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ASSESSMENT CENTRES: IDENTIFYING BLACK LEADERSHIP POTENTIAL

by

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DISSERTATION

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SUPERVISOR: PROF. C.J.H. BLIGNAUT

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The aim of the study was to examine the predictive validity of an externally developed assessment centre in the early identification of Black supervisory leadership potential in the South African manufacturing industry.

In order to achieve this, a longitudinal design and a criterion related validity strategy were adopted to test the relationship between assessment centre results and subsequent progress as well as performance at the supervisory level.

The sample for the study consisted of 233 Black males assessed for leadership potential at the supervisory level between 1986 and 1989. Independent variables included archival data (collected between 1986 and 1989) comprising assessment centre dimension scores and biographical data. The independent variables were validated against an upward mobility criterion as well as a number of performance criteria collected in 1990.

A number of hypotheses examining the internal structure and reliability of the assessment centre, its acceptability to assessors and assesseees were investigated before the question of predictive validity was addressed.
The reliability of the assessment centre was examined using two approaches - internal consistency and interrater reliability. Both internal consistency and interrater reliability coefficients were statistically significant and positive and the assessment centre proved to have acceptable psychometric properties.

The research findings for the validity of the assessment centre were generally positive. The technique was found to have "face" validity and was acceptable, both to management (assessors) and to the subjects (assessees) who experienced the assessment process. In addition, the assessment centre was able to predict the upward mobility and performance criteria both statistically significantly and positively. Finally, an increase in the ability of the technique to predict progress and performance in the long term could not be substantiated.

The results of the study are discussed and the implications (both theoretical and practical) for assessment centre research and the use of the technique to identify Black leadership potential in South Africa in the future are outlined.
CHAPTER 1

INTRODUCTION

1. BACKGROUND TO THE STUDY

A critical shortage of managerial personnel exists within the South African industrial environment and consequently, the management of human resources is expected to play an important role in the future (Chalmers, 1986; Zimbler, 1986). The dilemma in South Africa at present is that there are insufficient numbers of professional, clerical, skilled and semi-skilled employees and an oversupply of unskilled workers (Bendix, 1983; Spies, 1987).

Sadie (1988) has illustrated this problem (see Table 1.1) by comparing the probable supply of labour in four categories with the probable requirements of the economy (demand) between 1980 and 2000. He assumed an annual economic growth rate of 4.6 percent per annum and the employment experience of the previous two decades (1960-1980) where 300 Black, "coloured" and Asian people were appointed to managerial positions.

Sadie's (1988) projected incremental supply of, and demand for, labour by category between 1980 and the year 2000 is as follows: for category I, the "executive and managerial group", he projects a supply of 94,000 managers, a demand for 197,000 and a deficit of 103,000. For category II, the "professional, technical and skilled workers group", there
Table 1.1 Projected incremental supply of, and demand for, labour by category 1980 - 2000 (From Sadie, 1988).

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>SUPPLY</th>
<th>DEMAND</th>
<th>DEFICIT/SURPLUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>CATEGORY I</td>
<td>94 000</td>
<td>197 000</td>
<td>- 103 000</td>
</tr>
<tr>
<td>CATEGORY II</td>
<td>455 000</td>
<td>897 000</td>
<td>- 442 000</td>
</tr>
<tr>
<td>CATEGORY III</td>
<td>2 495 000</td>
<td>2 500 000</td>
<td>- 5 000</td>
</tr>
<tr>
<td>CATEGORY IV</td>
<td>3 796 000</td>
<td>1 028 000</td>
<td>- 2 768 000</td>
</tr>
</tbody>
</table>

is a projected supply of 455 000 individuals, a demand for 897000 and a deficit of 442 000. The projection for category III, "semi-skilled workers", is more positive with a small difference (5 000) between supply (2 495 000 individuals) and demand (2 500 000 individuals). Finally, category IV, the "unskilled workers" group, has a projected supply of 3 796 000 workers, a demand for 1 028 000 and a surplus of 2 768 000 workers.

The figures for the projected supply of, and demand for, labour indicate that demand for semi-skilled workers (category III) could be met. There would, however, be a large deficit in the supply of high level manpower (category II), as well as in the supply of executives (category I), accompanied by a very large
excess supply of unskilled manpower (category IV) of some 270 percent (Sadie, 1988).

The traditional source of manpower for high level manpower and executive positions (categories I and II) in South Africa has been White males (Reese, 1981). White males comprise six percent of the South African population and fill 98.2 percent of all management positions, while nine percent of the South African population (White females) together with 85 percent of the population (non-Whites) fill 1.8 percent of managerial positions (Uys, 1990). This means that a small group out of the total South African population (White males) occupies the majority of managerial positions in South African organisations at present.

Demographic calculations show that Whites (both males and females), comprising approximately 18 percent of total employment in South Africa in 1980, will comprise only seven percent of the total labour force by the year 2000. The White labour force is presently utilised to more than 90 percent of its capacity and will not be able to fill South Africa's manpower requirements in the future (Swart, 1981).

In order to meet the demand for managers, White males have been over-utilised and over-extended in the management sphere (Swart, 1981). Due to the overloading of White male manpower, an employee is often promoted too soon and to a post for which he may not be adequately trained. It takes on average 22 years to progress to the level of general manager in South Africa, 21 years to become a director and 19.2 years to progress to the level of area manager. It only takes 14.5 years to progress to the level of manager (Uys, 1990). Khoza (1986) points out that the preoccupation with White males has gone beyond the point of diminishing returns. The increasing demand for managers and the shortage of such personnel in the South African labour market has meant that White managers are overextended - the ratio of workers to managers being 52:1 in South Africa compared to 10:1 in the United States (Moerdyk, 1986). This means that if South African
organisations are to be adequately staffed in the future, Blacks, "coloureds" and Asians will have to be drawn into managerial positions in larger numbers.

McGrath (1989) has attempted to quantify the extent of upward occupational mobility between 1965 and 1985 using three possible definitions of "top jobs" (see Table 1.2).

It appears that White and Black (African) jobs, in all three occupational categories increased as a proportion of total employment in the two decades (1965 - 1985). Yet White employment, taken separately as a proportion of the total for all three categories, fell from 32.3 percent in 1965 to 29.7 percent in 1975, to 29.3 percent in 1985 (McGrath, 1989).

Blacks in top jobs, expressed as a proportion of total employment increased consistently in all three categories. McGrath (1989) states that the increase was of a similar order in the two decades, but actually greater over the second decade in the "all non-manual plus supervisors and artisans" category. Moreover, the figures understate the extent of Black advancement between (1975 - 1985) because the 1985 survey excluded the four homelands. It is in these homelands, he states, that administrative and professional employment is concentrated.

Human and Human (1987) support the contention that upward mobility is occurring amongst Blacks. Such mobility is taking place particularly amongst those from unskilled origins who obtain jobs in the clerical, blue-collar, technical and skilled manual occupational categories. The demand for skilled manpower and the inability of the White population to meet that demand is having a percolation effect which is gradually drawing Blacks up the organisational ladder. The number of Blacks occupying lower management positions is thus increasing at a faster rate than those occupying executive positions.
Table 1.2 Selected occupational and racial shares of total employment 1965, 1975 and 1985 (From McGrath, 1989).

<table>
<thead>
<tr>
<th></th>
<th>1965</th>
<th>1975</th>
<th>1985</th>
</tr>
</thead>
<tbody>
<tr>
<td>A) MANAGERIAL, EXECUTIVE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WHITEs</td>
<td>6.3</td>
<td>7.5</td>
<td>9.6</td>
</tr>
<tr>
<td>AFRICANS</td>
<td>2.2</td>
<td>3.4</td>
<td>4.3</td>
</tr>
<tr>
<td>TOTAL</td>
<td>8.5</td>
<td>10.9</td>
<td>13.9</td>
</tr>
<tr>
<td>B) ALL NON-MANUAL</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WHITEs</td>
<td>18.4</td>
<td>18.7</td>
<td>20.9</td>
</tr>
<tr>
<td>AFRICANS</td>
<td>5.2</td>
<td>8.1</td>
<td>11.6</td>
</tr>
<tr>
<td>TOTAL</td>
<td>23.6</td>
<td>26.8</td>
<td>32.4</td>
</tr>
<tr>
<td>C) ALL NON-MANUAL PLUS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SUPERVISORS AND ARTISANS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WHITEs</td>
<td>23.4</td>
<td>23.2</td>
<td>25.2</td>
</tr>
<tr>
<td>AFRICANS</td>
<td>6.0</td>
<td>9.7</td>
<td>14.1</td>
</tr>
<tr>
<td>TOTAL</td>
<td>29.4</td>
<td>32.7</td>
<td>39.6</td>
</tr>
<tr>
<td>ALL OCCUPATIONS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WHITEs</td>
<td>32.3</td>
<td>29.7</td>
<td>29.3</td>
</tr>
<tr>
<td>AFRICANS</td>
<td>67.7</td>
<td>70.3</td>
<td>70.7</td>
</tr>
<tr>
<td>TOTAL</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>
Change is, however, also taking place further up the organisational ladder. In the mid-1980's for example, Nedbank had Blacks represented only on the lower management scales. Today they have one African executive; of nine senior managers, one is African; and of eight middle managers four are African; in addition to 40 coloured, 52 Asian and 13 African lower-management staff out of a total of 105 lower-management staff. At Engen, 41 percent of its middle and supervisory management positions and 18 percent of its senior management ranks are occupied by Blacks. Despite the increase in Blacks, "coloureds" and Asians employed in lower-management and to a lesser degree in middle and senior management, manpower forecasts suggest that more will have to be promoted annually to meet the needs of industry (Misselhorn, 1989).

An examination of advancement figures in the United States shows that the percentage of managers who are members of minority groups has increased from 3.6 percent of the national total in 1977 to 5.2 percent in 1982 (Jones, 1986), and in 1986 Blacks represented six percent of all managers (Williams, 1987). Greenhaus, Parasuraman and Wormley (1990) who quote these figures, point out that despite recent gains, many observers (Westcott, 1982; Davis, 1982; Di Tomaso, Thompson & Blake, 1986; Jones, 1986; Morrison, White & Van Velsor, 1987) have commented on the presence of an invisible barrier that prevents Blacks and other minority groups advancing beyond lower or middle management positions.

A review of the studies on Black managers in American organisations (Davis & Watson, 1982; Dickens & Dickens, 1982; Nason, 1972; Taylor, 1982) reveals that discrimination is generally regarded as the fundamental problem confronting these Blacks (Watts, 1985). Fernandez (1975) argues that discrimination has generally become more refined than in the past (Watts, 1985). It is no longer overt, blatant and unsophisticated. Instead it manifests itself in more subtle,
indirect and insidious forms through individual racist attitudes and exclusionary procedures, rules and regulations.

In South Africa, several obstacles to the advancement and utilisation of Blacks in managerial positions have been identified.

These include both overt forms of discrimination; legal barriers which have prevented geographical mobility, job reservation, access to education and training and covert forms of discrimination; White attitudes and organisational policies, including recruitment practices and selection techniques, which have excluded Blacks with potential from advancing up the organisational ladder (Charoux, 1985, 1986a; Franks, 1986; Moerdyk & Verster, 1981; Robertson, 1986; Taylor, 1986). South Africa does seem to be moving away from overt forms of discrimination, but covert discrimination would appear to be more difficult to get rid of (based on United States experience). The obstacles facing the Black supervisor on entry into the organisation mean that he or she very often faces an ambiguous and hostile environment as a result of his/her background and White attitudes and does not have the required education, skills and knowledge necessary to function effectively in his or her job (Human, 1982). South African industry will need to adopt innovative and creative human resource policies if Blacks are to be successfully absorbed into supervisory/managerial positions in the future.

Many organisations have not perceived a need to advance Blacks. They have not been alarmed by forecasts which predict serious manpower shortages and argue that they have managed to staff their managerial positions with Whites in the past and can continue to do so in the future. Some rationalise that the investment in time and money to train and advance Blacks is prohibitive, whilst others argue that they cannot risk a backlash from their White workers (Hofmeyr, 1987). Human and Hofmeyr (1985) state that the alternatives to advancing other races are
the very reasons why Black advancement programmes have been
developed. The alternatives include: deliberately curtailing
expansion; being increasingly prepared to appoint younger, less
experienced or less competent (White) people into management
positions; and increasing the responsibility of the existing
managers, so that they manage, for example, larger areas and more
people.

Many organisations have invested extensively in programmes to
identify, train and develop Black employees. An important aspect
has been to ensure that new entrants to the organisation are
adequately equipped to enter new positions and become proficient
in handling the work demanded of them (MacKay, 1980). Such
programmes broadly aim to provide prospective incumbents with the
opportunity to upgrade their cognitive, problem solving,
communication and interpersonal abilities, to enable them to cope
more readily with the technical and supervisory aspects of their
jobs, (once they have been identified as having the initial
potential to succeed) (Moerdyk, 1986).

In conclusion then, it seems that there is a shortage of skilled
people who are necessary if South African organisations are to
continue performing effectively in the future. Such
organisations have traditionally drawn from the White population
group for their skilled manpower needs. The White population
4
group, however, cannot continue to supply all the supervisors and
managers of the future. The Black, "coloured" and Asian
population groups appear to provide a solution to the skilled
manpower problem, but various obstacles - White attitudes,
educational background, inadequate recruitment and selection
practices and an inability on the part of organisations to
realise the need for change have prevented their utilisation. The
shortage of skilled labour has meant that many organisations have
implemented Black Advancement programmes to identify Black
candidates with initial leadership potential and to subsequently
train and develop them. This, it is hoped, will help overcome
some of the obstacles to their advancement and help facilitate their absorption into the economy.

2. **THE RATIONALE FOR THE STUDY**

The emphasis many organisations are placing on Black advancement has ushered in an awareness of the need for the effective identification and development of human resources (Jordaan, 1988). Increasing labour scarcities mean that organisations have a choice between White candidates, who have reasonable industrial sophistication and industrially unsophisticated Black candidates, who will need help in realising their undeveloped potential. This choice will diminish over time as labour scarcities increase at the management level. It will simply be a case of finding Blacks or leaving the job unfilled (Jackson, 1982). The process of identifying and developing skilled manpower therefore represents an essential requirement for the sustenance of the South African economic system as well as the well-being of our society in the future (de Vries, 1984).

Present day organisational effectiveness is characterised by an ability to adapt to change and by a realisation of the implications of adaptation for existing management systems, structures, procedures and techniques (Van Rooyen, 1988). The shortage of skilled manpower has a direct influence on the sustained economic viability of the organisations which have interests in South Africa (de Vries, 1984). Organisations need to adapt to the manpower shortage by actively identifying Blacks and by formulating appropriate procedures for the selection, promotion, and development of Black leadership in order to fill future vacancies in the organisation with competent managers (Van Rooyen, 1988).

Charoux (1987a) states that it should come as no surprise that during the last 15 years or so, Black advancement has
come to be associated with the development of Black leadership potential. Leadership is management's most critical resource (Charoux, 1987a). In the United States, managers in "high-leadership" organisations "own" and are responsible for the leadership-development process. They are accountable and rewarded for success in developing people. As a result they spend more time looking for signs of potential in employees and ways to develop them (Goddard, 1990). Many organisations recognise the contribution made by leadership at all levels in the organisation to their success (Wynne, 1990).

The identification of Black leadership potential in South Africa is therefore, an essential but challenging task as a result of the problems experienced historically in arriving at a valid criterion of leadership effectiveness; the specific socio-economic background and culturally disadvantageous position from which the Black potential manager emerges; and finally, the shortsightedness in planning for South Africa's manpower needs in the 21st century (Charoux, 1986a). The cost of incorrectly identifying an employee's potential can be measured in terms of this potential being lost, or a training and development programme going to waste. The candidate may ultimately fail to integrate into the organisation and leave the organisation dissatisfied (Charoux, 1980). When one considers that skilled manpower is in short supply, time and money is wasted if expended on training and developing an individual who is ultimately going to leave the organisation (as a result of incorrect identification) and who cannot be easily replaced. Correctly identifying leadership potential is, therefore, a prerequisite for any organisation wishing to capitalise on its training and development initiatives and integrate its employees into the organisation.

Identifying leadership potential correctly, is dependent upon successfully predicting competence that results in effective job performance. Competence is measured by defining and
testing for areas of knowledge and traits relevant to the
requirements of a position and which are ideally suited to
the specific environment within which the leader operates.
Taking leadership research into consideration, Human and
Hofmeyr (1985) come to the conclusion that it is impossible
to identify a single core of management traits, which, if
possessed by a manager, would ensure his/her success. All
that can be done is to determine what seems to be a
reasonably comprehensive framework of managerial dimensions
and then select from such a framework a shortlist of
dimensions which might predict success in a particular
situation (Human & Hofmeyr, 1985). Choosing appropriate
selection criteria is only part of a selection process which
ultimately culminates in a decision to hire or promote one or
more individuals and not to hire or promote others. Choosing
appropriate selection instruments to measure those criteria is
another essential requirement.

South African researchers (Charoux, 1986a; Schepers, 1969;
Verster, 1980) have argued that the assumptions underlying
the concept of Black leadership identification are different
from those of the Western-oriented classical selection model.
The whole area of Black leadership identification is
therefore problematical. Blacks cannot simply "pass" a
psychological test and function effectively in a supervisory
or managerial capacity. Macro-environmental barriers,
organisation impediments and a culturally disadvantageous
background impose restrictions on the Black manager's upward
mobility and his or her ability to integrate into the
organisation. Selection models which adopt a developmental
perspective and provide the Black potential manager with the
time and opportunity to become socialised and effective, have
been advocated in South Africa (Hofmeyr, 1983; Schepers,
1969; Verster, 1980). Within the context of these models,
organisations are involved in an ongoing process of updating
existing selection instruments and searching for better
techniques to identify Black leadership potential in South African industry.

In conclusion, the solution to South Africa's manpower problems rests, to some extent, on the effective identification of Black leadership potential. The identification of Black leadership potential is complicated, however, by the fact that no single set of selection criteria exists for all managers in all situations, the socio-economic background of the Black supervisor/manager, which places obstacles in the way of his/her integration, and the inability of traditional selection models and techniques to provide a mechanism to measure leadership potential effectively.

Much effort in the past, has gone into the assessment of potential Black supervisors through the construction and validation of psychological tests (Beezhold, 1977; Latti, 1978; Nelson, 1977; Verster, 1972). Tests have, however, been criticised for cultural bias, low content validity and their inability to predict future performance (Latti & Verster, 1976; Mauer, 1972; Nelson, 1977; Radford & Taylor, 1986; Taylor, 1987). It is not surprising therefore, given the importance of the identification of Black leadership potential, that South African researchers have called for improved selection instruments to identify Black leaders (Charoux, 1985; Jackson, 1982; Verster, 1976; Williams, 1982). The present study will examine an alternative selection instrument to traditional tests for the identification of Black leadership potential in South Africa.
3. AIM OF THE STUDY

The assessment centre has been advocated as an appropriate selection instrument for testing Black leadership potential in South Africa by Charoux (1985, 1987); Schilbach (1988) and Williams (1982). According to Byham (1970), the flexibility of this method allows for modifications to be made to the structure of exercises, length of the assessment process, the dimensions measured, as well as to the number of candidates and assessors used. This maximises the possibility that the technique will meet the requirements of a specific situation. It also enhances the possibility of a match between what the assessment centre measures and the requirements of a specific job (Byham, 1970).

Assessment centres in the United States, and to a lesser degree in Britain, have had considerable research backup in support of their predictive validity as is evidenced in studies by Cohen, Moses and Byham (1977), Gaugler, Rosenthal, Thornton & Bentson (1987), Howard (1974), Huck (1973) and Stevens (1985). Russell and Byham (1980), for example, found the assessment centre to be reliable and valid when utilised in a manufacturing organisation. Another area of research has compared the predictive accuracy of assessment centres with psychometric tests. In most cases, the overall assessment rating appears to be more accurate than typical ability or personality test scores (Bray & Campbell, 1968; Bray & Grant, 1966; Hinrichs, 1978; Mitchel, 1975; Moses, 1971, 1972). According to Thornton and Byham (1982) a number of studies by Alexander (1975); Huck and Bray (1976), Moses (1973), Russell (1975) and Schmidt and Hill (1977) have also found the assessment centre equally valid for Blacks and Whites. Russell (1975) for example, found an assessment centre to be able to predict managerial success without discriminating on the basis of race or sex.
Research studies on assessment centres have been undertaken in South Africa on various aspects of the technique by Augustyn and Van Wyk (1988), Bortz (1980), Britz (1984) Charoux (1987), Spangenberg and Esterhuyse (1985) and Spangenberg, Esterhuyse, Visser, Briedenhahn and Çalitz (1989). Kriek and Thornton (1989) state that while empirical work has been done by some individuals and organisations in South Africa, research on the validity of assessment centres for applications in South Africa is mostly undocumented or unknown. With the desire to foster the advancement of the Black manager in recent years, the assessment centre may provide a valuable method to aid human resource development in South Africa (Kriek, 1989). Assessment centres could be particularly valuable in the early identification of management potential and the diagnosis of developmental needs, as well as in selection and promotion of Black managers (Kriek & Thornton, 1989, p.27).

The aim of the present study will be to examine the predictive validity of an assessment centre used in the early identification of Black supervisory leadership potential in the South African manufacturing industry.
CHAPTER 2

BLACK ADVANCEMENT

The shortage of skilled manpower in South Africa has meant that many organisations have instituted programmes to advance promising Black candidates into supervisory and other managerial positions. A number of restraining forces, however, have hindered efforts to utilise the Black labour force. The present chapter will firstly investigate these restraining forces and the impact they have on the potential Black supervisor. Secondly, various aspects of Black advancement models put forward to overcome these problems and to identify, develop and integrate Blacks into organisations will be discussed.

1. OBSTACLES TO BLACK ADVANCEMENT

Black candidates for supervisory positions face a number of environmental, organisational and cultural barriers which prevent their advancement. These include legal and institutional obstacles, poor education and training, White attitudes and low industrial sophistication (Chalmers, 1986; Mackay, 1980; Moerdyk & Verster, 1981).

1.1 ENVIRONMENTAL BARRIERS

Environmental barriers refer to variables at the macro or national level relating to legal restrictions, lack of geographical mobility and education (Erwee, 1988).
1.1.1 LEGISLATION

Prior to 1976, many South African labour laws restricted the occupational mobility of Blacks (for example, the Mines and Works Act, 1941 and the Apprenticeship Act, 1944). The Industrial Colour Bar, operative until 1979, effectively delegated the majority of Blacks to the category of unskilled worker and prevented any upward mobility from one category to another (Bendix, 1983; Robertson, 1986).

Following the Labour Relations Act of 1979, the South African government pledged itself to the optimum development, utilisation and conservation of the total workforce, irrespective of race, colour or sex (Swart, 1981). The recommendations of the Wiehahn and Riekert Commissions (1977 - 1979) of enquiry resulted in more relaxed labour policies (Human & Hofmeyr, 1985) and most of these recommendations were later incorporated into the Labour Relations Act of 1981, and the Wages Act, Basic Conditions of Employment Act and Manpower Training Act in 1983 (Erwee, 1988). The opportunities for the mobility of Blacks into skilled responsible positions have consequently increased and the impact of legislation in terms of restricting the utilisation of Blacks in industry has been minimised (Nattrass, 1983).

