986:289) declares that a person with extreme internal control beliefs exhibits a behavioural pattern of high task activity and drive. In many ways the pattern is shown in both:

- the Type A personality, who thrives on the active competitive pursuit of challenging goals and
- the successful entrepreneurial manager, who is high on achievement motivation.

Therefore it is not surprising that many organisational psychologists recommend that these individuals be placed in leadership positions or given tasks that challenge them according to Spector (1982) as mentioned in O'Brien (1986:289).

The person with a very low score on internal control believes that practically all of his/her valued reinforcements can be gained by sufficient knowledge, effort and planning.

7.20 Critique on locus of control

Although promising results have been obtained with locus of control measures the construct has been criticised on a number of grounds viz –

- Belief in a difficult world, belief in a just world, belief in a predictable world, and belief in a politically responsible world.

Collins (1974) as cited brought these different dimensions to the attention in Brewin (1988:111).

➤ Personal control or ideology of control

Gurin, Gurin and Morrison (1978) as mentioned by Brewin (1988:111) identified this factor, but also acknowledged that a variety of factors may emerge depending on the type of factor analysis used and the method of scoring items.

➤ Usually the scales fail to distinguish beliefs about good and bad outcomes

The assumption is that if people take responsibility for their successes, they would be prepared to take responsibility for their failures.

➤ The notion that all external determinants of reinforcement are equivalent
Levenson (1974:377) argues that there are three scales measuring the perceived influence of internal factors, chance and powerful others. The result of one's life being seen as ruled by chance may be very different from a perception that it is ruled by other people.

➤ The combining of casual dimensions that need to be kept separate

It is possible to have internal causes such as lack of ability or heredity over which a person has little control, and similarly there may be external causes, such as the actions of family and friends, which a person feels are reasonably controllable.

O'Brien (1986:179) suggests that the results of locus of control studies should not be interpreted as showing that all internals are the best at everything. Extreme internals who believe that all is within their power are likely to be inflexible and unco-operative in their personal style, and that attention must be focused on the moderate internal - a realist who is able to differentiate between situations where personal effort is effective, and situations where structural factors preclude individual freedom of movement.

7.21 Conclusions

Many criticisms of measures of generalised expectancies such as locus of control have pointed to the failure to identify various more specific beliefs. In one sense this criticism is unfair since the scales were designed to tap general expectancies that could influence behaviour when people find themselves in unfamiliar situations. Locus of control is related to a wide range of behaviours and criticism should perhaps not be levelled at the scale so much as at the researchers who have not used it appropriately according to Brewin (1988:114).

The superiority of internally controlled employees over externally controlled employees does not imply that all internals perform better than externals. Extreme internal control beliefs can have negative consequences for personal adjustment and could lead to have low personal integration. However, studies conducted on internal control and organisational behaviour do not distinguish between extreme and moderate internals.

A student who is motivated will strive for and achieve a higher grade when this is related to future career success than when it is not.

Research regarding locus of control encompasses many factors, such as motivation, intelligence, academic success, job satisfaction, job performance, leadership, etc. These are factors that tertiary institutions value in their students and wish to engender.