1.1.2 GEOGRAPHICAL MOBILITY

Legislation has in the past limited the geographical mobility of Blacks in South Africa. Under section 10 (i) of the Urban Areas Act (1984), for example, a Black person could not remain for more than 72 hours in a White urban or peri-urban area unless a number of preconditions were met. Even if an individual qualified he or she could at any time, be deemed undesirable and ordered out of the area (Human, 1986).
According to Erwee (1988), although this law was scrapped in 1986, and is no longer relevant, its effect on generations of Blacks was to restrict advancement opportunities.

Human and Hofmeyr (1985) point out that the spatial mobility of the Black Urban elite is still being hampered by the Group Areas Act (1966) however, as this Act delimits separate residential areas for different racial groups.

Spatial mobility is important for Black advancement, for it allows Blacks to obtain housing close to their places of work thus opening up new areas for employment. The State President announced the intention at the February 1991 opening of parliament to scrap the Group Areas Act and its impact on advancement opportunities is likely to diminish over time. The abolition of labour and residence controls is important if a satisfactory rate of absorption of the Black labour force into the economy is to be achieved. Spatial mobility provides for the effective allocation of human resources to where they are most needed and creates the opportunity for progress to be made within a specific economic space (Natrass, 1983).

1.1.3 EDUCATION

Education is another obstacle to the advancement of Blacks (Hofmeyr, 1982). Dostal (1985) points out that in 1980 only 8.3 percent of the White labour force and 0.2 percent of the Black labour force had degrees. She estimated that these percentages would increase by the year 2000 to 10 percent for Whites and one percent for Blacks (Erwee, 1988). Hofmeyr, (1987) notes that slightly less than one percent of all Black workers have a standard 10 or higher qualification. Black
school curricula have been criticised for emphasising rote learning of facts without digesting or properly understanding material. In addition the potential Black supervisor begins his or her career handicapped by a low level of literacy, an undeveloped ability to apply theory and difficulties in communicating both verbally and in writing (Van Rooyen, 1982).

Hofmeyr (1987) suggests that depending on their level of education, not only will many have difficulty communicating in one of the languages of business, namely English or Afrikaans, but that their education will probably not have emphasised qualities prized in business, such as a questioning attitude, assertiveness or skills in critical analysis. MacMillan (1982) states that many organisations now accept the need in South Africa for bridging education for their Black staff, especially those involved in supervisory roles. Education is a prerequisite for the advancement of any group because it provides people with knowledge and skills valued in the work place (Human & Hofmeyr, 1985). Lourens (1984) emphasises that organisations should consider compensatory education and training programmes for disadvantaged groups if Black advancement is to become a reality.

1.2 ORGANISATIONAL BARRIERS

At the organisational level, unequal employment practices may restrict the recruitment and selection of Black candidates and impose limitations on their promotion and utilisation in supervisory positions (Nelson, 1977; Van Rooyen, 1988). Upwardly mobile Blacks may be faced with the following: unfair selection and promotion practices, inadequate training, White employee resistance, and the
absence of real responsibilities (Bluen, 1984; Human, 1982 McKay, 1980).

Moerdyk and Coldwell (1990) hold that these exclusionary forces have not necessarily been blatant and deliberate — many organisational practices are discriminatory by virtue of poor planning, lack of specialist knowledge and even the unavailability of equitable "non-racial" procedures. For example:

"The whole question of the psychometric testing of minority groups in South Africa, (with ethnic tests and different norms) is potentially an area of great, though unintentional, discrimination" (Moerdyk & Coldwell, 1990, p.18).

Braddock and McPartland (1987) point out that discrimination at the organisational level can occur at various stages of the employment process. Barriers can appear at the "job candidate stage" when employers are recruiting the pool of candidates for job openings, at the "job entry stage" when an individual is actually selected to fill the vacancy, and at the "job promotion stage" when transfers are made within a firm to fill vacancies at higher levels.

1.2.1 JOB CANDIDATE STAGE

At the "job candidate stage" discrimination may occur in many different ways. For example, in the United States, employers are not disposed to spend much time or money in recruiting for jobs that do not require a college education. Convenient and inexpensive methods dominate employee practices for these jobs and the most important methods include unsolicited "walk in" applications and informal referrals from public employment agencies
(Smith, 1987). Black job seekers are primarily tied to social networks of other Blacks who, on average, are not well situated to know about many desirable job openings (Bielby, 1987). Further, examination of recruiting source use in the United States (Kirnan, Farley & Geisinger, 1989) reveals significant group differences, with females and Blacks using formal recruiting sources more frequently than males, non-minorities, and Hispanics, thus compounding their disadvantage.

In South Africa, the recruitment of Black talent is more difficult than in the case of Whites. There is the problem of communication. Regular newspaper reading habits are less firmly established for Blacks than Whites, which makes advertising problematic. Many applicants cannot be contacted by phone to screen them or to arrange interviews. Black applicants also lack experience in writing business letters which enable them to "sell" themselves to an organisation (Jackson, 1982; Mackay, 1980; Nunns & Kruger, 1986; Van Rooyen, 1982). This means that many Blacks who have the potential to contribute to the economy are unaware of the opportunities available to them (through inadequate recruiting methods) or are unable to take advantage of those opportunities because of their disadvantaged position.

1.2.2 JOB ENTRY STAGE

At the job entry stage, research in the United States (Braddock & McPartland, 1987) shows that only two sources of information are both frequently used and highly valued in hiring decisions for lower level jobs — impressions gained from the job application form or during the personal interview with the candidate, and recommendations from previous employers, where available.
Braddock and McPartland (1987) point out that higher unemployment rates in minority communities mean that minority job seekers are less frequently able to list previous work experience than their White counterparts, and this can adversely affect their chances of selection.

In South Africa, personnel practitioners have shown a tendency to use work history as the most important predictor of job success. The selection interview and test results (if tests are included) are used to confirm or disconfirm whether it "looks" as if the candidate will succeed, considering his/her work record (Manpower Journal, 1983). Unemployment figures are higher amongst Blacks than Whites, and as in the United States, Blacks are less likely than their White counterparts to be able to provide a record of work experience and to furnish information indicating their level of competence. The official rate of registered unemployment for Whites, "coloureds" and Asians in South Africa is between two and three percent of the economically active population. An estimate of unemployment among Blacks, including rural agriculture and the informal sector, places it close to 40 percent of the economically active population (Bethlehem, 1988).

If selection interviews are used, the Black interviewee in South Africa, is likely to experience difficulties in projecting a sufficiently Westernised image in the interview situation (Chalmers, 1986; Charoux, 1986a, 1986b; Human & Hofmeyr, 1985). Brunt and Enniger (1984) state that every group and community has not only linguistically, but also culturally determined behaviour patterns, which can create communication problems. The White candidate will generally know from his or her cultural background how to respond to the interviewer's questions. The Black interviewee's responses to questions from a White manager relating to what he/she expects from
his or her future job, will, for example, often revolve around issues of status and prestige, instead of a desire for responsibility and decision making, thus placing him or her at a disadvantage (Charoux, 1986a). Furthermore the interview has been found to contain seven major sources of error: overemphasis on negative information, interviewer stereotypes, lack of relevant information, differential use of cues by interviewers, differential use of visual cues, as well as interviewer and contrast effects (Arvey, 1979; Phillips & Dipboye, 1989; Schmitt, 1976). Research evidence does not support the validity of interviews as a selection technique (Reilly & Chao, 1982) and their ability to assess such a complex variable as leadership in a multicultural society without any additional information is questionable.

Psychometric tests may be used as an alternative or in addition to the selection interview in organisations to predict a potential employee's future performance as part of a selection procedure or in making promotion decisions for existing employees. Research indicates that test scores achieved by Blacks, and to some extent by Indian and "coloured" groups in South Africa, are an underestimation of their true potential (Owen, 1986; Taylor and Radford, 1986; van den Berg, 1986; Van der Flier & Drenth, 1980). Taylor and Radford (1986) point out that if the use of psychometric tests are perceived to discriminate unfairly against potential employees, testing could be construed as an unfair labour practice.

It cannot be assumed therefore, that selection procedures are fair to all groups in South Africa, because there are many differences in familiarity with tests, communication and patterns of intelligence and ability (Crawford-Nutt, 1977; Nelson, 1977). Intellectual skills do not necessarily correlate in the same way across cultures. This is because different cultures appear to cultivate
different abilities, interests and perceptions. Different functional systems of mind develop to cope with the demands of the specific cultural and social world facing the individual (Du Preez, 1986). Tests purported to measure "general intelligence", in which items require mainly analytical methods to solve problems, will favour those test takers who normally utilise this style. According to Super and Bohn (1973), psychological tests use as their content, products specific to the dominant culture and are therefore of greatest use within that culture.

As many Blacks do not have previous work experience indicating their competency levels and interviews have been found to be subject to numerous sources of bias, and because tests may underestimate their true potential, many researchers in South Africa (for example, Jackson, 1982) have called for improved selection techniques when employing Black workers or when selecting them for training and development programmes. This will prevent skilled manpower from being wasted and overlooked because of inadequate selection technology and will contribute to the advancement of Black employees.

1.2.3. JOB PROMOTION STAGE

Braddock and McPartland (1987) note that minorities may have particular difficulties in being hired into those entry jobs that provide training and advancement opportunities. According to Smith (1987) researchers (Feagin & Feagin, 1978; Fernandez, 1981) have found that employers in the United States tend to downgrade minorities' abilities as quick learners, a trait that appears to be most valued for entry positions with growth
potential. Pettigrew and Martin (1987) suggest that interpersonal processes may weaken the chances of a minority member being selected for promotion even when the individual is situated in a job that could lead to promotion. One example is that of attributional processes which reinforce negative stereotypes of minorities.

In South Africa, Black managers sometimes perceive that they are placed in specialist positions where they advise management on Black marketing and labour issues simply as a public relations exercise (Human, 1987; Khoza, 1986). This is because in many cases they do not control a budget centre, have very few employees reporting to them and are shielded from responsibility (Erwee, 1988). In addition, they complain that little attention is paid to their individual training and developmental needs (Hofmeyr, 1987).

Watts (1985) points out that Blacks are sometimes viewed as incompetent until they have proved their worth (hence the lack of responsibility and decision making allotted to their jobs). Furthermore, if they are unsuccessful, White managers tend to become reluctant to give other Black employees a chance. Nzimande (1986) states that the danger in the conceptualisation of Blacks as "incompetent", is that it may become a rationalisation for "extended" training programmes to which a Black employee becomes permanently attached, with the result that he or she is unable to advance beyond his/her "trainee" status. Often enormous amounts of money are spent on training or bridging courses when trainees complain they never escape trainee status, for example, attitude change programmes in organisations, where Blacks are not put into real jobs to ensure that the right attitudes are aligned with real life challenge and performance situations (Latti, 1988). Where Blacks are
prevented, over an extended period of time, from making decisions, exercising authority and coping with responsibility, the opportunity to fill higher job categories is halted and the ability to make a contribution to the provision of a skilled and competent workforce is eliminated, thus perpetuating the present skilled labour shortage.

1.3 CULTURAL BARRIERS

The cultural argument holds that culture influences organisations both through societal structures and through the values, attitudes and behaviour of participants (Erwee, 1988).

According to Segall (1979) cultural background affects the beliefs, values and lifestyles of different people. It is because every society has a culture that behaviour patterns tend to be different from society to society (Barrett & Bass, 1976). Black culture is frequently cited as one of the major obstacles to Black advancement in South African organisations (Moerdyk & Coldwell, 1990).

Coldwell and Moerdyk (1981) have outlined what they believe to be fundamental differences that exist between traditional and modern societies. According to them significant differences occur in relation to time and authority, socialisation, interpersonal relations, rate of technological change and family structure. Human and Hofmeyr (1985) suggest that whereas Whites are reared in a culture geared to the "Protestant ethic" (Mirrels & Garett, 1971) and the profit motive, to ambition and to success, the Black environment stresses sharing and "ubuntu" or being part of a community. These contrasting "world views" imply that traditional (Black) people do not value certain
Western behaviours which are considered important in Western-oriented business systems if individuals are to survive and become successful. Moerdyk (1986) states that the differences between modern and traditional "world views" should not however, be seen as absolute dichotomies between Black people and White people, but as poles on a continuum. While differences in values, customs and beliefs would pose some serious difficulties to the Black manager in terms of his/her integration and acceptance into the organisation, to suggest that all Blacks lack assertiveness and are introverted and all Whites are assertive and extroverted would obviously be incorrect.

Researchers (Human, 1987; Khoza, 1986; Moerdyk & Coldwell, 1982; Watts, 1985) refer to this clash of cultures in the workplace which, they say, causes stress to the Black manager. The higher status Black employee must function in a series of diverse, conflicting and often ambiguous environments and his/her performance in the organisation reflects the role ambiguity and role conflict with which he/she is faced in an alien and sometimes hostile Western business environment (Human, 1981; 1984).

The first-line supervisor is probably the most well known marginal person in industry (Ziller, Stark & Pruden, 1969). Black managers are faced by such difficulties as: a lack of credibility, doubts about their trustworthiness, being viewed as incompetent until they have proved their worth, and compatibility with the informal organisation based on western world views, norms, values and standards (Watts, 1986).

According to Watts (1986), Black managers are "cultural hybrids" poised in psychological uncertainty between a White-dominated middle class managerial world and the Black working class in their organisation. Role ambiguity and role conflict are seen to have a significant relationship
with problems that the Black manager experiences such as dissatisfaction, distrust, tension, turnover, low performance and psychological withdrawal (Piron, Human & Rajah, 1983).

In investigating the perceptions, attitudes, reactions and experiences of Black managers and their White work colleagues, Watts (1985) found that substantial discrepancies existed between these individuals. The work associates were inclined to overestimate dispositional "internal" causes of the Black manager's behaviour and underestimate situational "external" factors. Associates ascribed the Black manager's lack of assertiveness, initiative and drive, to stable personality characteristics. They did not perceive these behaviours as possibly having resulted from an unresponsive, unsupportive environment offering little opportunity to assert themselves, to show initiative, or to realise their aspirations (Watts, 1985).

Black managers, on the other hand, tended to attribute their work behaviour and problems to external factors, such as racial discrimination and racial prejudices. Sebesho (1986) states, for example, that the problems of Black advancement:

"have nothing to do with innate abilities of Blacks but mainly with the attitudes of Whites as moulded by the broader socio-political factors in the broader community" p.21).

The suggestion that African culture is an important moderator of Black managerial performance is thus subject to a variety of different interpretations. Nzimande (1987), for example, believes that traditional African culture no longer exists; it is a myth that has been used by management to justify discrimination. Human (1984) believes that the cultural argument is important in South
Africa, but should not be overstated, because it appears that conformity with traditional values is often situational. A Black manager in a rural area will adopt the kinds of traditional behaviour expected of him, but in his or her work environment, he or she will "westernise" his/her behaviour accordingly and job performance should not necessarily be affected.

Khoza (1987) agrees with Human (1986) that traditional behaviour is situational but contends that the "Westernisation" of behaviour by Blacks is superficial. Black managers quickly master "explicit culture", in other words, the recognised and easily observable standards of Western corporate culture. "Implicit" culture (the underlying unarticulated assumptions) present a particular problem to Black management trainees. The extent to which a Black manager changes his or her geographical location, joins urban associations and no longer interacts with his or her original tribal society, simply constitutes structural change. For cultural change to occur states Hammond-Tooke (1986), the Black manager would adopt new or alternative perceptions, concepts and symbolic structures (Erwee, 1988). Acculturisation takes place when the norms and values of a society become internalised within the individual. Khoza (1987) doubts that Blacks actually internalise Western values and norms. This would seem to provide some support for the contention that cultural background affects job performance (if it is assumed that "Western" psychological constructs are necessary for success in Western organisations).

Biesheuvel (1987) is concerned with the cultural relativity of psychological constructs (for example, need for achievement or initiative) which are used to analyse the behaviour of Blacks. He suggests that they are essentially western in origin and are not necessarily meaningful in analysing behaviour in other cultures (Erwee, 1988). Cross
cultural comparability can be a problem (Berry, 1969) yet, if Charoux (1990) is correct, Blacks will have to display these constructs whether they are westernised or not if they want to fit into western organisations and consequently these constructs are of some relevance.

Mkhwanazi (1989) states that even if this is true, incorporating elements of traditional behaviour into western organisations can be beneficial both to the organisation and the Black employee. He argues that White management has labelled the need for affiliation among Blacks as a deficit instead of utilising the collective spirit among Blacks in the form of team management (Mkhwanazi, 1989). Organisations need to incorporate and use positively the values and beliefs, the norms and practices of Black South Africans. He suggests that an ethnocentric view of culture has meant that Whites have failed to perceive the benefits of Black culture. Whether this is true or not is a matter for debate. Culture remains one of the most emotionally charged issues and the relationship between cultural background and Black work performance will continue to be analysed by researchers in years to come.

1.4 BARRIERS TO BLACK ADVANCEMENT AND BLACK UNDERPERFORMANCE

There are a variety of factors which affect the advancement of Blacks in South African organisations. Some factors are now largely historical barriers (for example, legislation) and their impact on advancement has decreased in importance, whilst the importance of others (for example, culture) will depend on the perspective of a particular individual. The relationship between the factors is complex and the boundaries between the various factors influencing the advancement of Blacks are not clearcut. According to Moerdyk and Coldwell (1990), failure to be selected for a
position, for example, could be as a result of discrimination (suitable candidates are rejected on the basis of race or sex); as a result of management practices (for example, by setting entry standards too high or using wrong selection methods); or it might be because the applicant showed poor work related values and attitudes (a "cultural" factor) that may have arisen in part as a result of poor education (an "environmental" factor) and in part because of social class and ethnic value systems ("cultural" factors). They observe that when issues such as motivation are taken into consideration, confusion arises over whether (for example, need for achievement or perseverance in the face of adversity) are "cultural", "educational" or "individual" personality factors (Moerdyk & Coldwell, 1990, p.17).

If complaints about Black underperformance by management are to be remedied, Black potential developed, and Black advancement realised, South African organisations will have to overcome the barriers to Black advancement and effective Black performance. Based on the experiences in the United States where it has proved easier to enact legislation than to advance minority groups, South African organisations will have to play an important role in creating a solution to the manpower crisis and will have to take responsibility for the Black advancement process themselves. Black employees who are appointed to supervisory and management positions in predominantly White organisations are unlikely to survive in an alien and sometimes hostile work environment unless their entry is planned for and they receive the support necessary to facilitate their integration into the organisation.
2. BLACK ADVANCEMENT MODELS

If South Africa is to show any reasonable economic growth rates over the next thirty years, a vast increase in the supply of skilled manpower is essential (Chalmers, 1986). Environmental, organisational and cultural barriers have meant that the average White is better equipped and is more likely to succeed in his/her job than the average Black. Black advancement programmes have been developed to enhance the effective utilisation and integration of Black employees in the organisation.

Successful Black advancement policies and practices have their roots in the corporate objectives and strategy formulated by top management (Human & Hofmeyr, 1985). Experience has shown that the failure of many Black advancement programmes has come about through insufficient planning and thought, resulting in a sequence of ad hoc actions that exist independently of each other and, in some cases, even undermine each other (Moerdyk, 1986). Black advancement should be part of human resource plans which are incorporated into the organisation's strategic planning (Ntseare, 1986; Human, 1987).

Another reason for the failure of Black advancement programmes has been the absence of various personnel support systems that normally form part of a well organised personnel administration system and are essential for the successful implementation of such programmes (Moerdyk, 1986). During the next decade, employers will have to be committed to developing their human resources through in-house and external training programmes to ensure a skilled workforce. According to Erikson and Greenberg (1987) organisations have failed in the past to distinguish between giving people equal opportunities and providing the tools and support mechanisms for them to exploit those equal (same) opportunities.
Equalising opportunities means providing additional training, education, people development and preparing the organisational environment (providing coaches and mentors, career pathing, assessing the climate). This requires a co-ordinated cohesive Black advancement strategy to be formulated with the consent of top management if the barriers to Black advancement are to be dealt with comprehensively.

2.1 FORMULATION OF A BLACK ADVANCEMENT STRATEGY

The first step is to place Black advancement within the context of the organisation's objectives and strategy (Johnson, 1972). An important reason for this is to obtain the commitment of corporate management. Researchers (Hofmeyr, 1987; Human & Hofmeyr, 1985) stress the importance of having top management totally committed to Black advancement. There will be no assigning of responsibility, setting of goals on progress measured without first having top management totally committed in clear policy (Human, 1986).

Vivier (1988) divides the formulation and implementation of a corporate strategy into three phases. In Phase I, senior management develops a mission statement and corporate philosophy to guide the organisation in the future. Phase II allows the various management levels by means of workshops to participate in the process of strategy formulation (Jackson, 1982). A number of other researchers (Charoux, 1985; Hofmeyr, 1986; Human, 1987), emphasise that attitude surveys, affirmative action audits or discrimination audits should be conducted in organisations; followed by affirmative action discussion workshops.

In Phase II, employees are exposed to the socio-economic and environmental reality with which the organisation is faced. Strategic planning directs attention to the uncontrollable or exogenous variables in the environment.
that are important to the long-run existence of the organisation (Erikson & Greenberg, 1987). Then an in-depth analysis of the organisational needs and an assessment of the key corporate actions required to achieve the mission statement (as formulated by senior management) is made by the workshops. This process provides an opportunity for the workshops to analyse the ability and the willingness of the organisation's employees to effectively address the obstacles to mission achievement. Once this has been done, strategic action plans (including responsibilities, time scheduling and standards of measurement) designed to achieve the desired results, are formulated (Vivier, 1988).

Phase III involves a review of the document prepared by the various workshops in order to finalise the corporate strategy. Any subsequent final decisions are approved by the whole top management team, before the strategic action plans are implemented (Vivier, 1988).

Central to the strategic planning process is a statement of the organisation's objectives. These are expressed in measurable terms and indicate what the organisation plans to achieve by the end of the planning period. The design of an appropriate strategy rests in turn on an evaluation of the organisation's internal strengths and weaknesses and their matching against the opportunities and threats existing in the environment as well as an evaluation of the organisation's culture and values (Spies, 1987).

Internal strengths and weaknesses would include: the number of high-potential people available for future promotions, the number of vacancies in the organisation and the organisation's ability to fill them, and the strength of recruitment, selection and training functions (Human & Hofmeyr, 1985). Opportunities and threats facing organisations would be, for example, the opportunities associated with the development and advancement of Black
employees, improvements to the educational system, shortages of skilled and executive manpower, and an ability to retain high potential individuals.

2.2 MANPOWER PLANNING

Human and Hofmeyr (1986) emphasise manpower planning in addition to the strategic planning process. Strategic planning provides a framework within which management can consider its position with regard to Black advancement, while the manpower planning process is where its plans are operationalised. Erikson and Greenberg (1987) hold that at a more operational level, manpower strategies have to be translated into more specific and measurable medium and short-term manpower objectives. The purpose of the manpower plan is to estimate and plan for the organisation's short and long-term human resource needs (Alpander, 1980).

The manpower plan has five basic objectives which are: to supply people from internal and external sources, to retain people, to optimally utilise people, to ensure continuity, and to provide an overall structure within which the personnel functions (recruitment, training, development and personnel policy) can be integrated (Walker, 1970). Manpower planning identifies the organisation's future manpower requirements, establishes targets (the proportion of posts to be filled by Blacks), and sets up a programme of action to ensure that the necessary training, development and coaching is undertaken to prepare candidates for appointment (Human & Hofmeyr, 1985).
2.2.1. PREPARATION

An important part of manpower planning is preparation. Preparation comprises four basic areas. The first is concerned with specifying the kind of personnel required for the job and culminates in the recruitment process. This requires a definition of the job and an analysis of the skills needed to perform the job, a description of the type of person needed and the development of appropriate selection criteria. Any selection requirements not directly relevant to successful job performance, particularly if they reduce the probability of recruitment of a capable Black should be removed (Chalmers, 1986). Chalmers (1986) suggests that advertised vacancies placed in newspapers and magazines should be accessible to both Blacks and Whites. Human (1987) emphasises that qualifications for posts should be downgraded to the lowest realistic level to allow as many Blacks as possible to gain entry to jobs.

Secondly, various training and selection procedures are decided upon. Having arrived at a personnel specification and a set of selection criteria, it is necessary to devise a selection procedure, which may consist of interviews, psychological tests, a biographical blank and/or assessment centre techniques (Moerdyk, 1986). Research has indicated, for example, that selection procedures should include tests that are valid cross-culturally, that in-depth interviews by trained personnel can be an important part of a selection process and that assessment centres can be utilised successfully in a Black advancement context (Charoux, 1986; Human, 1987).

Thirdly, individual training needs need to be identified and training should take place on a non-racial basis (Moerdyk, 1986; Human, 1987). Mercer (1986) suggests
that the organisation's view of bridging education and the problems that have to be addressed will determine the content and duration of any training that may be given. Finally, conditions of service need to be established. The issues that need to be clarified here include, for example, equal pay for equal work, housing assistance, deductions of various kinds and medical aid benefits and costs, and the sharing of facilities (Moerdyk, 1986).

2.2.2. IMPLEMENTATION

On the completion of the preparation phase, implementation is begun. Implementation is largely concerned with the selection and placement, training and job performance of the new Black employees and is conducted largely on a decentralised basis by local management. Moerdyk (1986) notes that in the area of placement, special consideration needs to have been given to the fact that there may exist a lower limit to the number of outsiders (for example, Blacks) that can be successfully introduced into the workplace. If a single individual is introduced, the chances are that he/she will feel alienated and vulnerable. Mentoring and various forms of on-the-job advice and support are suggested (Moerdyk, 1986). Hofmeyr (1987) has, for example, advocated that supervisors be trained how to act as coaches, sponsors and mentors through workshops.

Once the individual is in the workplace and performing his/her job, there is a need for some form of evaluation (performance appraisal and career counselling) with suggestions being made about future placement (for example, promotion, transfer or termination of service) and the experience/training required to achieve the desired goals. Charoux (1986), Fenwick (1986) and Human (1987) suggest that performance appraisals of supervisors
should include an assessment of the extent to which he/she develops his/her subordinates (Charoux, 1986b).

Visser (1978) and Chisolm and Christie (1983) have highlighted the lack of vocational guidance at Black school level. The result is very often that the Black school leaver makes bad career decisions with disastrous consequences for his/her future upward mobility (Charoux, 1986b). Recently Reid-Van Niekerk and Van Niekerk (1990) compared the career maturity of Black, "coloured" and White first year university students. Blacks were found to have lower maturity scores than both their "coloured" and White counterparts and very often have little understanding of how long it takes to become a manager (Clarke, 1990). They suggest the results could be attributed to cultural differences, differential exposure to the world of work and differences in educational background. They point to a need for career development interventions to be directed at both the "coloured" and Black population groups.

2.2.3. MONITORING

Finally, the efficiency of the whole programme is monitored in order to determine whether it is achieving the objectives set by management (Misselhorn, 1989). The proper evaluation of the progress of the project, necessitates the gathering of information in two distinct areas (Moerdyk, 1986).

Firstly, progress needs to be judged against the timetable (for example, three-year or five-year plans) outlined in the organisation's manpower plan. If forecasted manpower requirements are not met, management should be held accountable. Management should be
encouraged to meet their objectives. Secondly, information relating to the effect, if any, the programme has had on workplace attitudes should be considered. Black advancement could lower work commitment, or result in increased absenteeism and labour turnover, or lower productivity (Moerdyk, 1986). These attitudes need to be monitored on an ongoing basis and any problems that arise should be handled through the organisation's industrial relations and negotiations channels.

2.3 INDIVIDUALISED PLANNING

The need for a co-ordinated strategy which is planned and systematically implemented has been emphasised (Craft, 1980). Such a broad strategy can however, neglect the individual Black manager and the importance that must be attached to his or her needs and feelings (Gohl & Oppelland, 1979).

Charoux (1986a) has proposed a Black advancement model (the Organisational Entry Decision Model/OED) which is divided into three phases and which emphasises individualised planning. The pre-entry phase is a preparation process which involves manpower and career path planning, the creation of a supportive organisational climate and the development of criteria for the selection of Black managers. The entry phase involves the recruitment, selection and placement of Black managers. He criticises traditional selection techniques for being inadequate for the employment of Black managers in South Africa and advocates a sequential selection strategy which provides for the appraisal of performance in real life situations over a lengthy period of time. In the post entry phase, the Black manager is socialised into the organisation by means of formal induction, a coaching relationship with his/her boss and
regular appraisal and feedback (Human Resource Management, 1987).

Charoux (1986a) criticises general manpower planning models adopted in the Black advancement context for four shortcomings:

Firstly, they invite the organisation to engage in a series of "mathematical exercises" with the resultant conclusion that Black managers are urgently needed. Quantitative targets are established to offset this problem. Charoux (1986a) suggests that numerical targets in Black advancement are meaningless indications of success. An advancement progress rate of 20 percent, for example, would be interpreted as double the rate achieved by the Sullivan signatory organisations between 1980 and 1983 (Tomasko 1984). This would constitute "outstanding success". However, if it was observed that the 20 percent of these Black managers had little responsibility or authority, this conclusion would be misleading (Charoux, 1986a).

Secondly, they neglect the socialisation or integration process of the Black manager. Simply setting quotas and advancing Blacks into responsible positions does not guarantee their integration. The Black potential manager faces obstacles to his/her advancement (for example, education, marginality) which prevent him or her becoming accepted by White management and these obstacles need to be consciously addressed at the individual level (Charoux, 1986a). Management needs to be constantly searching for indicators of socialisation "success" in order to monitor and correct the process before it breaks down (Wanous, 1980).

Schein (1971) postulates the existence of three organisational boundaries which separate employees of every organisation. These are functional (for example, the
difference between Marketing and Production), hierarchical (for example, the difference between a production manager and his/her foreman) and inclusion. Functional boundaries are crossed when an individual is transferred or moves laterally to another function without increasing his/her status or power; hierarchical boundaries are crossed when the newcomer moves up the organisational hierarchy; and inclusion refers to individuals who move inward towards the core or influential centre of the organisation and become included in the decision-making process of the power holders (Schein, 1971).

The individualised planning perspective is a narrow one. It aims exclusively at the upward mobility of a specific Black manager and focuses on the activities necessary for this mobility to take place. It differs greatly from the broad and mathematical approach of manpower planning. The (OED) model focuses on the integration of potential managers into the organisation's decision making core and emphasis is placed on the inclusion boundary unlike in manpower planning (Charoux, 1986a).

Thirdly, too much emphasis is placed on fitting the Black manager to the job and not vice versa. He suggests that organisations should prepare themselves for the arrival of the Black manager. Management support is very important. Many Black advancement programmes have failed or become ineffective because of a lack of support and commitment from management (Human & Hofmeyr, 1985; Moerdyk, 1986). Another major step would be to assess to what extent the climate and support systems in existence in the division are facilitative of the Black manager's entry.

An important task would be to obtain from the operating centres or departments, a specific indication of the individualised targets to which they wish to commit themselves. These targets can be quantitative (the number
of Blacks promoted into managerial positions) but should preferably be "individual specific" (the promotion of a particular Black into a managerial position). In either case, the target must have specified the time in which the Black potential manager will have completed his/her training (Charoux, 1986a).

Having obtained management support, defined the targets and organisational structures, and prepared the climate and support systems, the last step is to identify the likely career paths of the Black potential manager. According to Beaty (1983), the organisational perspective to career pathing and development involves various manpower planning activities designed to facilitate the organisational movement of employees; identification and development of employees' skills, job experiences and career paths.

The individual directed approach, however, emphasises the identification of a career which will provide the opportunity for a specific individual's fulfilment, growth and optimal utilisation. Beaty (1983) surveyed 12 South African organisations and found that only two of them devoted a formal programme to career pathing seen from an individual directed perspective. The remainder perceived career pathing from an organisational perspective. Charoux (1986a) suggests that career pathing addresses both the needs of the individual as well as organisational requirements, if the Black manager is to have a sense of direction, identity and belonging in the organisation.

Finally, manpower models generate selection and training/development criteria which are essentially job-oriented and neglect the influence which such factors as climate and culture should exert on criteria (Bennett, 1972). The emphasis in selection should shift from one of selecting "the best man for the job" to one of identifying those individuals who have the potential to become accepted
into their respective "cores" (Charoux, 1988). Organisational climate and culture influence the individual to such an extent that only those with the ability to move inwardly into the influential centre of the organisation will be included in the decision making process (Charoux, 1986a).

3. IDENTIFYING BLACK LEADERSHIP POTENTIAL WITHIN A BLACK ADVANCEMENT PROGRAMME

Before time and money is expended on the coaching, training and development of the individual Black Manager or supervisor, he/she must have been identified as having the initial leadership potential required if he/she is to be able to integrate into the department, become an effective performer and advance up the organisation hierarchy (Charoux, 1986a).

Individualised planning emphasises choosing selection instruments which focus on the long term integration of Blacks into the organisational environment. In other words, each Black must undergo a rigorous individualised examination of his or her strengths and weaknesses in order to maximise the chance that he or she will be assessed correctly and will become integrated into the organisation. For this reason, a lengthier more specific process, which places less emphasis on traditional selection instruments is recommended (Charoux, 1986b). Assessment centres which simulate the organisational environment are suggested alternatives to traditional instruments.

If testing is to contribute to the organisation's strategic human resource objectives, however, it must be integrated within a human resource assessment and development system (Taylor, 1987; Veldsman, 1990). A psychometric policy and
programme must be formulated at the managerial level to guide this activity (Veldsman, 1990). This is because if testing is an un-integrated activity performed without a clear-cut contribution to the organisation's strategic objectives, the organisation will fail to produce Black candidates ready to perform competently (Woodruffe, 1990).

Any psychometric policy should include not only selection and placement but all functional areas where testing can be helpful, such as induction and training (for example, assessment of the degree to which deficiencies have been remedied or proficiencies develop) as well as counselling (for example, determining the causes of underperformance at the cognitive, emotional and interpersonal levels) and development (in other words, vocational guidance). A psychometric policy and its accompanying programme must be in agreement with and in support of the other functional human resource areas both at the managerial and operational levels if Black advancement is to succeed (Veldsman, 1990). In this way assessment techniques can be of maximal benefit to the Black manager and his or her individual needs as he/she progresses up the organisation.

4. SUMMARY AND CONCLUSION

The identification and utilisation of Blacks in South African organisations is impeded by obstacles in the environment, within the organisation and at the cultural/individual level. At the environmental level, legislation has historically placed restrictions on the occupational mobility of Blacks. This obstacle is however, disappearing as the offending legislation is gradually removed. Education has been identified as perhaps the most important environmental factor restraining the utilisation
of Blacks in industry. The development of an educated and sophisticated labour force is a priority if labour demands in the 21st Century are to be met.

At the organisational level, recruitment, selection and promotional practices may prevent Black occupational mobility. Organisations may unintentionally discriminate against Black employees because they are unaware of potential pitfalls relating to fair recruitment procedures, the choice of appropriate selection instruments, and the need for adequate career pathing so that Blacks are not simply appointed to token supernumerary positions. Negative White attitudes to Black advancement can also present a problem if the organisation is not adequately prepared beforehand.

At the cultural level differences between Black and White world views (relationship to the concept of time, socialisation practices) and differences in individual characteristics (need for achievement/need for affiliation, assertiveness, initiative) have prevented Blacks from identifying with White corporate norms and values and have helped create the "marginality phenomenon" where Black managers function in ambiguous environments, experience role conflict and are unable to integrate into the decision making core of the organisation.

Many organisations have come to realise that the recruitment, selection and integration of Black managers into White organisations is a complex process requiring careful planning and preparation and the use of the organisation's personnel support systems to overcome the obstacles facing the potential Black manager. The commitment of top management has been identified as an important component of a Black advancement programme and the involvement of all the organisation's employees should be encouraged. Simply relying on the personnel department to
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develop Black advancement programmes is unlikely to succeed. Strategic planning by top management, followed by employee involvement to determine a suitable model for the integration of Blacks into the organisation is required.

Once plans and policies have been set, they are then operationalised through the organisation's manpower plan. The unique position of the Black manager in a White organisation, his/her disadvantageous background and cultural obstacles, mean that each Black advancement candidate requires individualised attention to be paid to his/her particular needs if he or she is to be effectively integrated into the organisation. Carefully monitoring the progress of individual candidates has just as much a role to play in Black advancement as monitoring the number of candidates appointed to positions in the organisation. Individualised planning is extremely important because the difficulties facing Black advancement are of such magnitude that the potential for failure and the resultant consequences of failure are high. Careful planning, preparation, implementation and monitoring of the process in conjunction with attention to the specific needs of individual Black managers can maximise the chances of success.

An important component of any Black advancement programme is the capacity to identify Black candidates with the ability to become integrated into the organisation. It is easier to justify the time and money involved in training and developing a candidate in a Black advancement programme if he/she has this initial potential. Organisations must identify Black leadership potential, in other words, individuals with the capacity to cope with the barriers to their advancement and the ability to become integrated into the organisation with further Black advancement programme support, if the manpower shortage problem is to be overcome. Identifying leadership potential must, however, be
integrated within a human resource assessment and development system if it is to make a contribution to the achievement of the organisation's strategic objectives by linking up with a flexible set of human resource systems designed to facilitate the integration of the Black manager.

Identifying leadership potential is not only complicated by environmental, organisational and cultural/individual barriers, but also by the difficulty in defining "leadership potential" as well as the unavailability of selection instruments which can provide the necessary individualised attention to allow for rigorous observation so that predictions to be made about the long term performance and advancement of candidates with any degree of certainty. Organisations need to utilise selection instruments which measure leadership in as valid and reliable a manner as possible, and which are able to network with an integrated and flexible set of human resource systems to ensure that Black advancement ultimately takes place. This is a challenge which faces South African industry and one which has plagued researchers for a long time, as suitable selection instruments have proved to be very difficult to develop.
Black advancement has come to be associated with the identification and development of Black leadership potential in order to meet South Africa's future manpower needs and to provide effective managers and supervisors capable of fulfilling the performance requirements of their jobs (Charoux, 1987a). The objective of this chapter will therefore be to examine the concept of leadership by: defining leadership; outlining various conceptualisations of leadership under three broad approaches - the trait approach, the behavioural approach and the situational /contingency approach; and finally within the context of these approaches to outline the traits and characteristics appropriate for leadership identification in South Africa.

1. DEFINING LEADERSHIP

Within industry, the role of leadership is of fundamental importance to the successful functioning of organisations (Cogill, 1986; Vroom, 1983). Poor leadership is frequently cited as a key variable responsible for inadequate organisational performance, and effective leadership for numerous organisational successes. The perceived relationship between effective leadership and organisational performance
has meant researchers and personnel practitioners have sought to identify the skills, personality, cognitive and motivational variables that constitute effective leadership (Yukl, 1989).

Stogdill (1974) concluded that "there are almost as many definitions of leadership as there are persons who have attempted to define the concept" (p. 259). Leadership has been defined in terms of individual traits, leader behaviour, interaction patterns, role relationships, follower perceptions, influence over followers, influence on task goals and influence on organisational culture (Yukl, 1989). Leadership is, thus, a complex phenomenon and its dimensionality has meant that no global definition of the concept has evolved. There is no single definition of leadership that is general enough to accommodate its diversity (Karmel, 1984). To make matters worse, many different leadership models have evolved which provide a conceptual framework for understanding different aspects of the leadership process. No leadership model covers all aspects of the leadership process satisfactorily.

It is not surprising therefore, that leadership is one of the most observed, yet least understood phenomena in existence (Cogill, 1986) and contemporary models of leadership are still in a primitive stage of development (Dansereau, Graen & Haga, 1975). After reviewing more than 3000 leadership studies Stogdill (1974) concluded that "Four decades of research on leadership have produced a bewildering mass of findings .... the endless accumulation of empirical data has not produced an integrated understanding of leadership" (p.vii). It is therefore understandable that the identification of leadership potential has presented management with a difficult task (Bass, 1981).

The difficulty in identifying individuals with leadership potential can be observed in the development of leadership
theory in the United States where there has been a move away from the simplistic trait approach to leadership to a more complex situational/contingency approach in research circles (Yukl, 1989).

2. MODELS OF LEADERSHIP

Historically there have been three approaches to leadership (Blum & Naylor, 1968; Stogdill, 1974). The earliest approach sought to identify a set of traits possessed by effective leaders. The search for leadership traits, essentially involving comparisons between the characteristics of successful leaders with those of unsuccessful ones and non-leaders, ended in the 1950's after generating negative results (Mann, 1959). In the second approach (the behavioural approach) researchers then began to emphasise the behaviour patterns of the leader congruent with effective leadership. This resulted in the classification of leadership behaviour under various styles (Cogill, 1986). With this approach, effective leaders did not need to possess magical traits but, instead, had to provide strong direction and support while encouraging subordinates to participate in important decisions (Howell, Bowen, Dorfman, Kerr & Podsakoff, 1990).

Researchers later began to recognise that there was no single most effective leadership style for generating good performance in all situations. The third approach, the so-called situational/contingency approach suggests that while a particular leadership style may be effective in one situation, different behaviour may be required under another set of circumstances. As early as 1948, Stogdill had stated "It becomes clear that an adequate analysis of leadership involves not only a study of leadership but also of situations" (p.48). The situational/contingency approach was, therefore, a logical extension of the behavioural approach.
2.1 TRAIT APPROACH

The trait approach assumed that "great men" or "natural leaders" were endowed with certain characteristics necessary for leadership (Siegel & Lane, 1982). "Great-man-theories" did not persist for two main reasons. Firstly, little evidence existed for the genetic predisposition of leadership characteristics and secondly, leaders who were found to be successful in certain situations were not necessarily successful in others (Cogill, 1986). The search for leadership traits ended in the 1950's after studies by Allport (1924), Bird (1940), Geien (1967), Gibb (1969), Jenkins (1947), Mann (1959) and Stogdill (1947) which have been summarised by Stogdill (1974), attempted unsuccessfully to find a consistent and strong trait or constellation of traits that differentiated leaders from followers.

Research indicated that there was considerable variation in the personalities, abilities and skills of successful leaders. Allport (1924), for example, suggested 19 traits which were essential for leadership, while Bird (1949), in a review of studies, compiled a list of 79 leadership traits (Stogdill, 1974). Traits generally failed to correlate with leadership in a strong or consistent manner and the types and numbers of traits listed as significant vary depending on the study cited (Cogill, 1986).

Furthermore, it is not clear how many of the differences reflect the effects of occupancy of a leadership position. Occupying the role of leader may contribute to the manifestation of some of those traits rather than having those traits increasing one's chances of being selected as a leader (Vroom, 1983). Also, there is considerable variance across situations in both the magnitude and direction of the relationship between most personality attributes and leadership status. Situational determinants such as task
characteristics, structural components and social-psychological concepts such as organisational climate, play a role in leadership behaviour (Campbell, Dunnette, Lawler & Weick, 1970).

The rejection by psychologists of the trait explanation of leadership emergence has been attributed largely to the results of two major types of studies: attempts to identify leadership traits and the use of rotational designs. As has been stated, reviews of the leadership literature by Bird (1940), Gibb (1969), Jenkins (1947), Mann, (1959), and Stogdill (1947) in which attempts were made to identify leadership traits, all tend to demonstrate the point that no single trait or group of characteristics has been isolated which sets off the leader from the members of his or her group.

Rotation designs, on the other hand, are based on the hypothesis that if leadership is a function of the personal qualities of the leader, then the same person will emerge as a leader in different situations. If however, leadership is a function of either situational factors or of an interaction between qualities of the potential leader and needs of the group, then varying situational factors will change who emerges as the group leader. A number of studies have been undertaken by Bales (1954), Bell and French (1950), Borgatta, Carter and Nixon (1949) and Gibb, (1949) varying member composition to study leader stability or varying group tasks, while keeping membership constant have been summarised by Kenny and Zaccaro (1983) and all tend to support a trait interpretation of leadership emergence but suffered from methodological defects which explained the results obtained. Only Barlund's (1962) study varied both member composition and group task (Kenny and Zaccaro, 1983).

Barlund (1962) found after varying both the task and member composition of groups and computing the correlation of
leadership rank in one group with the average leadership ranks received in all other groups, that leadership emergence varied across group situations. His research supported earlier research suggesting that leadership was not a stable characteristic. Kenny and Zaccaro (1983) have however, re-examined Barlund's (1962) conclusion. Using Kenny's (1981) social relations model they estimated the percent variance in leadership that could be attributed to some stable characteristic to be between 49 percent and 82 percent. It was speculated that this characteristic, rather than being a traditional personality trait, might actually involve the ability to perceive the needs and goals of a constituency and to adjust one's personal approach to group action accordingly. Such leaders, they suggested, may be highly competent in reading the needs of their constituencies and altering their behaviours to more effectively respond to these needs (Kenny & Zaccaro, 1983). Lord, De Vader and Alliger (1986) agree with Kenny and Zaccaro's (1983) conclusions and believe that some traits may be important predictors of leadership perceptions. Their work suggests that traits may be important organisational constructs for perceivers, but does not directly imply that there are also traits that would generally predict the performance of a leader's work group or organisation, or that there are certain behaviours that generally produce superior performance.

As the evidence accumulates from better designed research and new research methods, trait research is slowly discovering how leader traits relate to leadership behaviour and leadership effectiveness. Recent research has been on managerial motivation and specific skills rather than on personality traits and general intelligence. Vroom (1983) suggests that instead of conceptualising leadership as a general trait applicable to all situations, leadership could be expressed as a set of highly specific traits each of
which would be applicable to clearly defined situations. Researchers have begun to attempt to relate traits to specific role requirements for different types of managerial positions (Yukl, 1989).

2.2 BEHAVIOURAL APPROACH

The trait approach provided an incomplete view of the leadership process and researchers began to focus on the behavioural correlates of effective leadership. Effective and ineffective leaders were distinguished from one another by their characteristic behaviour patterns in their work roles. These behavioural patterns were classified as leadership styles (Jackson & Keaveny, 1980).

Three main leadership styles were identified initially. These were autocratic, democratic and laissez-faire. Autocratic leadership means that a supervisor retains personal control over planning and decision making. By contrast, democratic leadership involves providing an opportunity for subordinates to have a say in decisions affecting their work. Democratic or employee-centred leadership implies concern for the satisfaction of subordinate needs and welfare. According to Cogill (1986) the autocratic-democratic continuum has been conceptualised as a continuum of boss-centred/subordinate-centred leadership by Tannenbaum and Schmidt (1958). Laissez-faire leaders by contrast, avoid attempting to influence their subordinates and neglect their supervisory duties. They maintain both a psychological as well as a physical distance from their subordinates and are generally ineffective (Cogill, 1986).
Schein (1980) notes that almost every leadership style theory is essentially concerned with the extent to which the leader is people-oriented and task-oriented. The Michigan Leadership Studies and the Ohio Leadership Studies in the late 1940's were concerned with the behaviour of leaders in their leadership roles. The Michigan Studies (Katz, Maccoby & Morse, 1950) aimed initially at differentiating behaviour patterns between effective and less effective managers (Vroom, 1983). The researchers studied differences in supervisory behaviour of 24 work groups divided into high and low productivity categories. Highly productive supervisors were more frequently employee-centred, were more likely to exercise general rather than close supervision and were more likely to differentiate their roles from those of their subordinates in terms of duties performed (Likert, 1961, 1967; Vroom, 1983).

The Ohio State Leadership studies began by attempting to identify the dimensions needed to characterise differences in the behaviour of leaders. According to Vroom (1983) researchers (Fleishman, 1953; Fleishman & Harris, 1962; Hemphill, 1950) identified two independent dimensions called "consideration" and "initiating structure". "Consideration" represented the extent to which a leader was concerned with the feelings of his or her subordinates (people orientation). "Initiating structure" referred to the degree to which the leader facilitated goal attainment (task orientation).

A large number of investigations were generated by the initial findings. Fleishman and Harris (1962) for example, found that leaders who were high on consideration tended to have lower grievance rates than those who were high on initiating structure. Halpin and Winer (1957) found leaders high on consideration to have more satisfied subordinates than those low on consideration. The relationship between consideration and rated leader effectiveness was found to
vary with the research population (Bass, 1981). For example, a negative correlation was reported for air-crew commanders in combat (Halpin & Winer, 1957), while a positive relationship was found for managers and office staff in an industrial organisation (Graen, Dansereau & Minami, 1972).

Prior to the Ohio State Leadership Studies, leadership behaviour was thought of as a single continuum. At one extreme, the job or task-centred leader was assumed to adopt an autocratic approach to handling subordinates. At the other extreme, a democratic approach in dealing with subordinates was characteristic of the employee-oriented leader (Jackson & Keaveny, 1980). In the Ohio State Leadership Study, there were not two but four combinations possible with the two dimensions. A leader could be high in both consideration and initiating structure, low on both dimensions, or high in one and low on another. Blake and Mouton (1964) extended the initiating structure concept into a managerial grid measuring two dimensions: concern for production/task/structure and concern for the employee. Blake and Mouton (1964) arrived at a model of leadership behaviour with five different leadership styles resulting from different combinations of the two dimensions (Blake & Mouton, 1975).

While the Ohio State Leadership Studies had suggested that people-oriented styles, in contrast to task-oriented styles, resulted in a number of favourable work outcomes (Fleishman & Harris, 1962), subsequent research indicated that for groups to be effective, leaders had to be concerned with both people and task dimensions (Schein, 1980). This resulted in the emergence of two approaches. The first approach is the one-best-leadership style approach. Liden and Graen (1980) contend that one of the major characteristics of contemporary leadership literature is the assumption that leaders manifest one consistent leadership style. Blake & Mouton (1964) suggested that there need not
be a conflict between production goals and personal need satisfaction (Vroom, 1983). Their model is prescriptive, pointing to an ideal leadership style in which the leader has both a high concern for production and for people. The leader attempts to combine creativity, high productivity and high morale through team action.

In addition to the 9,9 leadership style of Blake and Mouton (1964), the Four Factor theory of Bowers and Seashore (1966) is an example of a prescriptive theory suggesting a one-best-style approach. Bowers and Seashore (1966) identified four categories of behaviour which they saw as being necessary if work groups were to be effective. These included support (emphasis on members' feelings and sense of worth), interaction facilitation (the development of satisfying relationships), goal emphasis (enthusiasm for excellent performance) and work facilitation (the extent to which the leader facilitates subordinate planning, initiative, and development in their work) (Cogill, 1986). Bowers and Seashore (1966) contend that leadership may be provided not only by the formal leader but by anyone also in the work group. Leadership is therefore situated among the group and not necessarily solely with the manager (Cogill, 1986). From this theoretical basis, Taylor and Bowers (1972) developed both managerial and peer measures of leadership behaviour.

In contrast to the one-best-style approach, some researchers have suggested that there is no best style since leadership effectiveness is contingent upon the situation (Fielder, 1967), the task (Vroom and Yetton, 1973), or subordinates (Hersey and Blanchard, 1977). They suggest that leadership style is not a constant which can be demonstrated in any given situation.
2.3 THE SITUATIONAL/CONTINGENCY APPROACH

The situational/contingency approach suggests that while a particular style of leadership may be effective in one situation, this may not be the case under a different set of circumstances. Situationist researchers began to identify the various situational demands purported to influence leadership. Hersey and Blanchard (1972) and Siegel (1969) identified "time-demand" as a constraint on managerial behaviour. Katz and Kahn (1966) identified "organisational level" as another situational demand (Cogill, 1986). Nealy and Fielder (1968) found that the most successful first-line supervisor was not necessarily successful at the second level of management.

Supervisors in "tall" organisations with narrow spans of control face problems different from those of supervisors in "flat" organisations with broad spans of control. According to Bass (1981), Filley and Kerr (1971) found the formality in organisational structure to be an important determinant of the effectiveness of a particular leadership style. Furthermore, Woodward (1965) found that production technology could affect the nature of leadership demands at various levels and Cribbin (1972) identified "culture", "political structure", the "society involved", the "philosophy of the organisation", the "technology involved" and the "organisational structure" as six important situational demands.

Nasser (1975) emphasises "organisational climate" as being an important dimension to be taken into account (Bass, 1981). Franklin (1975) and Sheridan and Vredenburgh (1978) view climate as an organisation feature that is an important situational constraint on leadership processes (Kolowski & Doherty, 1989). Vroom (1983) found that the leader's subordinates in an organisation exerted an important
situational constraint on the leader's effectiveness. Some subordinates may respond more favourably to democratic employee-oriented leadership where participation in decision making is encouraged, while others have a low need for independence and a high need for authoritarianism preferring tasks to be delegated. From this research it appears that the most appropriate leadership style is determined by the conditions under which the leader has to operate (Vroom, 1983). A number of researchers have put forward models pertaining to the situational/contingency approach to leadership.

2.3.1 FIELDER'S CONTINGENCY MODEL

Fielder (1967) made an important contribution to leadership theory by attempting to explain the relationship between different situational factors. These factors are leadership style, leader-member relations, task structure and leader power position. The basic proposition of the model is that effective leadership is a joint function of characteristics of the leader and features of the situation. Fielder (1967) elevated the importance of situational factors to the same level as leader characteristics. The model postulates that the effectiveness of a leader is dependent upon the motivational system of the leader and the favourableness of the situation, and that group performance can be improved either by modifying the leader's style or by modifying the group task situation (Fielder, 1967).

According to Fielder (1967) the most crucial element in leadership is the leader-member relationship, that is, the extent to which the members trust and respond to the leader. Fielder (1967) defines situational favourableness as "the degree to which the situation enables the leader
to exert influence over his/her group" (p.13). Eight situational combinations have been studied and classified according to data from empirical investigations. These range from a situation most favourable to the leader (good leader-member relations, structured task, and strong power position) to the most unfavourable situation (poor leader-member relations, unstructured task, and weak power position). By combining scores on each of the three dimensions, the overall situational level of favourableness is arrived at. The appropriate matching of leadership style and the degree of favourableness of the group situation determines group performance. The model suggests that group performance can be improved by modifying the leader's style or by modifying the group-task situation.

A measure of the motivational personality of leaders is provided by the "least preferred co-worker score" (LPC). Fielder (1978) concludes that high LPC leaders (those who describe their least preferred co-worker in favourable terms) are thought to place greater value on relatedness with people, while low LPC leaders are more motivated by task achievement than interpersonal relations (Vroom, 1983). Fielder (1967) discovered that where the situation was favourable to the leader the most effective leaders were found to have been task oriented (low LPC score). This was indicated by the strong negative correlations between LPC and group performance. In moderately favourable situations, effective leaders had a high LPC score reflected by moderately high positive correlations between leader's LPC scores and group performance. Finally, in situations unfavourable to leadership, effective leaders were those with low LPC scores. This was indicated by a moderate negative correlation between LPC scores and group performance (Siegel & Lane, 1982). Fielder (1971) suggests that this has implications for
selection. Individuals with appropriately high or low LPC scores, depending on the situational favourability, will, when selected, provide the optimal match for the group and result in improved group performance.

The contingency model's emphasis upon situational factors in interaction with leadership characteristics made an important contribution to leadership theory, incorporating and building on the facets of earlier models (Cogill, 1986). Reviews by Strube and Garcia (1981) and Peters, Harke and Pohlmann (1985) conclude that the research tends to support the model, although not for every octant and not as strongly for field studies as for laboratory studies (Yukl, 1989).

2.3.2 THE HOUSE PATH-GOAL MODEL

A number of leadership theories have examined leadership styles in various situations. The Path-Goal Leadership Model (House, 1971) suggests that leaders will be effective in motivating subordinates when they are able to make rewards potentially available to subordinates depending on the accomplishment of certain agreed upon objectives. According to House and Mitchel (1974) the leader is viewed as a motivator of individual workers towards goal attainment (House 1971). This motivation takes place as the leader varies his/her leadership style to meet the requirements of the situation. House and Dessler (1974) have identified two classes of situational variables - subordinate characteristics (ability, need for independence and self control, need for affiliation) and environmental forces (nature of the task, formal authority system, primary work group) which are hypothesised as influencing the extent to which subordinate motivation can be increased by leadership behaviour.
Path-goal research has investigated the relationship between the Ohio State leadership dimensions of consideration and initiating structure as measured by the (LBDQ) and subordinate satisfaction, performance, expectancies, and role clarity. The environmental forces and subordinate characteristics are included as moderators in these studies (Stogdill, 1963). Mitchel (1979) concludes that research findings provide stronger support for path-goal predictions about consideration than about initiating structure and stronger support for predictions about satisfaction than about performance.

Stogdill (1974) supports the model because its cause and effect components allow it to be tested. It has been criticised because of the possibility that employees could misperceive the intentions of the leader as he/she manipulates their level of motivation. Greene (1979) concludes that the model needs refinement as it does not adequately explain how the leader learns about the organisational environment and adjusts his/her style across different situations with different employees (Bass, 1981). According to Yukl (1989) Greene (1979) suggests it is unable to provide specific strategies for leaders to be effective in its present form. Reviews of this research by (Evans, 1986; Induik, 1986; 1988) find that some studies support some aspects of the theory (Yukl, 1989). However, methodological limitations of the validation research, such as over-reliance on questionnaire data from the same respondents and difficulties in measuring intervening motivational processes, suggest that the theory has to be adequately tested before conclusions can be made.
2.3.3 THE REDDIN 3-DIMENSIONAL MANAGEMENT STYLE THEORY

Reddin's (1967) 3-Dimensional Management Style Theory went beyond Blake and Mouton's (1964) model by identifying four basic leadership styles, whose effectiveness depended on the situation (Cogill, 1986). Reddin (1967) proposed three dimensions within the four styles: the supervisor's relationship orientation and task orientation in conjunction with effectiveness. Hollander and Julian (1969) reacted favourably to its three-dimensional portrayal of leadership along with its leadership requirements for effective supervision. Although Reddin (1970) suggested that his framework explained effectiveness as a function of matching style to situation, his approach did not identify specific situational attributes that could be incorporated into a predictive scheme (Vecchio, 1987). Hendrix (1976) has criticised the model for being primarily descriptive, lacking more specific and definitive descriptions and thus being largely untestable (Yukl, 1989).

2.3.4 THE HERSEY AND BLANCHARD LIFE-CYCLE THEORY

Hersey and Blanchard (1969, 1988) build on Reddin's (1967) suggestion that leader or manager effectiveness varied according to style and proposed a life-cycle theory of leadership (Vroom, 1983). According to the theory, task orientation and relationship orientation needed to be examined in conjunction with the dimension of follower maturity to account for leadership effectiveness. Using traditional categories of leader behaviour, initiating structure and consideration, they suggested that as the level of follower maturity increased, effective leader behaviour would involve less structuring (task
orientation) and less socio-emotional support (relation-orientation). Graeff (1983) argues that the theory correctly focuses on issues of leader flexibility and the importance of subordinate attributes as the key situational determinant of appropriate leader behaviour, but believes it makes only a minor contribution to leadership theory because it can be shown to overlap to varying degrees with other theories. Only a few studies by Blank, Weitzel and Green (1986), Hambleton and Gumpert (1982) and Vecchio (1987) have tested the theory and they find only partial support for it (Yukl, 1989). Vecchio's (1987) results suggested that more recently hired employees might need and appreciate greater task structuring from their superior. A number of writers including (Blake & Mouton, 1982; Graeff, 1983; Yukl, 1989) have pointed out conceptual weaknesses in the theory, including ambiguous constructs, oversimplification, and lack of intervening explanatory processes.

2.3.5 LEADER-MEMBER EXCHANGE (LMX) THEORY

Various contemporary leadership theories (for example, McGregor's Theory Y, Blake and Mouton's Managerial Grid, Hersey and Blanchard's Situational Leadership Theory, and, Fiedler's Contingency Theory), either focus on a "general leadership style" approach, or only take account of the behaviour of the manager and ignore that of the subordinate. Such approaches are conceptually unsound. Firstly, given the range of individual differences between subordinates no single managerial style can be expected to be appropriate for all subordinates. Secondly, examining only managers' behaviour only represents half the equation
in manager-subordinate dyads (Nunns, Ballantine, Burns & King, 1990, p.47).

Within recent leadership research, the leader-member vertical dyad has been found to make a contribution in accounting for leader effectiveness criteria (Liden & Graen, 1980). Vertical Dyad Linkage Theory, now called Leader-Member Exchange Theory, describes how leaders develop different exchange relationships over time with different subordinates (Dansereau, Graen & Haga, 1975; Graen & Cashman, 1975). While a number of contemporary leadership theories (House's Path-Goal Model, Fielder's Contingency Model and Reddin's 3-Dimensional Theory of Leadership Effectiveness) focus on a general leadership style approach within the context of the situation, the LMX theory stresses the importance of emphasising the individual dyadic relationship between supervisor's (termed "leaders") and each of their subordinates (termed "members") (Vecchio & Gobbel, 1984).

LMX theory is based upon the concept of a developed or negotiated role (Dienesch & Liden, 1986). Within organisations, employees' roles typically are defined in an ambiguous and incomplete manner. Thus, the interpersonal exchange relationship between subordinate and supervisor are assumed to be an important mechanism in determining the type of role that a subordinate will play in his/her organisation (Dienesch & Liden, 1986). The leader-member relationship between supervisor and subordinate develops overtime, resulting in a relatively high or low quality exchange between the parties (Scandura & Graen, 1984). A high quality exchange relationship is characterised by subordinates receiving greater influence, autonomy and tangible benefits in return for greater loyalty, commitment and assistance in performing administrative duties. Where the exchange is of a poor quality, it is characterised by a low level of trust,
interaction, support and reward (Dienesch & Liden, 1986). The theory is situational only in the sense that leaders treat subordinates differently depending on whether they are part of the in-group or out-group. The theory has been extended to include a manager's upward relationships. A leader who has a favourable exchange relationship with his or her own boss has more potential for establishing a special exchange relationship with subordinates (Cashman, Dansereau, Graen & Haga, 1976).

According to (Dienesch & Liden, 1986) research has indicated that a special upward exchange relationship is a key prediction of a manager's advancement in the organisation in longitudinal research conducted in Japan (Wakabayashi & Graen, 1984). A special downward exchange relationship with a subordinate results in greater loyalty and performance by the subordinate (Graen, Novak & Sommerkamp, 1982; Graen, Scandura & Graen, 1986; Scandura & Graen, 1984; Vecchio & Gobbel, 1984). In addition, high quality exchanges have been associated with higher levels of subordinate job satisfaction and involvement (Dansereau, Graen & Haga, 1975; Graen, Novak & Sommerkamp, 1982).

The LMX theory has a number of conceptual weaknesses. Some important issues, such as the process of role-making, have not received enough attention, either in the theory itself or in the research conducted to test it by Dienesch and Liden (1986), Vecchio (1983), Vecchio and Gobdel (1984). Research on the basis for selecting in-group members is still very limited, and it is still not clear how this selection occurs. The theory has been criticised for an inability to replicate certain results across settings (Vecchio & Gobdel, 1984). Dienesch and Liden (1986) suggest that there is a need for further refinement of the LMX scale and investigation into the dimensionality of the LMX relationship. It is important to make a
clearer separation between measures of the quality of the relationship (for example, perceptions of mutual trust, loyalty and respect), measures of specific leader behaviour (for example, delegating, consulting, praising, supporting) and measures of outcomes (for example, performance, turnover) (Yukl, 1989). Finally, further research is necessary to explore the perceptions of members regarding the nature of role differentiation within the group (McClane, 1991).

3. INDICATORS OF LEADERSHIP POTENTIAL

Contrary to the now discarded trait theory of leadership, more effective leaders cannot be distinguished from less effective leaders by situationally invariant personality characteristics. Leadership is a multi-faceted phenomenon comprising the individual's behaviour, the situation in which the leader finds him/herself as well as the leader's personality (Siegel & Lane, 1982). Situational theories are based on the assumption that different behaviour patterns/styles or "trait" patterns will be effective in different situations and that the same behaviour pattern is not optimal in all situations (Yukl, 1989). The attractiveness of the concept of leader style lies in the possibility of labelling and objectifying an otherwise confusing diversity of behaviours (Smith, Misumi, Tayeb, Peterson & Bond, 1989). This conclusion does not however, invalidate attempts to identify more specific "trait" patterns associated with leadership in circumscribed situations (Siegel & Lane, 1982).

Thornton and Byham (1982) state that once each situation has been defined in terms of a variety of factors such as tasks, followers and time constraints, effective leadership in that
situation can be analysed in terms of "trait" patterns or competencies.

Boyatzis (1982) puts forward a managerial competency model (see Figure 3.1) in which he suggests that effective performance will result when the components of the model correspond with each other. The model can be summarised as follows: The job demands component reveals primarily what a person in the job is expected to do. The organisational environment component reveals aspects of what a person in a management job is expected to do, but primarily reveals how a person is expected to respond to the job demands. The individual's competencies component reveals what a person is capable of doing; it reveals why he or she may act in certain ways (Spangenberg, 1990). Woodruffe (1990) defines competencies as "behavioural dimensions that affect job performance" (p. 46). Defining competencies narrowly does not rule out traits, motives and dispositions included in Boyatzis's (1982) more broad definitions.

![A MODEL FOR EFFECTIVE JOB PERFORMANCE](From Spangenberg, 1990)
Effective performance, therefore, can be measured by establishing competencies relevant to the tasks, duties and requirements of the job, and then determining whether the individual has the required behaviours associated with those competencies in order to perform effectively in his or her organisational environment.

3.1 DEFINING THE SUPERVISOR'S JOB

The first task in determining the criteria for successful managerial performance is to undertake a job analysis (Zedeck, 1986). Job analyses are used to summarise information about the tasks and duties required to perform a job as well as the surroundings (both physical and social) in which these are performed (Siegel & Lane, 1982; Nunns & Kruger, 1986). On the basis of the job analysis, it is then possible to identify the skills and characteristics required to perform the job, design tests to measure competence in those areas and then select potential leaders with some certainty of success.

Siegel and Lane (1982) note that a number of job analysis studies of supervisory and managerial jobs have been undertaken in the United States (Campbell et al., 1970; McCall, Morrison & Hannan, 1978; Mintzberg, 1973). As has been pointed out, researchers at Ohio State University conducted research into leadership behaviour of supervisors. Analysis of correlations among the items revealed two major factors - consideration and initiating structure (Fleishman, 1953). The Ohio State leadership studies were important because they were one of the first behavioural approaches to studying management, and they launched the two-dimensional view of supervisory behaviour (Thornton & Byham, 1982).
Hemphill's (1959) job analysis of managerial positions provided 10 dimensions of managerial jobs. Hemphill's contribution was in terms of functions, jobs and organisations studied. Prien (1963) however, pointed out that Hemphill's (1959) description of managerial functions was too general to apply to only one level. Prien (1963) developed criterion measures for first-level supervisory positions. In a study of 24 supervisors in one organisation, he discovered two second-order factors (work-job orientation and employee orientation) that closely matched the initiating structure and consideration dimensions from the Fleishman (1953) study. Seven first-order job factors were obtained from a factor analysis of job positions. These factors were manufacturing process supervision, manufacturing process administration, employee supervision, manpower co-ordination and administration, employee contact and communication, work organisation planning and preparation, and union-management relations (Thornton & Byham, 1982). Kay (1959) outlines 16 key factors in effective foreman behaviour under three broad headings – "competence in administrative matters"; "competence in supervising subordinates" and "relations with equals and superiors".

Dowell and Wexley (1978) extend Prien's (1963) analysis of supervisor's jobs in a study of 255 supervisors from 40 plants in a large manufacturing organisation. Analyses yielded seven factors, four of which correspond to one or more of Prien's (1963) factors. The three new factors were maintaining safe/clear work areas, maintaining equipment and machinery and compiling records and reports. Comparisons of the importance of time spent on the seven dimensions across different types of production technology (for example, processing raw materials, fabrication of components, processing to finished products) revealed several differences in the time spent on the activities, but
not in their importance. Dowell and Wexley (1978) confirm the importance of a number of the earlier job activities identified by Prien (1963) and demonstrate the generality of factors to a much broader sample of production areas and functions.

Verster (1976) states that Malherbe (1975) undertook an analysis of the job descriptions of a cross section of Black first-line supervisors in South African industry. The most common functions constituting this position were personnel procurement, induction, training and development, help and guidance, communication, organisation (work and workers) discipline and handling of grievances, safety and health, and control (production and workers). Many of the functions outlined appear similar to those performed by supervisors in the United States.

3.1.1. **SUPERVISION AND LEADERSHIP**

Supervisors occupy a unique position in the management hierarchy because they are responsible for directing workers. All other managers direct supervisors or other managers. A newly appointed supervisor undergoes a psychological transition as he/she makes the jump from worker to the position of supervisor - from one of following instructions to one of having responsibility for leading followers (Thornton & Byham, 1982).

This means one cannot hope to identify effective supervisors by simply selecting individuals who are technically competent. Supervision is "the function of leading, co-ordinating and directing the work of others to accomplish designated objectives" (Beach, 1975, p.532). To supervise is to exercise leadership by personally overseeing the duties of others. As a leader, the supervisor seeks to have his/her group work towards

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approved goals (Jackson & Keaveny, 1980). The supervisor requires managerial/interpersonal skills if he/she is to perform successfully (see Figure 3.2).

According to Marquardt, Maken and Roe (1986), the most important aspect of supervision is the link the supervisor provides between the organisation and the subordinate. The supervisor is the communicator of the organisational side of the "psychological contract" which exists between the employee and organisation. The "psychological contract" is based on the extent to which there is a match between what the employee expects to provide and gain from the organisation and vice-versa and secondly, the nature of what is actually exchanged (Schein, 1980). The supervisor seeks to motivate the group to accomplish the required work by promoting need satisfaction and high morale among the employees.
The supervisor is first and foremost responsible to his/her immediate superior in the organisation, but in communicating the organisation side of the "psychological contract", the supervisor cannot emphasise production goals at the expense of human values (Beach, 1975). A supervisor is also subjected to pressures from subordinates who expect him/her to provide support in their working environment and to help them fulfil their needs and expectations. The supervisor acts as an ombudsman for immediate subordinates in their attempts to obtain necessary tools and equipment, pay raises, promotions and better working conditions from the organisation (Sartain & Baker, 1972).

The supervisor must demonstrate effective levels of performance when carrying out his or her supervisory functions. He or she must be a leader which involves a close personal relationship with the people around him or her and face-to-face interaction if the organisation's objectives are to be achieved. Eckles, Carmichael and Sarchet (1975) state that in the past, a supervisor was conceived of as a "boss". Today's supervisor is a leader who promotes a climate of cooperation and respect so that a worker will want to be led and possibly lead and direct himself or herself.

As a leader the supervisor is able to get his or her subordinates to develop their capabilities by inspiring them to achieve (Reinecke and Schoell, 1983). Graen and Cashman (1975) state that this involves influence over a member without resort to authority derived from the employment contract and is anchored in interpersonal behaviours, rendering extracontractual individualised assistance. This is a "leadership" based exchange. It is distinct from a low quality or "supervisor" type of exchange which is characterised by the reliance on formal authority and contractual obligations on the
supervisor's part and rather minimal, contractually based responses by the subordinate (Jacobs, 1971). A leader must be able to influence commitment instead of merely carrying out position responsibilities and exercising authority.

3.2 THE SUPERVISORY LEVEL AND INDICATORS OF LEADERSHIP POTENTIAL

The functions, tasks and time spent in various areas of the supervisor's job distinguish him/her from other managers and their jobs. Consequently, the competencies (behavioural dimensions that affect job performance) that are required by the first-line supervisor to fulfil the tasks and functions of the job and to be an effective leader differ to some extent from other managerial jobs (Bass, 1981, Vroom, 1983). Katz (1955) points out that at the executive level, conceptual skills are more important than technical skills, and at the supervisory level the reverse is true. Katz (1955) defines technical skills as "the ability to use knowledge, methods, techniques and equipment necessary for the performance of specific tasks acquired from experience, education and training". Conceptual skills refer to "the ability to understand the complexities of the overall organisation and where one's own operation fits into the organisation". Interpersonal skills are equally important at the executive, middle and supervisory levels of management (Burgoyne & Stuart, 1976). Interpersonal skills are defined as "ability and judgement in working with and through people, including an understanding of motivation and an application of effective leadership" (p.25).

Interpersonal skills such as analytical ability, persuasiveness, speaking ability, memory for details, empathy, tact and charm appear to be useful in almost all leadership positions (Bass, 1981; Yukl, 1989). According to (Yukl, 1989) studies by Boyatzis (1982) and McCall and
Lombardo (1983), indicate that the characteristics that most consistently relate to managerial effectiveness include high self-confidence, energy, initiative, emotional maturity, stress tolerance, and belief in internal locus of control. Successful managers tend to be pragmatic and result oriented, and they enjoy persuasiveness activities requiring initiative and challenge. Berman and Miner (1985) and Miner (1978) found that the most relevant components of managerial motivation were desire for power, desire to compete with peers and a positive attitude toward authority figures (Bass, 1981; Yukl, 1989). Research (McClelland & Boyatzis, 1982; McClelland & Burnham, 1976; Stahl, 1983) in the United States found evidence that effective leaders in large, hierarchical organisations tend to have a strong need for power, a fairly strong need for achievement and a relatively weaker need for affiliation.

The relative importance of various competencies may be influenced not only by level of management, for example, executives (Rawls & Rawls, 1968), but by a number of other situational factors. The optimal mix of specific competencies and the nature of the technical expertise required by a leader vary according to the type of organisation (for example, manufacturing, mining or construction). Even for the same type of organisation, the optimal pattern of competencies may vary depending upon the prevailing business strategy and its culture as well as the climate and attitudes existing in the organisation (Charoux, 1984; 1987a; Human & Hofmeyer, 1985).

3.3 THE INDIVIDUAL, ORGANISATIONAL ENVIRONMENT AND ORGANISATIONAL CULTURE

Once competencies have been chosen which reflect the demands of the job (first-line supervisory level) (see Figure 3.1) one must establish whether the Black supervisor has the
behaviour associated with those competencies in order to perform effectively.

Studies undertaken in South Africa suggest that there is widespread dissatisfaction with the performance of many Black managers and supervisors. Black managers' and supervisors are viewed as manifesting an inability to function autonomously and to handle increased responsibility, a lack of assertiveness and confidence, a tardiness in decision making, insufficient initiative and creativity, a low propensity for risk-taking, affiliation oriented rather than achievement oriented behaviour, an inability to apply theoretical knowledge practically, and an inadequate knowledge of business concepts (Hofmeyr, 1982, 1983; Van Rooyen, 1988).

Research appears to confirm as well as disprove some of the popular perceptions concerning why Black supervisors and managers tend to underperform in their jobs. The contention that Blacks are unable to tolerate ambiguity and are unwilling to take risks appears to be supported by research by Moerdyk and Coldwell (1982) and Mjoli (1987). The concept of "Locus of Control" has long been investigated (for example Munro, 1979). Recent research by Charoux (1985), Erwee (1986) and Riordan (1981) has not, however, supported the contention that Blacks tend to have an external locus of control (Erwee, 1988). Contrary to suggestions that Blacks lack a need for achievement, Pottas (1981) found that samples of Black university students obtained higher scores on all dimensions of an achievement motivation questionnaire than their White counterparts (Charoux, 1985). According to Godsell (1986), Blacks and Whites have values such as achievement in common, but for Blacks, achievement seems to occur in a communal context (Watts, 1985). Achievement may be dependent not only on the context in which it is expressed, but by the rewards received. Barling (1981) found that different motivational
profiles appear to be cultivated in different cultures. He based these conclusions on a cross-cultural study in which he correlated needs with promotional aspirations for a Black, an Indian and a White group.

Particular problems may arise because competencies have been chosen which require behaviours "appropriate" in that organisational environment or culture to be demonstrated if performance is to be successful. If, for example, as United States research has indicated, effective leaders in hierarchical Western organisations have a fairly strong need for individual achievement and a relatively weaker need for affiliation, and Black South Africans express need for achievement in a communal context, then culturally determined behaviour patterns will be in conflict with the organisation's culture. In a Western business environment in which high levels of individual achievement motivation are required, Blacks may lack the behavioural processes needed to express this drive (Charoux, 1988; Moerdyk, 1986). This has important negative implications for Black performance if, as Nasser (1980) suggests, individuals characterised by a high need for individual achievement function autonomously, handle responsibility willingly, are assertive, make decisions, take appropriate risks, are innovative and creative, and use initiative in resolving obstacles in the pathway of achieving corporate goals (Chalmers, 1986).

Boyatzis (1982) holds that the organisational and cultural environment set the stage as to what "appropriate" action is (see Figure 3.2). The three inner rings in the diagram represent the individual and his or her competencies. The two outer rings represent job demands and the organisational environment in which the job exists and the dotted zone called "specific action or behaviour demonstrated" represents the activities or behaviour resulting from a dynamic interaction between the individual (inner rings) and
the job (outer rings). If the individual's norms for behaviour are different from what is expected in the organisational culture in which he or she is functioning, he or she is unlikely to demonstrate the "appropriate" behaviour or actions needed to function effectively in that environment (Spangenberg, 1990).

Norms for behaviour (perceptions of what behaviour is acceptable in the organisation in which the individual belongs) are defined by self-image and social role levels of competencies. Social role refers to a person's perception of social norms (for behaviour) that are acceptable to the social groups or organisations to which he or she belongs. Self-image is conceptualised as a cognitive system with motivational and evaluation properties learned via experiences with the psychological environment and includes feelings of intrinsic worth, competence, and self-approval rather than self-rejection and self-contempt (McCombs, 1985). Where perceptions of social norms are not in agreement with the organisational environment and inappropriate behaviour results, it would appear that these experiences may have a negative impact on the Black supervisor's self-image. For example, Louw-Potgieter (1982) refers to an internalised low self-concept which can affect Blacks' behaviour in the workplace. The internalisation of inferiority can result in a loss of confidence and motivation which can in turn affect performance.

Many researchers have shown how cultural factors influence behaviour in organisations. Smith, Msumi, Tayeb, Peterson and Bond (1989), for example, examined the leadership styles of electronic plant supervisors in Britain, the United States, Japan and Hong Kong derived from Msumi's PM leadership theory. Their findings indicated that characteristics of P (Performance) and M (Maintenance) leader style had a similar factor structure in each culture. However, the specific behaviours associated with those
styles differed markedly, in ways which were comprehensible within the cultural norms of each setting. Evans, Hau and Sculli (1989) state, for example, that in interpersonal situations westerners are more inclined to engage in open and often conflicting discussion. Asians tend to strive for social harmony, even at the expense of efficiency and a public show of disagreement must be avoided.

Coldwell and Moerdyk (1981) suggest that the struggle between dissonant cultural paradigms has a negative affect on Black supervisory performance. If the Black supervisor falls on the traditional rather than on the Western end of the behavioural spectrum he or she will relate to the concepts of time and probability, authority, interpersonal relations and cognitive style differently from someone who does not. For example, planning becomes less relevant if the person has a fatalistic world view and adherence to a time schedule becomes nonsensical if the person has a circular concept of time. This problem will become less important as more and more Blacks become urbanised and should not be overemphasised (Human & Hofmeyr, 1985).

Nevertheless, leadership theory used to explain behaviour patterns of supervisors in South African industry stem chiefly from empirical research conducted on Westernised groups. One should therefore be wary in taking these over to explain the behaviour of Black supervisors - a totally different cultural group (Biesheuvel, 1972). At present, many Blacks may still be experiencing cultural dissonance as a result of their cultural upbringing. Interpreting cultural behaviour in terms of Western norms will place the responsibility for underperformance on the "traditional" Black person when in fact a situational factor (organisational culture) not individual ability may be to blame. As the Black supervisor becomes increasingly urbanised and educated, and his or her opportunities for intellectual stimulation are enhanced at an early age, his
or her behaviour would probably be more appropriately explained in terms of his or her individual competence, rather than an alien organisational environment.

A number of questions need to be answered by empirical research conducted on leadership behaviour in a cross-cultural context before Black leadership behaviour can be fully understood. The following include some of the questions which require consideration: To what extent does organisational behaviour of Black and White managers vary? If cultural diversity does exist, how can it be used as an organisational resource? To what extent do Black managers and supervisors experience role conflict and role ambiguity? What is the link between this perception of marginality and behaviour in the work situation? (Erwee, 1988).

Without establishing empirical answers to these questions it is easy to say "Blacks lack abilities". It seems likely that Blacks may in fact have those abilities but the specific behaviours associated with them are not recognised or utilised in a western organisational culture. This is a cultural explanation for Black underperformance and its importance lies in its affect on the choice of competencies. The question becomes, whether it is better to choose competencies which "fit" a Black supervisor to a western organisational environment or whether it is better to change the organisational environment to reflect the behaviours of the Black supervisor and to choose different competencies (Franks, 1986).

An organisation whose environment has been changed to allow the preferred behaviours of Blacks to be expressed is unlikely to find that the competencies required prior to this change will differ dramatically from those after the change. Charoux (1984, 1986a, 1986b) believes that certain cognitive criteria are generic and are applicable in most situations. Individuals will require sound judgement and
planning in any organisation whether it is at the Africanised organisational culture or the Western organisational culture end of the organisational culture spectrum. It is the behaviour associated with those competencies and perhaps the weight attached to the importance of those competencies that will differ.

Burgoon, Dillard and Doran (1982) examined the relationship between cultural membership and persuasive strategy selection. They found that Asians tended to use more of the 16 compliance gaining strategies outlined by Maxwell and Schmitt (1967) than their American counterparts. They suggested that this may be indicative of a culturally determined propensity to engage in persuasive acts or alternatively, members of Asian cultures may simply have different attitudinal sets toward persuasion, recognising it as a more acceptable or necessary part of human relationships. The context in which these behaviours are expressed differed from Western organisations as well. Nishiyama (1972) describes the decision-making process among Japanese business persons as one of moving towards group consensus. Consequently, the group is responsible for the outcome of the decision and not the individual and there is less individual accountability for persuasive acts. In South Africa this may mean, for example, that a traditional Black person engages in different cognitive strategies vis-a-vis his or her western counterpart and prefer to express those behaviours (associated with, for example, planning) in a communal context.

The weights attached to various criteria (in addition to the behaviour associated with those criteria) would probably also differ if an individual were to attempt to integrate into a hostile and alien environment. Blacks would probably require lower levels of sensitivity and assertiveness if they were to integrate into an all Black rather than an all White organisation in South Africa (Human & Hofmeyr, 1985;
Charoux, 1986a). The weights attached to these would probably increase if Blacks were to be integrated into a hostile climate and an alien organisational culture. The choice of criteria is not really at issue, it is whether the environment should be reconstructed to allow a Black supervisor who has difficulty with the environment, to express his or her competencies with his or her preferred behaviours.

3.4 CHOOSING INDICATORS OF LEADERSHIP POTENTIAL

According to Evans, Hau and Sculli (1989) a review of the literature on the cross-cultural aspects of management styles reveals two main themes. One asserts that the management style adopted in a particular society is determined by the level of technology on the general state of development of that society. It is argued that as the society develops, the management style will inevitably converge towards the style adopted in the developed Western world. The other main theme asserts that the particular culture of a society is a dominant factor in managerial style, and management will retain its own unique cultural identity even as the society develops (Evans, Hau & Sculli, 1989).

If the former scenario is correct, South African organisations are likely to remain attached to Western-oriented management styles, no matter how many Blacks are appointed into responsible positions. Charoux (1986a) asserts that although the argument for adapting the organisation to Black needs rather than vice-versa has its place in academic circles, it has none in the practical reality of contemporary South Africa.

One would then select indicators of leadership potential which would distinguish those individuals able to function in a hostile climate and an alien cultural setting and
become integrated into a Western organisation. Behaviour modelling and achievement training could be used to help Black candidates with their performance problems (Boshoff, Cronje & Lange, 1987).

Moerdyk and Coldwell (1982) suggest, alternatively, restructuring the environment to fit the needs and values of the person more closely so that the perceived problems of collectivism-individualism, need for affiliation-need for achievement, and linear-circular concepts of time can be addressed. They therefore advocate:

a) team development processes which foster the view of executive groups as cooperative family units,

b) structural changes using matrix structures, project management, employee scheduling of work,

c) evaluating and rewarding the performance of a stable work group rather than the individual.

They believe that in place of attempting to re-educate Black workers into individualistic modes of behaviour, their communal approach can be enhanced by appropriate organisational design (Coldwell & Moerdyk, 1990). They would reject Human and Hofmeyr's (1985) suggestion that it would be appropriate to determine some areas where aspirant Black supervisors experience problems and then to choose indicators of leadership potential to find candidates with the potential to perform well in these traditionally difficult areas and to become integrated into western organisations.

If the latter scenario is correct, the requirement that Blacks adapt to Western culture will be replaced by the development of managerial systems which mirror the multicultural context in which South African organisations and their managers exist (Franks, 1986; Moerdyk & Coldwell,
1990). Ouchi (1981) provides support for this argument when he says:

"an organisation cannot convert new employees into a firm-specific culture deviant from the surrounding society - so instead it adopts an organisational culture with central values identical to those of the surrounding society" (p.40).

Maximising Black performance would then depend less on "squaring the peg" - selecting Blacks who fit into Western organisations, and more on "rounding the hole" - changing the environment to reflect their preferred behaviours. If management style begins to reflect Black culture more as more Blacks are drawn into existing White organisations, it would be possible to redefine the context in which competencies would have to be displayed. Planning could then, for example, be measured in such a way that it would have to be displayed in a communal context.

Competencies identified to select Black leadership in South Africa at the moment are based on the ability of Blacks to become integrated into Western organisations. This is not surprising given that most organisations have a Western orientation at the present time.

Biesheuvel (1972) identified eleven indicators of leadership potential at the supervisory level in the mining industry. These were dominance, activity, initiative, co-operative-ness, organising ability, perseverance, responsibility, self-confidence, acceptability in the group, planning ability and practical ability (Watts 1985).

Boshoff, Cronje and Lange (1987) conducted interviews with construction managers and identified a number of criteria to distinguish effective from ineffective supervisors. Leadership characteristics emerging from these interviews
included cooperation, responsibility, adaptability, human relations, reliability, reaction to feedback, communication ability, initiative, emphasis of objectives and potential for further development.

Charoux (1984) interviewed a sample of Whites and Blacks involved in the selection of Black leaders. Interviewees were required to rate as "most important" at the selection stage, a variety of characteristics obtained from research literature. The five criteria identified as being most important by the interviewees were:

"Communication skills" - ability to communicate fluently and in writing (92 percent); an "internal locus of control" - belief in oneself, self-confidence (86 percent); "social sensitivity" - an awareness of the social and political aspects of one's organisation and the flexibility to adjust one's behaviour accordingly (82 percent); "Cognitive skills" - analytical and problem solving ability (82 percent) and "achievement motivation" - a desire to succeed in spite of all (76 percent). Both cognitive skills and achievement motivation have been identified in previous research in South Africa (Arbous, 1950, 1953; Biesheuvel, 1972) states Charoux (1985).

As the number of Black employees increases in the managerial structures of South African organisations, the days of "we the Whites insist that you the Blacks change your values to reflect ours" will disappear altogether, if the second theme is correct. Instead, a transition will occur in many organisations and words like "common values" and cultural synergy" will begin to replace the once popular "cultural differences" and "understanding the Black workers" (Charoux & Moerdyk, 1991) and more emphasis would be placed on the construction of cultural assimilators (Triandis, 1984) and competencies related to intercultural effectiveness (Hammer, 1987; Hannigan, 1990).
This is likely to be a difficult task judging by a 1985 Human Sciences Research Council (HSRC) Report. An important theme of the report was that South Africans are interculturally "crippled". In South Africa a critical factor in the lack of contact and communication between Whites and Africans is the comparative lack of intercultural communication skills (HSRC, 1985, p.88).

South African society is characterised by people who have become isolated from one another. South Africans have forfeited the opportunity to perceive one another not only as members of conventional categories, but also as individuals with personal needs and aspirations, fears and hopes and divergent and common characteristics. There would thus be a need in South Africa for the enhancement of intercultural communication knowledge and skills before a common business culture could be evolved (Lowe, 1987; McCann, 1991).

4. SUMMARY AND CONCLUSION

In order to be an effective supervisor, supervisors need to be leaders. Leadership it appears has an important role to play in improved organisational productivity and effectiveness. Consequently, it is not surprising that organisations attempt to identify, select, train and develop effective leaders.

Identifying leadership potential is complicated however, by the multi-faceted nature of leadership which makes it difficult to define. The confused state of the field can be attributed in large part to the disparity of approaches, the narrow focus of most researchers, and the absence of broad theories that integrate findings from the different approaches. Leadership has been studied in different ways,
depending on the researcher's conception of leadership and methodological preferences.

Three broad approaches to leadership have been covered in this chapter. These are the trait, behavioural and situational/contingency approaches. From the research, it appears that effective leadership is a combination of three elements: the individual's behaviour; the situation and to a degree, the leader's personality. Identifying potential leaders under the assumption that stable and invariant personality characteristics exist, will not be effective. Identifying the human characteristics and skills associated with effective leader behaviour in circumscribed situations is possible however.

The choice of characteristics is determined, for example, by the situation, type of organisation and level of management. Identifying Black leaders is complicated by socio-economic variables and cultural background, which inhibit their performance. In addition, organisational climate and organisation culture affect the ability of Blacks to function as supervisors. The Black supervisor is a marginal person who must function in stressful situations in Western-oriented organisations where gaining recognition from White management can be difficult.

Some personnel practitioners have chosen competencies to select Blacks with the potential to become integrated into White Western-oriented organisations. Those individuals with the ability to handle the diverse and conflicting situations in which they are expected to function, are selected. Other researchers have suggested that the environment should be restructured to reflect African culture so that those abilities Blacks have, but which they are unable to express as individuals, can be expressed through teamwork.
In conclusion, criteria are likely to remain the same in any environment, but if one is to find a solution to managerial complaints about Black underperformance and the loss of their potential to the organisation, selection procedures and selection instruments which are more flexible than traditional techniques and are better able to predict leadership potential in South Africa's complex environment, will be needed. Those who perceive managerial performance as a function of a universal set of competencies favour assessment centres as a method of ascertaining training needs, evaluating training effectiveness, assessing potential and selecting for promotion (Crawley, Pinder & Herriot, 1990).
The traditional approach to selection, which has been used for many years to select individuals for jobs in industry, has been criticised for its perceived inability to meet the demands associated with the early identification of Black leadership potential. In addition, traditional selection instruments have a poor record in identifying leadership potential (Charoux, 1986; Kinslinger, 1966; Korman, 1968; Reilly & Chao, 1982; Verster, 1980).

The objectives of this chapter will be to define selection and examine the classical selection model, its assumptions as well as criticisms of those assumptions. Various alternative identification models suggested by South African researchers will be discussed. The relationship between criteria and predictors, an important component of the selection process, will then be discussed. Selection instruments/predictors used to identify leadership potential will be investigated and this will include personality, cognitive and projective tests. Testing will also be examined within a South African context. Finally, and most importantly the assessment centre will be examined as a potential alternative to traditional testing in South Africa. This will include an outline of the history of the assessment centre technique, its applicability in South Africa, and its validity when used to select leadership potential.
1. THE SELECTION PROCESS

Selection has been defined as:

"the process by which an enterprise chooses from a pool of applicants, the person or persons who best meet the selection criteria for the position available, given current environmental conditions" (Glueck, 1982, p.285).

The selection process has as its objective the sorting out or elimination of those judged unqualified to meet job and organisational requirements (Cascio & Awad, 1981). The most common approach to selection is to choose individuals who possess the necessary skills, abilities and personality to successfully fill specific jobs in the organisation. This is essentially a problem of matching a person to the job (Beach, 1975). The advantages of a successful match can be measured in terms of increased organisation productivity and increased employee job satisfaction (Meggison, 1981).

1.1 MODELS OF IDENTIFICATION

The basic principles of selection have not changed and the classical selection model has been used for many years as a framework to select personnel (Blum & Naylor, 1968). Selection is conceptualised as a six step process and the elements and the sequence of prediction in employment selection are summarised in this model (see Figure 4.1). The sequence begins with a job analysis and then branches in two directions - the "criterion" side, shown on the left, and the "predictor" side, shown on the right. Ultimately, these two directions are brought together to conduct validity studies (Siegel & Lane, 1982).
FIGURE 4.1  THE CLASSICAL SELECTION MODEL (From Muchinsky, 1983)
The first step in this model involves a job analysis in which the knowledge, skills and abilities needed to perform the tasks and responsibilities of the job are outlined. This is followed (step two) by the selection of a criterion of job success used to evaluate a person's performance on a particular job and a predictor that accurately reflects the important aspects of the job. After the criterion and predictor have been chosen, the person's performance is measured on both variables in step three (Muchinsky, 1983).

Organisation's attempt to demonstrate, that the characteristics described prior to employment are in fact related to subsequent characteristics of performance on the job. Establishing a relationship between employee characteristics and job performance provides a means to determine whether selection procedures are valid and have an impact on improved organisational effectiveness (Siegel & Lane, 1982). Step four therefore, concerns the relationship between the abilities and characteristics measured by the predictor and subsequent performance measured by the criterion. If the predictor has validity, there will be a significant relationship between predictor scores and criterion scores. Conversely, there will be no correspondence between the two sets of scores if the predictor lacks validity (Muchinsky, 1983).

In step five, the validity and utility of the predictor is assessed. If the selection procedure proves to be sound, the whole process is repeated at a later stage to determine whether changing employment conditions have altered the predictor/criterion relationship and thus the validity of the prediction. Alternatively, if the predictor does not have validity, the selection procedure is rejected and a search for appropriate alternative predictors is instituted (Muchinsky, 1983).
Dunnette (1963) points out that this approach to selection rests upon a search for the most powerful predictor-criterion correlation. The conception of performance being "underpinned" by abilities has long been a cornerstone of personnel selection (McCormick, Jeanneret & Mecham, 1972). This linking of what Dunette (1976) calls the "taxonomic worlds of work and human attributes", and what Singleton (1974) refers to as the "systems-oriented concept of task" and the "person-oriented concept of a job" is an inferential process (Sparrow, 1989, p. 151).

This inferential process reflects the belief that (a) the same criterion should be predicted for all applicants; (b) valid predictors are equally useful for all applicants, and (c) a uniform critical score applied to all applicants enhances the probability of hiring the greatest number of potentially successful employees (Siegel & Lane, 1982).

The traditional model assumes that effective performance is a unidimensional concept and that the same criterion should be predicted for all applicants. It neglects the fact that different persons may achieve equivalent total performance through different patterns of work behaviour and that improvements in validity may come about through efforts to predict different criteria for different applicants (Siegel & Lane, 1982).

The traditional model also oversimplifies the nature of the predictor by assuming that the same characteristics predispose effective job performance for all persons. The alternative assumption is that job success for different applicants can be most efficiently predicted by different predictors or from differentially established passing scores on the same set of predictors. The assumption is that applicants can be
classified into subgroups, each of which has its own optimal selection programme (Guion, 1976).

This is illustrated by Dunnette (1963) whose model emphasises the complex interactions between predictors, individual employees, work setting and organisational consequences (see Figure 4.2). On the left hand side of the model are predictors (P) variables; on the right side are the consequences (C) of job behaviours as they relate to organisational goals. In between these variables are factors that intervene in the predictor-criterion relationship. There are differences among individuals (I) which cause differences in job behaviours (B). In other words, certain subgroups of people behave differently at work than others. The model also emphasises that job behaviour is situational (S) and that the same behaviours may, depending on different organisational circumstances, have quite different organisational consequences (Dunnette, 1963; Muchinsky, 1983).

Any variable which influences the relationship between a predictor and a criterion is termed a moderator (Dunnette, 1963). Potential moderators include age, race, sex, education, motivation and culture. Dunnette (1963) shows, for example, how selection might proceed (see Figure 4.3), when educational level and socio-economic background have been established by research as useful moderator variables.
FIGURE 4.2 A DIFFERENTIAL PREDICTION APPROACH TO SELECTION (From Siegel & Lane, 1982)
FIGURE 4.3 THE PERSONNEL DECISION PROCESS (From Siegel & Lane, 1982)

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Schmidt and Hunter (1980, 1981) have rejected the concept of intervening and moderator variables and suggest that the notion of situational specificity of test validity (the same test may be valid in one situation but not another) is based on the endorsement in the belief of small numbers. They argue that the belief that small sample sizes were adequate to answer questions about the validity or invalidity of tests meant that researchers incorrectly accepted single-group validity, differential validity and test unfairness by race (Schmidt & Hunter, 1980). According to Wise, McHenry and Campbell (1990), validity generalisation is now a household word in industrial and organisational psychology in the United States.

1.2 SELECTION IN A SOUTH AFRICAN CONTEXT

Although Schmidt and Hunter (1981) contend that fears of discriminating against minority groups are unfounded since their research indicates that differences in test scores between minority and majority groups correspond with criterion differences of similar magnitude, Taylor and Radford (1986) argue that ethnic groups should be identified on an a priori basis for investigation of moderator effects since South Africa has a long history of legislative discrimination based on ethnic classification, which if ignored could perpetuate the disadvantage already suffered. They came to this conclusion on the basis of a study they undertook in which a comparison of psychometric ability test results revealed significant mean differences between Black and White groups which were not necessarily associated with similar differences on criterion measures (Taylor & Radford, 1986).
According to van den Berg (1989), Schmidt and Hunter's (1980) assertion that:

"single group and differential validity have been shown to be statistical artifacts; test unfairness by race has been seen to be a non-problem" (p.54)

should not be accepted unquestioningly in a South African context.

Dunnette's (1963) differential prediction approach to selection implies that a selection programme should embody several decision points and offer several alternatives. This contrasts with the traditional approach to selection which embodies a single decision point (upon completion of pre-employment testing) and a single decision alternative (hire or reject). It has been argued that the Black employee faces specific obstacles in South Africa which set him or her aside from his or her White counterpart and that the assumptions of the classical selection model are inappropriate in this country (Charoux, 1983, 1986a; Verster, 1980).

A single decision point assumes that managerial /supervisory behaviour can be objectively defined, quantified and measured with psychometrically sound selection techniques. South African researchers assert that the ideal of "culture fair" selection instruments is simply not practically obtainable (Biesheuvel, 1974; Charoux, 1986a; Taylor & Radford, 1986). Selection procedures generally discriminate unfairly against disadvantaged applicants by underestimating their potential to succeed (Verster, 1988, p.4). There is little agreement as to how to define operationally managerial or supervisory effectiveness and conse-
quently, the measurement of such a long term attribute with traditional predictors is a difficult and elusive task. Assessment should take place over an extended period of time if fairness in selection is to be achieved and valid assessments of Black leadership potential made.

Furthermore, a promotion to supervision represents the greatest change in the job hierarchy (job duties, pay differences, role requirements and reference groups) which makes predicting future performance on the basis of past performance unreliable and difficult at best (Thornton & Byham, 1982). Sparrow, Spurgeon and Patrick (1982) note that because the traditional paradigm requires people to be performing the job in question, it is not possible to use this paradigm for the selection of appropriate personnel for new jobs.

The traditional approach to selection has another weakness in that it embodies a single decision alternative which assumes that the purpose of selection is one of finding an individual capable of matching the immediate requirements of the vacancy. The model assumes that by placing the manager or supervisor into the vacant position, the duties and responsibilities of the position will automatically be carried out effectively (Charoux, 1986a). Education, cultural background and the environment constitute barriers to Black supervisory or managerial effectiveness (Jaffee, Cohen & Cherry, 1972). Consequently, it is not realistic to assume that the Black supervisor will be immediately ready to fill the requirements of the job. Instead, it has been suggested that the Black supervisor or manager be given the time and the opportunity to adjust to the environment and become organisationally socialised or integrated (Miller & Jablin, 1991). Selection would then adopt a developmental perspective.
without an immediate hire/reject or promote/reject decision being made (Hofmeyr, 1982; Jordaan, 1988; Schepers, 1969; Verster, 1980).

The traditional approach to selection assumes thus, that the selection process is completed once the individual is appointed to the vacant position and begins to undertake the duties, tasks and responsibilities of the job. The Black manager or supervisor (as has been pointed out) needs time to become socialised and effective and has to be assessed in as many real-life situations as possible. What is needed is a view of selection as being a long term process - one which advocates that selection is terminated only when the Black supervisor has successfully overcome the barriers unique to his or her situation (Charoux, 1986a; Hofmeyr, 1982; Jordaan, 1988; Verster, 1980). The classical selection model would, therefore, appear to be of limited use in South Africa for Black employees as it neglects the particular difficulties surrounding the selection of Black leadership potential.

1.3 MODELS OF IDENTIFICATION IN SOUTH AFRICA

A number of selection models which take into account the environmental difficulties the Black supervisor or manager in South Africa has to deal with have been put forward. An early model by Schepers (1969) proposed a three-tier approach which emphasises the early identification of managerial potential and its subsequent development.

At tier one, selection attempts to satisfy the technical demands of the job and attributes such as general intelligence, special mental abilities and social skills are identified and measured by means of psychological tests and weighted biographical inventories. At tier two, specific
managerial skills and abilities such as organising, planning, leading, controlling are identified and measured by means of in-basket tests. Finally, at tier three, the managerial style of the candidate is examined, namely, the manner in which he uses human resources in the attainment of objectives (Charoux, 1985).

Verster (1980) was the first researcher in South Africa to suggest the use of a sequential selection model when identifying Black supervisors. According to Charoux (1985) the sequential selection model has its origins in the 1950's (Cronbach & Gleser, 1957). Verster (1980) notes that the trait approach to leadership has become redundant and that in addition to individual variables, task demands and psychological climate influence supervisory behaviour and need to be taken into consideration. Verster's (1980) selection method consists of the successive implementation of a series of selection techniques during a step-wise process, over an extended period of time. At each stage, the organisation reaches a decision so that the number of individuals eligible for placement in supervisory positions is gradually reduced.

Charoux (1986a) has built on Verster's (1980) research and proposed a sequential selection strategy consisting of a series of phases in turn divided into stages (or "filters") through which the Black potential supervisor needs to emerge, if he or she is eventually to achieve the status of fully fledged supervisor (see Figure 4.4).

In phase one, the "task requirements" facing the potential Black supervisor are outlined. These include the number and nature of tasks; type of superiors; subordinates and peers; the nature of communication within the department; and the system of rewards and sanctions used in the organisation. The "organisational characteristics" which may affect the potential supervisor's performance (the
prevalent psychological climate, culture, philosophy, values, attitudes and beliefs) are also identified. Finally, the "psychological characteristics" required to meet both the task requirements and the organisation characteristics are outlined (Charoux, 1986a; 1990).

FIGURE 4.4 THE SEQUENTIAL SELECTION STRATEGY  (From Charoux, 1986a)
Academics and consultants have increasingly recommended that job applicants be assessed in terms of their "fit" with the employing organisation's strategies, culture, norms and values. The notion that it is desirable for individuals to "fit" their environments has become a basic tenet in many areas of industrial psychology and is consistent with the general trend toward contingency theories of management. The model therefore rejects the notion that the selection process is simply a matter of matching the individual's abilities, skills and characteristics to the task requirements of the job and incorporates the environment into the choice of appropriate indicators of leadership potential.

In phase two, those applicants who best meet all three of the initial criteria, are appointed as trainee supervisors and are ready to begin their descent down the funnel. The model takes into consideration the cultural, educational and environmental barriers facing the Black manager or supervisor and rejects the assumptions of the traditional approach to selection. The model assumes that selection is not complete until the employee has finally emerged at the bottom of the funnel. This allows for the possibility that through educational and other barriers, the Black manager or supervisor is not likely to perform effectively immediately. Selection is viewed as a lengthier process and the number and the quality of each filter is tailored to meet the needs of the specific organisation concerned. The Black supervisor or manager is provided with the opportunity to become socialised and integrated into the organisation through this lengthier process. Selection is not terminated after the Black employee has been appointed to a trainee position. There are several decision points (filters) and the decision to hire or reject is only taken when the Black employee has been provided with the opportunity to overcome
the obstacles unique to his or her situation (Charoux, 1985).

Finally, the assumption that managerial behaviour can be objectively defined, quantified and measured is rejected. The role of classical selection predictors such as psychological testing, interviewing and application forms are not as critical to the selection process as in the case of the traditional selection model. The use of the sequential selection strategy provides management with the opportunity to observe the potential Black manager or supervisor in as many real-life situations as possible. The model assumes however, that it is important that the Black potential manager or supervisor has initial leadership potential, in other words, the potential to fulfil the duties and responsibilities of his/her job and the potential to function in a hostile environment, before progressing down the funnel (Charoux, 1984, 1986a, 1990).

The National Institute for Personnel Research (NIPR) emphasises the need for an integrated development strategy in which the different realities that confront the organisation and the prospective manager are considered. Identification proceeds in conjunction with the growth-enhancing processes/situations/events in the organisation, and the trainee manager/supervisor becomes involved in the process of development (Jordaan, 1988).

In their model, the individual with his or her personal background, the management role itself, and the organisation with the demands of its external and internal environments are viewed together continuously (see Figure 4.5). The way in which the organisation functions (both on a formal and informal level), its structure and systems, as well as the value of different ways in which people interact with one another in the organisation, are considered.
FIGURE 4.5  A MODEL FOR IDENTIFYING AND DEVELOPING MANAGERS (From Jordaan, 1988)
Jordaan (1988) suggests that there is a need for an integrated model of managerial/supervisory competence that extends beyond the measurement of traits and skills. Traditionally, competence has been measured by defining and testing for areas of knowledge, skills and traits relevant to the position. According to Dorch (1989) the traditional approach of matching people to jobs is one of the most important reasons why there is such a poor record in selection decision making.

An important part of managerial competence therefore, relates to the fact that a person has a unique and individual way of dealing with his or her environment and with interpersonal relationships, of problem solving and decision making. People will prefer to use those behaviours or approaches with which they feel most comfortable (Dorch, 1989).

Effective job/person matches are more than matching a person's skills and abilities to the content of the job. Selection outcomes are successful when the individual's preferred behaviours (based on individual preferences regarding interpersonal motives, career values and personal style) are matched to the required behaviours of the job (Dorch, 1989). The required behaviours of the job are determined by the organisational environment. Boyatzis (1982) states that the organisational environment reveals how an individual is expected to respond to job demands. There must therefore be a match between the individual's preferred behaviours and how he is expected to behave.

An assessment must be made of the person's self-schema, what typically drives his or her behaviour and the process by which the person performs effectively. By assessing and then informing the person of his or her characteristic way of functioning and how this relates to the required behaviours of the job, the Black supervisor is offered the
opportunity to become more effective by developing insight into "own" behaviour and his or her relationship with others and the work environment (Jordaan, 1988; Spangenberg, 1991).

South African researchers have rejected the assumptions of the traditional selection model. They acknowledge that environmental, organisational and cultural/individual factors moderate the predictor-criterion relationship in South Africa. The restructuring of the selection process to reflect the difficulties in effectively identifying Black leadership potential has been exhibited in these models.

2. THE RELATIONSHIP BETWEEN CRITERIA AND PREDICTORS

Selection technology stems historically from concepts of test validation and choosing reliable and valid predictors of leadership potential is an important part of the selection process (Guion, 1976). This will determine the extent to which an accurate assessment of future performance can be made. Without evaluating the predictor against performance criteria, however there is no way of knowing whether the personal characteristics chosen are valid indicators of supervisory effectiveness. Some criterion measure of employee performance is therefore required if pre-employment selection instruments are to be validated. An organisation will not know whether one candidate is "better" than another unless a reasonably precise distinction is made between those characteristics genuinely useful in job performance and those merely desired (Guion, 1976). Unfortunately job performance cannot be described before it occurs. Therefore, an attempt must be made to demonstrate, that the characteristics described prior to employment, and measured by the predictor/selection instrument, are related to subsequent characteristics of performance on the job - the job performance criterion (Guion, 1976).
2.1. JOB PERFORMANCE CRITERIA

Job performance criteria have been defined as:

"those criteria which reflect in meaningful terms the extent to which individuals are fulfilling the stated performance requirements of their jobs" (Tiffin & McCormick, 1970, p.132).

Performance can be rated in terms of: personal characteristics, outcome measures - what employees achieve in their jobs, on behavioural measures - what employees should do in order to attain a particular outcome (Nunns & Kruger, 1983). Ratings of personal characteristics are judgemental and relatively subjective. Outcome measures and behavioural measures (distinct from behaviourally anchored rating scales - Bars) provide a more objective foundation upon which an evaluation can be made.

Dickenson and O'Brien (1982) criticise the use of subjective ratings and recommend the use of outcome measures, supplemented by behavioural measures to establish performance ratings. Reddin (1970) suggests that managerial effectiveness should be defined in terms of output rather than input, by what a manager achieves rather than by what he/she does. Effectiveness then, "is the extent to which a manager achieves the output requirements of his or her position" (p.3).

Smith (1976) makes a simple distinction between criteria which are "hard" and criteria which are "soft". Hard criteria are official indicators of performance and are taken from personnel records. They include units of production, salary level, job level and rate of promotion, volume of sales, job tenure, absenteeism and rate of accident. Hard criteria are relatively objective. "Soft" criteria, however, refer to subjective judgements made of an employee's performance, usually by means of rating or
ranking of certain aspects of the job (Smith, 1976). While a criterion measure may serve as the standard against which the usefulness of some other test is judged, the criterion may also be a psychometric device, for example, production records, supervisory judgements of proficiency, and estimates of managerial potential (Siegel & Lane, 1982).

Criteria have been described as one of the key problems in industrial/organisational psychology. According to Smith (1976) evidence of this can be seen in efforts designed to clarify its theory and to improve its measurements by Biesheuvel (1965), Bray and Moses (1972), Guion (1967), Owens and Jewell (1969), Wallace (1965) and Weitz (1961). The task of developing reliable and valid job criteria is one of the most challenging and desired objectives in contemporary industrial psychology (Fogli, Hulin & Blood, 1971). The choice of criteria is usually determined by history or by precedent but, unfortunately, because the criteria are at times merely expedient or available not all work performance can be objectively measured and particularly in managerial positions, a subjective performance rating or ranking (usually done by the ratee's supervisor) is often the only kind of measure available (Boehm, 1982).

A common criticism of rating scales and subjective evaluations of performance has been their potential for bias and error in the rater's judgement of others (Nathan & Alexander, 1985). The ratings of personality traits are often based on vague and ambiguous definitions with the consequence of poor evaluations (Miner, 1971). The "criterion problem" is therefore, due in part to rating errors in observing and recording what is seen (Ronan & Prien, 1971).

Careful observation is a necessity for making valid recordings of behavioural measures. According to Smith
human judgement enters into every criterion from productivity to salary increases" (Smith, 1976, p.757). Careful observation is also necessary for evaluating the meaning of "hard" criteria such as tardiness, absences and accidents. Pursell, Dossett and Latham (1980) state that this issue is, in their opinion, the central problem of selection decision-making. If operational decisions are based on contaminated or biased criteria, no degree of care in the job analysis and the subsequent development of appraisal instruments will guarantee the effectiveness of the selection decisions. Despite this fact, criterion problems related to the observation of performance have traditionally been ignored by psychologists (Ronan & Prien, 1971).

To add further to the complexity of the criterion problem, some researchers have argued for the composite criteria approach, whilst others have favoured that of the multiple criteria approach (Ghiselli, 1956; Thorndike, 1949; Troops, 1944). Managerial effectiveness is a complex theoretical abstraction which cannot be reflected by a single criterion measure. The ultimate criterion is comprised of several relatively independent measures. Yet, according to Dunnette (1963), Muchinsky (1983) and Siegel and Lane (1982) the realities of selection and placement require a single decision to hire and reject.

Supporters of the composite criteria approach believe that the criteria of job performance should somehow be added together to generate a single performance score measuring a person's overall "success" (Charoux, 1986a). Arguments against combining criteria into a single composite rest upon the notion that criteria are multidimensional rather than unidimensional (Dunnette, 1963; Ghiselli, 1956; Guion, 1961). Schmidt and Hunter (1971) suggest that the choice of composite or multiple criteria should depend on the final objective (Smith, 1976). If the objective is
practical, for example promoting an employee, a weighted composite should be used. If the objective is research, to understand which dimensions of performance contribute to success, multiple criteria are appropriate.

2.2 PREDICTORS OF PERFORMANCE EFFECTIVENESS

The accurate assessment of human resources is critical to an organisation's selection, promotion and manpower planning decisions (Guion & Gibson, 1988). The soundness of an organisation depends on a succession of personnel with the knowledge, skills and ability to manage. There is therefore, a need for proper and accurate assessment of individuals and a need for a vehicle where this can occur (Appelbaum, Kay & Shapiro, 1990).

Predictors are the vehicles in industry used to assess leadership potential. A predictor is:

"Some sort of score or number or category or something believed to be useful for predicting what job applicants will do if hired" (Guion, 1987, p.201).

Establishing a positive relationship between a score or a predictor and subsequent work performance means that an organisation can assert, with some degree of confidence, that the hired candidate has the abilities and skills to fulfil the requirements of his or her position. The major task faced by selectors intent on improving the accuracy of their assessments and the reliability and validity of their selection techniques is therefore, to establish a firm relationship between the results of the techniques and the job performance criterion (Brown, 1976).

If an organisation is to ensure that it has the right people in the correct place at the correct time who are
performing in accordance with their potential; then the choice of appropriate predictors is important for its success (Veldsman, 1990).

3. **PSYCHOLOGICAL TESTING AS A PREDICTOR**

Historically, specialists in personnel selection have relied on standardised psychometric tests as the most valid means to select and place new employees and appraise employees for promotional potential (Guion, 1976). In 1942, the personnel director of the Lockheed Aircraft Corporation stated that:

"One of the key advantages of testing is its help in the selection of leaders and supervisors, men with the capacity to get along well with those under them, command their respect, and co-operate to get the job done thoroughly and pleasantly" (Irwin, 1942, p.104).

Since the early 1960s, however, employment testing has been in a storm of controversy (Tenopyr, 1991).

3.1 **PERSONALITY TESTS**

By 1965 interest in personality testing had already peaked, in part because validation studies generally showed them to be poor predictors of success, and in part because they violated the right to privacy of those tested (Hale, 1982). Measured against technical standards or against standards of acceptability, personality testing and inventories did not justify their use as selection instruments (Korman, 1968).

Guion (1965) summarised the research on the validity of personality measures and concluded that they:
"have generally been developed for clinical and counselling purposes rather than selection, they are too subjective and the evidence of their value is weak" (p.352).

An attempt to update the Guion and Gottier (1965) review of personality test validation for selection by Guion (1987) was abandoned because the reported use of such measures since the 1960's had not been large enough to merit the summaries (Guion, 1987). A number of subsequent studies have, however, been undertaken. Ghiselli (1973) found that measures of personality and interests were of moderate value in predicting the level of proficiency executives and administrators attained in their jobs, but they were much less useful for foremen. The average validity coefficients for executives/administrators and foremen were $r = 0.28$ and $r = 0.15$ respectively.

Schippman and Prien (1989) investigated the relationship of general mental ability and a selected set of personality characteristics to a constructed criterion of management success which reflected relative rate of career progress for 296 persons in non-management up through top management positions (including 86 foremen and supervisors) in a variety of service and manufacturing organisations. A two variable linear composite comprised of adaptability test scores (measuring general mental ability) and the Ascendancy scale from the Gordon Personal Profile-Inventory (GPP-I) were found to correlate $r = 0.46$ with the dependent variable. Cross-validation on the hold-out sample indicated that the two variable linear composite accounted for 20.9 percent of the variance in the dependent variable. The results suggested that measures of mental ability and personality bore a significant relationship to success in management (Schippman & Prien, 1989).
Day and Silverman (1989) suggest that personality variables will be appropriate predictors of job performance when matched with appropriate occupation and organisation. They state, for example, that important differences in role requirements between occupations may have been de-emphasised. Given a large pool of personality variables, different sets of variables will be relevant to distinct types of occupations (Day & Silverman, 1989).

Reviews of personality testing research by Ghiselli and Barthol (1953) and Guion and Gottier (1965) supported by quantitative review techniques by Schmitt, Gooding, Noe and Kirsch (1984) have helped establish the tenet that personality variables are relatively poor predictors of performance. Guion and Gottier (1965) state that the best that can be said is that in some situations, for specific purposes, certain personality measures can offer helpful predictions.

3.2 COGNITIVE TESTS

The most commonly used employment tests in industry have been measures of cognitive skills (aptitude or ability tests) and research has established that mental skills and abilities are important determinants of performance on the job (Schmidt & Hunter, 1981).

Tests of general mental ability appear to be related to managerial success, especially at the lower levels of foremen and supervisors (Dunnette, 1967; Korman, 1968). Korman (1968) notes that intelligence as measured typically by verbal ability tests, have been shown to be a good predictor of first-line supervisory performance.

In a study undertaken by Handyside and Duncan (1954), verbal abilities correlated $r = 0.52$ and non-verbal abilities
\( r = 0.40 \) with a promotion rate criterion (Korman, 1968). Ghiselli (1966) found tests of intellectual abilities to be of moderate validity for executives and administrators \( r = 0.30 \) and for foremen \( r = 0.26 \), when predicting a job proficiency criterion. Ghiselli and Brown (1955) concluded that general intelligence tests tend to be better predictors of performance in training programmes than performance on the job. They also suggest that such tests are especially appropriate for selecting managerial and sales personnel. They reported an average validity coefficient for managerial proficiency of \( r = 0.37 \) (Korman, 1968).

Gottfredson (1986) and Hunter and Hunter (1984) concluded that general cognitive ability not only predicts job performance moderately well, but does so better than tests of any other single attribute. Hunter and Hunter's (1984) meta-analysis led them to conclude that if general cognitive ability alone was used as a predictor, the average validity across all jobs was \( r = 0.54 \) for a training success criterion and \( r = 0.45 \) for a job proficiency criterion. According to Gottfredsen (1986) the mean corrected validity of mental tests for predicting job performance ratings is approximately \( 0.50 \).

A recent study by Waldman and Avolio (1989) calculated Pearson product-moment correlations between three General Aptitude Test Battery (GATB) test scores and a supervisory performance ratings criterion. The correlations were \( r = 0.21 \) for General (G), \( r = 0.21 \) for Numerical (N), and \( r = 0.18 \) for Verbal (V). These validities are lower than those reported by Hunter and Hunter (1984).

Hunter (1988) suggests that the difference between the Hunter and Hunter (1984) results and those of Waldman and Avolio (1989) can be explained by the potential for supervisors to use varying standards in their ratings of performance, a greater representation of minority group
members and a data base of jobs characterised by slightly lower average job complexity in the latter study. These results Hunter (1988) feels, do not detract from the usefulness of general cognitive ability in predicting training success and job proficiency (Waldman & Ayolio, 1989).

Professionally developed cognitive ability tests appear therefore, to be valid predictors of performance on the job and in training for all jobs (Hunter, 1980; Pearlman, Schmidt & Hunter, 1980). Furthermore, Schmidt, Hunter, Outerbridge and Goff (1988) found essentially constant validities for general mental ability (measured earlier) out to five years on the job, thus indicating that concerns that employment test validities may decrease over time, complicating estimates of selection utility, are probably unwarranted.

Dreher and Bretz (1991) have examined the moderating effects of early career experiences on relationships between ability and career outcomes. They found the relationship between cognitive ability and career job level to be stronger for individuals experiencing lower levels of early career success than for their more successful counterparts. This implies that for individuals competing without the advantages associated with early career success (for example, receiving attention from a mentor or sponsor), cognitive ability may be particularly important in determining who acquires the knowledge, skills and information needed for further advancement. On the basis of the research done, the positive results obtained so far suggest that intelligence must be viewed as a major determinant of managerial success (Ghiselli, 1966, 1971, 1973; Lord, De Vader & Alliger, 1986; McCormick & Tiffin, 1974).
3.3 PROJECTION TESTS

Kinslinger (1966) provided a comprehensive review of the results of 33 separate validity studies using projective techniques as predictors. He found virtually no empirical evidence of a relationship between projective tests and performance criteria.

A limited number of studies have explored the validity of projective methods since the Kinslinger (1966) review (Reilly & Chao, 1982). Korman (1968) reviewed a number of studies and concluded that projective tests have not demonstrated predictive validity, with the exception of the projective test developed by Miner. Grant, Katovsky and Bray (1967) state that results appear to have been more encouraging in managerial selection when responses to projective devices have been interpreted according to motivations relevant to management (for example, achievement motivation and willingness to accept a leadership role). Singh (1989) for example, found a significant relationship between need for achievement and managerial success (a career progress score) of \( r = 0.19 \) after administering the Thermatic Apperception test to 324 managers selected at Bharat Electronics Ltd., Bangalore. A correlation of \( r = 0.28 \) between need for power and managerial success was also found.

Projective tests have not demonstrated general validity and considerable bias has developed against the use of the Rorschach and other projective techniques for their "non-objective" approaches (Kinslinger, 1968). Elias (1989) states that the Minnesota Multiphasic Inventory (MMPI) has become a major competitor to the Rorschach because of its relative objectivity when compared to that test.

In short, even this most controversial assessment approach can be useful in some selection situations if competent,
professionally accepted practices are followed in the administration, interpretation, and use of projective techniques (Cascio & Awad, 1981).

4. PSYCHOLOGICAL TESTING IN SOUTH AFRICA

The National Institute for Personnel Research (NIPR) has been a major source of information on improving the effective utilisation of manpower for South African industry. One of the more frequent requests has been for assistance in the installation of selection techniques (Mauer, 1972). In the course of the NIPR's existence, many tests (cognitive and non-cognitive) have been constructed and used to select Black applicants for a variety of positions (Latti & Verster, 1976).

As in the United States, one of the most pressing problems in the use of psychological tests has been the validity of the tests themselves, especially when applied in a cross-cultural context (Taylor & Radford, 1986). There are three underlying assumptions on which tests rely: One, the existence of individual differences, in terms of cognitive, psychomotor and personality differences. Two, they are stable and three, they are measurable. Although there is little argument over the first assumption, the second and third are contentious.

4.1 STABILITY OF TESTING OVER TIME

Hubbard (1985) and Taylor and Zimmerer (1988) point out that using personality tests assumes that neither jobs nor personalities change, and it implies that a match will be productive and long lasting. According to Biesheuvel (1974):
"The efflux of time brings greater maturity and other personality changes ... the information gathered at the time of testing thus progressively loses its validity with reference to future behaviour" (p.119).

Since prediction of future behaviour or potential is the crucial objective of tests in industry, this challenges past and present practices of categorising individuals in terms of suitability for particular future work opportunities (Stewart & Stewart, 1976). Taylor (1987) states that there is a preoccupation in testing with present or past behaviour (despite their use to predict future potential). Potential can only be judged by success in dealing with new tasks or functions which can only occur with exposure to those new experiences. Without the exposure, Black employees are in effect prevented from demonstrating their potential (Sikhosana, 1986).

Assessment should take account of particular circumstances arising out of job demands and population characteristics - the latter subject to increasingly rapid change. The cognitive efficiency of the prospective employee can be affected by a number of moderators including nutrition, education, urbanisation and socio-economic status (Grant, 1969; Nelson, 1977). Education, for example, has been found to be an important contribution to the differentiation of abilities of Black industrial workers (Crawford-Nutt, 1976). The interplay between these various moderators is complex. Mauer (1972) for example, found test scores of Indian job applicants to be consistently higher than those of Zulus even when the two groups had been matched on education thus pointing to the complexity of the influences and causes of cultural differences and their impact on test performance. The results of 16 cognitive tests applied to matched samples of Venda men suggested a continuum of test performance on
which the least acculturated (rural illiterates) showed the poorest performance and the most acculturated (urbanised literates) the best (Nelson, 1977). The response to acculturisation appeared to be not only an improvement in test performance but also a change in the organisation of mental abilities in the direction of greater differentiation.

Structural, socio-economic, cultural and educational differences between groups in South Africa, mean that differences in test scores are unlikely to converge in the short term since they probably reflect true differences to some extent (Taylor 1987). Hence Blacks tend to score considerably lower than Whites on tests of mental ability. If the less educated and culturally disadvantaged Black is to be utilised, tests should assess the future trainability of individuals (Taylor, 1987). Selection should be based on the capacity to learn a skill rather than on one-shot tests. According to Nelson (1977):

"We should not hope to use these measurements to predict anything like long-term career success, but only as a basis for assessing a man's probability of adaptation to a new set of demands such as those of a training course" (p.1).

It must be accepted that one can never achieve totally culture-fair tests, in which case, tests need to assess more than immediate or past skills which are affected by cultural and other differentials and which do not provide an adequate indicator of potential to perform in the future. (Biesheuvel, 1974).
No consistent relationship has been demonstrated between personality traits usually associated with leadership and effectiveness as a supervisor. This may be due in part to the multi-dimensionality of leadership. Taylor and Zimmerer (1988) point out that personality is notoriously difficult to measure. Leadership is a dynamic process of interaction, which is dependent as much on the characteristics of the individual as on the characteristics of the situation, the group involved and their interaction (Verster, 1976). Consequently, incorrect assumptions are often made about the effects of personality on job performance. Individual performance is more than a function of the employee's character.

The problem of measurement is further hampered by the fact that any psychological measuring instrument is either based on or implies a theory of human behaviour; and practically all psychological tests are western in origin (Retief, 1987). Non-cognitive measurement is faced with probably as many difficulties as cognitive measurement, partly because such behaviours as are concerned with needs, aspirations and personality have intricate links with the culture in which the individual spent his/her early years (Le Vine, 1973). Consequently, tests need to be validated in the culture for which they are being used (Du Preez, 1986).

A study conducted on a large sample of first year Technikon students revealed significant differences in the patterns of responses of different racial groups on the Senior Aptitude Test Battery (Owen, 1986). Owen (1986) concluded from these findings that the test systematically underestimated the abilities of "coloured", Indian and Black students, due possibly to item bias and the different work tempo that characterised the various groups. In another study Verster
(1984) compared the performance of Blacks and Whites on a battery of 12 cognitive tests and found that Blacks had a greater tendency than Whites to trade off speed in favour of accuracy, especially on conceptual tasks. Verster (1984) concluded that this provided one possible explanation for observed test score differences.

Taylor and Booyens (1991) state that there are no objective personality instruments in South Africa that have been developed on all cultural groups. Personnel practitioners who wish to apply an objective (non-cognitive) measure have little choice but to apply "White" tests. Taylor and Booyens (1991) decided to investigate the comparability of the scores of Blacks and Whites on the South African Personality Questionnaire (SAPQ) because the material incorporated in personality measures has great potential to harbour cultural specificities which could prejudice a person's chances of employment or promotion.

They found that the (SAPQ) came out of the construct comparability analysis reasonably well but not in the score comparability and item bias analyses. Across the scales the incidence of bias varied from 14 percent to 43 percent with the Rigidity scale being the worst. They conclude that a new South African personality instrument should be constructed as the (SAPQ) cannot simply be patched up and turned into an instrument suitable for use in cross-cultural applications (Taylor & Booyens, 1991).

The transmission of meanings across cultures is fraught with problems. Any test or cross-cultural assessment procedure represents an interface (of meanings) between two or more cultures, and holistic techniques like projective tests make it difficult to trace possible errors in the transmission of meaning (Retief, 1987). The Thermatic Apperception Test (Zulu) a projective test designed to evaluate leadership amongst Zulus, has been a source of problems in the areas of
perception (Baran, 1970; De Ridder, 1961; Minaar & Gericke, 1979; Swart, 1982). Card 4, for example, depicts the mother-son relationship. Minnaar (1979) says experience has shown that nearly 50 percent of the respondents interpret this construct as being that of a man and a wife, especially among traditionally oriented respondents. Another example is that of card 7 which gives insight into the respondent's concept of himself/herself. The traditionally oriented respondent often cannot perceive depth and the subject in the picture and his/her mirror reflection are perceived as two people (Sikhosana, 1986).

It is relatively easy to impose invalid interpretations on other cultures when projective tests are used. Holistic interpretations mean that the transmission of meaning is more diffuse and the possibility of imposing one's own cultural values in interpretation are substantially greater. Furthermore, unlike clinical psychologists, industrial psychologists are not so much concerned with a holistic depth analysis. Personnel specialists prefer that a definite recommendation be made in terms of the requirements of a position (Retief, 1987; Sikhosana, 1985).

Retief (1987) suggests that "tests of selection" rather than holistic "tests of inclusion" be used. In the former, personality makeup is structured in terms of content areas such as aggression, relationships with authority figures, or need for achievement. Cards are then designed to assess patterns of behaviour that are likely to fall within these more specific content areas, in terms of constructs that are demarcated and operationalised. In this way, meaning is structured in a way that differs from the traditional projective instruments that were based on holistic assumptions. An attempt at standardisation is made through the development of a scoring system whereby responses are scored in terms of positive and negative content.
Taylor (1987) recommends that test-unsophisticated testees be coached during the test instructions (and possibly at school) in basic strategies for optimising their test-taking performance. This could include more practice in the concepts being tested, advice on how fast to work, maximising test taking motivation, and ameliorating test taking anxiety. He also recommends that more attention be paid to designing tests with greater content validity, since the use of tasks which closely simulate actual work behaviours are perceived to be more valid (Taylor, 1987).

4.3 THE LEADERLESS GROUP TEST

The picture emerging from investigations into the selection of Black supervisors indicates that selection instruments used to date to identify supervisory potential are not sufficient to account fully for all aspects of the supervisor's function (Biesheuvel, 1972). Firstly, the supervisor needs to be familiar with all tasks performed in his/her section. For this it is assumed that a certain minimum level of intelligence is required and cognitive tests are appropriate. Secondly, the supervisor has to be able to handle a group of labourers, organising the teamwork so as to get the required work done. It was for the purpose of measuring this quality that the Leaderless Group Test (L.G.T.) was constructed (Biesheuvel, 1972).

The NIPR's leaderless group tests have been used extensively in the gold mining industry for the identification of Black supervisory potential (Latti & Verster, 1975). The leaderless group task is a simulation of a situation in which leadership characteristics of a supervisory nature are called for. A practical problem is presented to an unstructured group of six people, and its solution depends
on the active co-operation and organisation of the whole team of men. The "Boss Boy" fulfils the function of supervisor of a team of workers and has to be able to handle his/her workers, organising the team so as to get the required work done (Biesheuvel, 1972).

The Leaderless Group Test is based largely on the gold mining industry, whose requirements are likely to be different from those of secondary industry (Charoux, 1986a). A common fault of industry has been to use tests which are valid in certain well defined contexts as if they have equal validity in presumably parallel contexts, without verifying whether the context is parallel. This usage renders the instrument valueless in the applied situation for which it has not been prepared (Lombard, 1971).

Another problem with the L.G.T. has been that it has never been able to demonstrate effective predictive validity. Validating the test presented particular difficulties centering around the question of an effective and valid criterion. Kruger (1959) found a correlation between prediction and criterion of $r = 0.70$ (Biesheuvel, 1972). In a cross validation, the validity coefficient was low $r = 0.23$ which was just significant at the five percent level. Kruger (1959) argued that this underestimated the relationship between prediction and criterion because the sample was homogeneous due to preselection. He made an estimate of the "true" validity coefficient to be $r = 0.70$ - the same figure as that for the original correlation. Biesheuvel (1972) concludes that this was a rather optimistic assessment and believes that there was not sufficient cause to suggest that a validity coefficient of similar magnitude would be obtained in a cross validation.
5. HISTORY OF ASSESSMENT CENTRES

The major features of current assessment centre programmes can be seen in the attempts by German military psychologists to screen officer candidates in the 1930's (McConnell & Parker, 1972). Many innovations were later copied by the British War Office Selection Boards (WOSBs) to select officers for the British army in the 1940's (Thornton & Byham, 1982).

During World War II, the Americans had themselves used multiple assessment techniques, through the United States Office of Strategic Services (OSS), to identify potential (OSS) agents and the pioneering assessment centre work of the (OSS) formed the basis for future applications of multiple assessment procedures in the United States (Huck, 1973). The first formal assessment centre programme in industry was developed and implemented at American Telephone and Telegraph (AT & T) in the late 1950's. The success of the (AT & T) Centres resulted in many organisations developing assessment centre programmes to meet their individual needs (Howard, 1974). Other centres have been more or less variations on AT & T's theme (Finkle, 1976).

In the United States and Canada, there are presently over 800 organisations using the assessment centre. It is currently estimated that 40 000 managers in at least 2000 organisations worldwide are annually exposed to the assessment centre technique. The countries include the United States, Canada, Mexico, Japan, Brazil, Australia, the Scandinavian countries and South Africa (Schilbach, 1988).

It is only since the early 1970's that the assessment centre technique has become established in South Africa. Progress was restricted largely because of a dearth of suitable South African exercises, the required knowledge for running a centre and well-trained administrators and observers.
Experienced users now include, for example, Anglo American Corporation, Eskom, Gencor, HSRC, NIPR, SA Mutual and Nasionale Pers. Its popularity has grown, and in 1981 an Assessment Centre Study Group was set up under the auspices of the Institute for Personnel Management (IPM). In terms of the dire need for effective supervisory staff and perhaps even more importantly, the advancement of all workers, assessment centres have begun to play an important role in the identification of Black supervisory leadership potential (Spangenberg, 1990, p.140).

5.1 ASSESSMENT CENTRES AS A SELECTION INSTRUMENT

A survey of the literature indicates that psychometric predictors have up to the present time not been very successful in the identification of future leaders (Stroebel & Raubenheimer, 1983). The assessment centre is a technique that has been applied worldwide as an alternative method. With the growth in the demand for Black supervisory and managerial personnel, the assessment centre approach is being recognised as a useful method for the early identification of Black leadership potential which would appear to have benefits in the equal employment opportunity/Black advancement area (Charoux, 1990; Schilbach, 1988; Spangenberg, 1990; Williams, 1982).

Assessment Centres, basically, make use of traditional appraisal procedures such as psychological tests and personal interviews, but in addition a number of highly job-related exercises are performed by groups of candidates who are observed and assessed on the basis of predetermined dimensions by a team of trained assessors (Luthans, 1981). This provides for what Slevin (1972) describes as a "Broad band approach", in contrast to the relatively narrow band
which is covered by psychological tests for the evaluation of mental aptitudes or personality traits (Krezner, 1977).

Cohen, Moses and Byham (1974) define the assessment centre as follows:

"The assessment centre is a comprehensive, standardised programme in which participants are evaluated for selection, training, or career planning purposes. Multiple observational techniques are used and each participant is evaluated along a number of previously determined management dimensions. A team of assessors observes and evaluates each participant on the dimensions and makes an overall judgement of each participants' potential for advancement, development or placement" (p.1).

The main objective of the assessment centre is the assessment of supervisory/managerial personnel, and consequently the exercises in which the participants are involved simulate the problems and challenges of jobs for which their potential is being considered. By simulating a futuristic job situation, the assessment centre provides empirical information which can be used to predict an individual's performance in the future (Sakinofsky & Raubenheimer, 1982).

This is particularly important in the case of the supervisor. A promotion to a supervisory position represents the greatest change in the job hierarchy. Although the shift from supervision to management represents another significant change in job duties, it is not as great a change as the move to supervision. Furthermore, subsequent moves upward in the ranks of middle management entail smaller increases in responsibility or changes in duties.
(Thornton & Byham, 1982, p.96). Relying on traditional testing to predict future behaviour on the basis of past or present behaviour is therefore unacceptable at the supervisory level. Assessment centres focus on the observation of actual behaviours, which are demonstrated in each of a series of real-world job situations (Frank, Sefcik & Jafee, 1983).

The advantage of simulation exercises is that they allow evaluation of performance across a variety of situations and context, thus exposing the individual to as broad a range of managerial activities as possible. The individual can be in both structured and unstructured situations, assigned and non-assigned roles, competitive and co-operative settings, and on an individual or group basis (De Bod & Slivinski, 1983, p.13).

Although assessment centres are not grounded in any particular theories of leadership, they have relevance for contingency theories. The abilities and characteristics measured in the assessment centre are observed in a variety of different simulated real-life situations (Crooks, 1982). The characteristics of the individual, the characteristics of the situation, the group involved and their interaction are incorporated into the simulations. Individual performance is recognised as being more than a function of the employee's personality (Howard, 1974; Norton, 1977). Assessment centre dimensions are based on a job analysis and chosen to meet the requirements of a particular organisation and occupation (Bray, Campbell & Grant, 1974; Bray & Grant, 1966; Bray & Moses, 1972). Simulations can be constructed to reflect the organisational environment. For example, situations where a hostile White supervisor resents Black advancement, or a subordinate threatens his or her supervisor's life could be incorporated in roleplays. In this way, various situational exercises can be constructed which mirror the difficulties faced by Black employees. The
exercises focus on the ability of the Black individual to perform in a hostile environment and emphasise that he or she must be able to integrate into the organisational environment in addition to being able to fill the performance requirements of his or her job. The assessment centre thus incorporates many elements of leadership and provides a more accurate measure of leadership behaviour across situations than traditional tests (Charoux, 1990b).

5.1.1 ASSESSMENT CENTRES IN SOUTH AFRICA

Addressing South Africa's human resource needs requires a dynamic approach to selection (IPM News, 1976). This is because upward mobility/advancement programmes are more complicated than normal selection decisions for three reasons: (1) the position for which the candidates are being selected are not related to their previous positions; thus, work history information and supervisory evaluations of technical work skills may be of little value; (2) applicants might have to be screened for several different unrelated target positions; and (3) the large numbers of applicants who generally apply and meet minimum qualification requirements cannot be equitably screened out by traditional personnel procedures (Alexander, Buck & McCarthy, 1975).

It is contended that the assessment centre technique is an appropriate selection medium for testing future Black leadership potential in South Africa (Charoux, 1985, 1987; Williams, 1982). The entire assessment centre process is built on identifying and recording behaviour that can be used to predict future behaviour, in other words, capturing real behaviour and not making psychiatric interpretations. Candidates for the target job don't
describe how they would handle a situation, they actually handle it. In other words, they are given the opportunity to demonstrate their potential. By putting candidates through simulations similar to situations typical of the target-level position an organisation is better able to predict future job performance than through the use of traditional predictors (Taylor, 1984). In addition, simulations measure competencies in situations which mirror the hostile organisational environment faced by many Blacks where they may find it difficult to gain acceptance. Simulations therefore enable one to "fit" people to their environments rather than simply to their jobs (Charoux, 1990; Williams, 1982).

Multiple assessors are used in the observation of behaviour and are involved in assessment centre decisions, thereby distributing responsibility and ensuring that the effects of individual biases and stereotypes are inhibited. The fact that individual evaluations must be substantiated with examples of observed behaviour decreases the effects of biases and stereotypes inherent in the interview. Furthermore, the possibility of a "halo" effect is reduced because multiple assessors make independent observations (Byham, 1979). Assessors observe behaviour relative to a subset of the desired dimensions in one part of the total selection system. The assessor knows that only partial information is available. Thus, the temptation to make an overall judgement is substantially lessened. The possibility for discrimination against an individual is reduced and the option of including Black assessors can enhance the face validity and
the acceptability of the process (Thornton & Byham, 1982).

Behaviour is observed systematically in the assessment centre. Assessors receive a list of dimensions and are trained in their definitions. Each element of an assessment centre, including the background interview, is targeted to specific dimensions. Overlap in coverage exists only where planned. Through the discussion procedure, behaviour observed in various exercises is brought together, compared and contrasted which forces a thorough coverage of each dimension, both positive and negative. The assessment centre technique constitutes a standardised system and the collection of information about an applicant is highly organised (Spangenberg, 1988). Each participant undertakes exactly the same exercises, with the same time limits under the same conditions (Byham, 1979).

The systematic observation of behaviour and the standardised nature of the assessment centre ensures that all candidates irrespective of race, have an equal opportunity to demonstrate their abilities. Frequently, the White manager who makes the final decision on his/her Black employee's future (promotion/dismissal) has had limited exposure to him or her. The assessment centre provides the opportunity for the manager to be directly involved in the assessment of a broad range of simulated behaviours and to observe the Black candidate's behaviour directly (Charoux, 1986a). Furthermore, holistic interpretations of behaviour are not made, thus reducing the potential for imposing one's own cultural values in interpreting information relating to Black candidates. The structured nature of the assessment centre means that candidates can be
ranked in terms of their performance and decision to hire a candidate can be made on the basis of quantitative information (dimension scores) (Jeswald, 1982). The difficulties associated with interpreting clinical type qualitative information are thus removed.

5.2 THE PREDICTIVE VALIDITY OF THE ASSESSMENT CENTRE


Studies have tended to indicate, however, that assessment centres are more predictive of potential for further advancement than for performance on the current job (Klimoski & Strickland, 1981; Turnage & Muchinsky, 1984). Cohen, Moses & Byham (1977), for example, reviewed 21 studies and found a median correlation of $r = 0.63$ predicting potential or promotion but only $r = 0.43$ (corrected for attenuation) predicting supervisory ratings of performance. Hinrichs (1978) conducted an eight year follow up study of a management assessment centre in a large manufacturing organisation. While the validity of the assessment centre appeared adequate for predicting advancement, $r = 0.26$ at year one and $r = 0.46$ at year eight, it was concluded that additional research was desirable to evaluate the assessment centre's ability to predict performance on the job in management.
Thornton & Byham (1982) reviewed all available concurrent and predictive validity studies in which an overall assessment rating (OAR) was related to some external criterion of performance or progress. Their analysis of validity findings by type of criterion and whether the validity findings yielded significant or nonsignificant results showed that assessment centres are no more predictive of one type of criterion than another (Turnage & Muchinsky, 1984, p. 595). This evidence differs from the conclusion reached by Cohen, Moses and Byham (1977) that assessment centres are more valid for ratings of potential than for performance. It also contradicts earlier criticisms (Klimoski & Strickland, 1977) that assessment centres merely predict management progress criteria and do not assess managerial performance (Turnage & Muchinsky, 1984).

Assessment centres appear to have long term predictive validity. A recent study conducted by (McEvoy & Beatty, 1989) supports validity research which demonstrates the long-term value of overall assessment ratings (OAR's) in making managerial predictions. The highest validity coefficient was one for an (OAR) predicting a contaminated global outcome criterion-promotion (here $r = 0.69$). Contamination occurs when those assigning ratings or making promotion decisions are aware of candidate's scores on the predictor variable. The assessment centre was less successful in predicting uncontaminated ratings criteria (ratings by subordinates and supervisory performance ratings) the validity coefficients ranging from $r = -0.14$ to 0.43.

Criteria data was gathered two, four and seven years after the assessment centre had been implemented, and a modest upward trend in validity coefficients with a rate of change in r's from 0.03 to 0.05 per year over the 1979 to 1984 period was found. The long term trend of the (OAR)
predictive validity coefficients was slightly upward, providing support for the few assessment centre validity studies in the literature by Bray, Campbell and Grant (1974), Bray and Grant (1966), Hinrichs (1978), Howard (1979) and Mitchel (1975) demonstrating the long-term value of using the (OAR) in making managerial predictions.

The assessment centre has been effectively utilised in manufacturing organisations and at the supervisory level as can be seen in studies by Bentz (1971), Hinrichs (1978), McConnell and Parker (1972), Moses (1973), Smith (1987), Turnage and Muchinsky (1982) and Worbois (1975). Smith (1987) examined a supervisory-level assessment centre utilised at different sites in a large automobile manufacturing organisation (Schmitt, Schneider & Cohen, 1990). The centre was developed by the central corporate human resource staff yet operated locally. The validity coefficient at one location was \( r = 0.49 \) after corrections for criterion unreliability and restriction of range, whereas the validity coefficients for three other locations were very low and nonsignificant, \( r's \) averaging only 0.13. Enquiry about practices at different locations revealed that the location with the best validity had adopted some practices that were different from those used at other locations. The quality of the implementation of a selection procedure when there is local latitude in implementation is important in determining the procedure's effectiveness (Schmitt, et.al., 1990). Worbois (1975) conducted a concurrent validity study for the identification of non-supervisory personnel with potential for supervision. Two final assessment ratings were generated (a) overall potential for successful supervision and (b) an estimate of the level in the management hierarchy the person was expected to attain. The (OAR) correlated \( r = 0.47 \) with overall potential and \( r = 0.45 \) with expected level of attainment (Thornton & Byham, 1982). The evidence from the
study indicated a high degree of utility for the externally developed assessment centre (Worbois, 1975, p.89).

Moses (1973) undertook a longitudinal study, in which an assessment centre used to assess early potential for supervision among recently hired employees was evaluated. Subjects were chosen from among 441 employees who had been assessed in a one day Early Identification Assessment Programme (EIA) at (AT & T) and who had not received feedback on their results (Thornton & Byham, 1982). Subjects were then assessed in a two-and-a-half day regular Personnel Assessment Programme (PAP). A correlation of $r = 0.73$ between (EIA) and (PAP) overall assessment ratings (OAR) indicated that a strong relationship existed between performance in the early identification programme and performance in the regular (lengthier) assessment programme. The relationship was consistent for the total group as well as subgroups based on race and sex. The advantage of having a short assessment process which generates data of comparable accuracy to a longer programme is quite considerable as an aid in identifying those individuals in the organisation who would maximally profit from rapid acceleration and development. This is particularly appropriate in view of the emphasis on expanded opportunities for minority groups in the United States (Moses, 1973, p.580).

Assessment Centres have been found to predict managerial success without discriminating on the basis of race or sex in studies by Cohen and Chevy (1972), Huck and Bray (1976), Marquardt (1976), Moses (1973), Russel and Byham (1980) and Russel (1975). Huck and Bray (1976) for example, found equal validities for Black and White females in relation to two global criteria of overall job performance and potential for advancement. The prediction of overall job performance resulted in correlations of $r = 0.41$ for Whites and $r = 0.35$ for Blacks and of potential for advancement $r = 0.59$
and 0.54 respectively. Byham (1981) concluded that where mean score differences between Blacks and Whites occur, they seem to be mainly evident among candidates for first-level supervisory positions. This statement must be viewed cautiously because organisations in the United States have been under pressure to promote Blacks, and, in the spirit of affirmative action, they may have screened larger groups of minority candidates (including unqualified group members) who pull down the average assessment ratings (Thornton & Byham, 1982, p.296).

In short, the assessment centre has easily met the psychometric requirements of the classical validity approach to selection, the primary objective being, to maximise the correlation (simple or multiple) between predicted and actual criterion scores (Cascio & Silbey, 1979).

5.3 VALIDITY OF ASSESSMENT CENTRES IN SOUTH AFRICA

A number of studies have been undertaken in South Africa on various aspects of the assessment centre technique. These include studies by Augustyn and Van Wyk (1988), Bortze (1980), Britz (1984), Charoux (1987), Spangenberg and Esterhuyse (1985), Spangenberg, Esterhuyse, Visser, Briedenhann and Calitz (1989), Sakinofsky and Raubenheimer (1982), and Stroebel and Raubenheimer (1983).

Spangenberg, Esterhuyse, Visser, Briedenhann and Calitz (1989) examined the validity of an assessment centre for a sample of (N = 110) middle and first-line managers against behaviourally anchored rating scales (BARS). Stepwise multiple regression analysis was computed for three sets of data - prediction variables (including biographical data) and a composite (BARS) rating $r = 0.41$ (after shrinkage); assessment centre prediction variables (without biographical data) and a composite (BARS) rating $r = 0.37$ (after shrinkage); and assessment centre management areas as
predictor variables, \( r = 0.34 \) (after shrinkage). Spangenberg et al. (1989) state that the 0.37 correlation between the assessment centre dimensions and the criterion was of significance given the fact that assessment centre dimensions and (BARS) were not directly comparable, and the composite criterion was determined by simple addition of (BARS) scores, and that no weighting took place. The results testify to the validity of the assessment centre and lend support to the argument that assessment centres do in fact predict performance criteria in addition to potential/advancement criteria.

In a study by Britz (1984) which comprised a sample of over 600 middle and senior managers of the South African Transport Services (SATS) highly significant simple and multiple correlations between assessment centre ratings and various measures of management by objectives (MBO) criteria were found. Multiple correlations between a total assessment centre score and the (MBO) criteria varied between \( r = 0.59 \) and \( r = 0.76 \) (Spangenberg et al. 1989). Spangenberg et al. (1989) conclude that assessment centres (if constructed and implemented carefully) do predict managerial performance whether in behavioural terms (BARS) or in terms of the achievement results (MBO) criteria.

The extent to which the assessment centre process is able to predict the potential for the advancement of Blacks to supervisory/managerial positions appears to be undocumented in the published research. Only a pilot study in which \( N = 49 \) Black potential managers assessed in two manufacturing organisations implemented in 1983 and 1984 respectively could be found (Charoux, 1987b). Of those 49 participants assessed during four consecutive tests, 23 were outsiders applying to join the organisation's management development scheme and the remainder were current employees who took part in the assessment process. The results indicated that an average no less than 74 percent of the external and
internal employees assessed as "acceptable" and "more than acceptable", received one or more promotions since joining the organisation. (Charoux (1987b) notes that the above results must be interpreted with caution in view of the small sample size.

6. **SUMMARY AND CONCLUSION**

The classical selection model has been used for many years to select personnel in industry. A more complex model has been suggested by Dunnette (1963) which recognises the complex interaction between selection instruments, individual employees, the work situation and organisational outcomes. Selection is recognised as constituting more than matching an individual to a job. Job behaviour is seen to be situational and various moderator variables which intervene between the predictor and the criterion are pointed to.

In South Africa, race has been identified as an important moderator variable which intervenes in the relationship between criteria of managerial effectiveness and predictors of those criteria. Identification models developed in South Africa reject the assumptions of the classical selection model and emphasise that selection should not embody a single decision point and a single decision alternative. The Black employee is distinct from his or her White counterpart, and any attempt to view selection as being the same for the Black employee is unlikely to succeed.

The Black employee, through his or her lack of education, cultural background, lack of exposure to the industrial environment, faces problems unique to his or her situation which distinguishes him or her from his or her White counterpart. This means that the Black prospective employee
is unlikely to have the necessary qualifications to be able to fill the requirements of the position immediately. The Black candidate will probably experience a sense of frustration and hostility if selection does not take these factors into consideration.

Identification models developed in South Africa emphasise that selection should be conceptualised as a lengthier process, that the reliance on traditional predictors should be reduced, that selection should be conceptualised as a developmental process and that the Black candidate needs to be given the opportunity to become socialised into Western organisations. Matching the employee to the organisation environment while taking into consideration the preferred behaviours and motivations of the individual is recognised.

The role played by the choice of predictors in establishing a meaningful relationship with future performance must be emphasised. Personality, cognitive and projective tests have not been very successful in identifying effective managers as evidenced by their predictive validity coefficients. Cognitive tests appear to be more promising than other tests, but are of questionable utility in cross-cultural situations in South Africa. Tests in general are not able to capture and measure all the components that make up effective leadership and have been criticised for the inability to predict future behaviour because they utilise present or past behaviours in an attempt to do so.

It would appear from research in the United States, that the assessment centre technique has the potential to contribute significantly to the identification of Black supervisors in South Africa. This is because of the higher than average predictive validity coefficients associated with the technique as well as evidence that it does not discriminate against Blacks, in other words, its fairness in cross cultural situations.
What is required in South Africa is a selection technique that will increase the ability of organisations to predict the future performance of prospective supervisors. The assessment centre appears to be ideally suited to this task because it is able to assess candidates over a lengthier period of time (than in the case of testing) and in a more realistic manner by reconstructing situations that closely represent the roles, interpersonal situations, tasks and environment a supervisor would have to face. It then measures the competencies needed by candidates to fulfill those future task and role requirements within their organisational environments.

Research into the ability of the assessment centre technique to identify Black leadership potential in a valid and non-discriminatory manner has only just begun in South Africa. The growing importance of this area of personnel selection in South Africa means that research into the validity of the assessment centre can make a valuable contribution to the provision of a competent and effective workforce.
CHAPTER 5

RESEARCH METHODOLOGY

1. OVERVIEW

The assessment centre has stood the test of time in its popularity as a means of identifying leadership potential (Parker, 1980). It has been implemented successfully in a number of different environments including a manufacturing organisation in Japan (Taylor & Frank 1988). Even assessment centres in the United States with validities as low as 0.10 have shown gains in utility over random selection. In a study by Cohen (1980a), 82 assessment centre users were asked to evaluate the cost of their programme. Analyses revealed an average return on investment of 313 percent thus, confirming, the utility of the process.

Having become aware of the need for Black supervisors and managers, South African organisations have embarked on equal opportunity/employee development programmes. However, the problem in recruiting, assessing and developing potential among Blacks appears to be promoting rather than reducing the skills shortage (Human & Human, 1989). Specifically, with regard to assessment, Human and Human (1989) as well as Taylor and Radford (1986) have questioned the applicability and "fairness" of many of the methods used by organisations to identify potential among Blacks and the criteria upon which selection is based (Shaw, 1989).
Traditional tests have been criticised in the research literature (Grant, 1969; Nelson, 1958; Taylor, 1987) for their lack of stability over time and their questionable applicability in cross-cultural environments. Tests of general mental ability, which seem to be more valid than other tests (Hunter, 1988; Hunter & Hunter, 1984; Waldman & Avolio, 1989), are subject to the criticism that scores obtained at the time a test is given depend on the whole course of development of an individual up to that time. Predictions as to how well individuals will function at later times and in other situations are at best inaccurate (McClelland, 1973). IQ is not constant from year to year as was once assumed. Intelligence test scores predict primarily how successful individuals will be with school learning, particularly the more difficult and complex parts of the curriculum (Tyler, 1984).

Testing does have a role to play in a comprehensive assessment programme, however. Augustyn and Van Wyk (1988), for example, found the 16PF Personality Test to be a useful aid when used in conjunction with an assessment centre as it was able to reduce the time and the cost involved in the process. Pietersen (1990) advocates a wider perspective which includes other work and non-work related factors assessed outside of the assessment centre. This would prevent concentration on one type of instrument, for example, cognitive tests (skills) vis-a-vis personality tests (motivational) on relying exclusively on assessment centres which measure demonstrated behaviour (Spangenberg, 1988). Using a range of instruments and approaches that corroborate results and fill out a comprehensive picture of an individual addresses all facets of human behaviour namely: motivational; self and social perceptions and values; and skills, including both cognitive and behavioural skills (Sahl, 1990).
The importance organisations are attaching to the identification of a pool of high potential Black people who, with appropriate development will be ready to fill future vacancies in the organisation with a high probability of success, can be observed in calls for the use of appropriate selection criteria and flexible testing techniques which are adapted to the needs of a particular organisation as well as suited for the complex South African industrial environment (Williams, 1982). Researchers in South Africa (Charoux, 1987; Kriek & Thornton, 1989; Schilbach, 1988; Spangenberg, 1990; Williams, 1982) believe that assessment centre technology in particular, have an important role in organisations moving toward equal opportunity for all employees concerning appointments and promotions.

2. **AIM**

The aim of this study is to examine the predictive validity of an externally developed assessment centre in the early identification of Black supervisory leadership potential in the South African manufacturing industry.

3. **HYPOTHESES**

In order to achieve the above mentioned research aim, the following hypotheses will be investigated:

3.1. **HYPOTHESIS 1** The behavioural dimensions measured in the assessment centre will be internally consistent.

Hypothesis one is concerned with the internal structure of the assessment centre and asks the question - do independent measurements of each dimension in each exercise measure that specific dimension? Internal
consistency is built on an assumption of "parallel forms" for the various exercises, in other words, that "Initiative or Assertiveness" as measured in Exercise A means the same as "Initiative or Assertiveness" as measured in Exercise B.

Internal consistency indicates the extent to which the independent ratings of the various dimensions in the different situational exercises consistently and reliably measure the overall construct. It is a measure of how homogeneous each of the dimensions are across the various exercises, and the criterion used is none other than the total score on each of the individual dimensions themselves. Internal consistency helps to characterise the behavioural domain of the dimensions measured in the assessment centre and provides information on the psychometric adequacy of the technique.

3.2 HYPOTHESIS 2 Interrater reliability coefficients will be statistically significant and positive for individual dimensions as well as across dimensions in each exercise.

Interrater reliability seeks to determine the extent to which assessors independently agree with each other in terms of the judgements they make concerning participant/candidate performance. Reliability coefficients will be calculated for each dimension as well as across dimensions in each exercise.

The source of error variance for interrater reliability (interrater differences) differs from that for internal consistency (content sampling and content heterogeneity) and thus provides additional information to that provided by
hypothesis one on the acceptability of the psychometric properties of the assessment centre. Both interrater reliability and internal consistency examine the stability and consistency of measurement of the assessment centre but in different ways.

3.3. **HYPOTHESIS 3** Assessment centre dimension scores and biographical data will correlate statistically significantly and positively with the

3.1 Composite criterion
3.2 Promotion criterion
3.3 Supervisory Leadership Effectiveness scale
3.4 Leader-Member Exchange scale
3.5 Employee Rating scale

Hypothesis three was designed to investigate the validity of the assessment centre by determining the extent to which the assessment centre dimensions were able to predict five external criterion measures. These criterion measures included a job progress criterion (promotion) which measured the upward mobility of candidates who had been assessed in the assessment centre, as well as three performance effectiveness criteria which examine the performance of candidates who were upwardly mobile and had been promoted to supervisory positions since the time of assessment. In addition, the relationship between a composite criterion (in which the individual criteria were combined and weighted into a composite score for those promoted to supervisory positions) and the assessment centre dimensions was investigated. Hypothesis three provides a means to determine whether
the assessment centre measures what it is designed to measure.

3.4. HYPOTHESIS 4

Correlations between Overall Assessment Rating (OAR) scores and the

3.4.1. Promotion criterion
3.4.2. Supervisory Leadership Effectiveness scale
3.4.3. Leader-Member Exchange scale
3.4.4. Employee Rating scale

will be statistically significant and positive and will increase over time.

Research (McEvoy & Beatty, 1989) indicates that assessment centres are better able to predict upward mobility and performance on the job as the time between assessment and the collection of criterion measures increases. The cost of implementing an assessment centre can be justified if the predictive validity of the assessment centre increases over time as this is likely to enhance the utility of the technique when used to select people.

3.5. HYPOTHESIS 5 The assessment centre will be acceptable to participants/candidates and managers.

Finally, an examination of the acceptability of the process to both candidates who experienced the assessment centre and managers who would use the information to make selection decisions in the future
was made. The hypothesis is of practical importance and provides a means to determine whether the assessment technique is likely to be approved by the organisations and people they were designed for.

4. MEASURING INSTRUMENTS

4.1 INDEPENDENT VARIABLES

The assessment centre was designed and developed on the basis of a number of job analyses conducted at the supervisory level, interviews with personnel practitioners and senior executives who listed the characteristics, abilities and skills they believed were important for effective supervisory performance, as well as an examination of the literature on managerial/supervisory effectiveness (Charoux, 1984).

Byham (1987) categorises dimensions under seven broad class headings on the basis of 300 job analyses of supervisory and managerial positions. These classes (management dimensions, interpersonal dimensions, decision making dimensions, personal dimensions, communication dimensions, knowledge/skills dimensions and motivational dimensions) have been used to classify the dimensions measured in this assessment centre. The knowledge/skills class has however, been omitted, as technical or academic abilities are more easily assessed outside of a simulation context. The motivational dimension class was also excluded for this reason.

Eight dimensions were found to be important and were measured on an eight-point Likert-type scale in seven simulation exercises over one-and-a-half days. Not all of the dimensions were measured in each exercise (see Table 5.1). Each assessor received two days of training prior to
taking part in the assessment centre in order to familiarise him or her with the process.

**TABLE 5.1 DIMENSIONS AND EXERCISES**

<table>
<thead>
<tr>
<th>VARIABLES</th>
<th>E X E R C I S E S a</th>
</tr>
</thead>
<tbody>
<tr>
<td>INDEPENDENT</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>+---+---+---+---+---+---+---+---+---+---+---+---+---</td>
</tr>
</tbody>
</table>

| Planning/Organising/Controlling | x*b | ---- | X | ---- | ---- | X | X |
| Problem/Judgement/Decision     | X | X | X | X | X | X | X |
| Situational Sensitivity        | X | X | ---- | X | ---- | ---- | ---- |
| Initiative                     | X | X | X | ---- | ---- | ---- | ---- |
| Assertiveness                  | X | ---- | X | X | X | X | X |
| Persuasiveness                 | ---- | X | X | X | --- | ---- | ---- |
| Written Communication          | X | ---- | ---- | ---- | ---- | ---- | X |
| Oral Communication             | ---- | X | ---- | ---- | ---- | ---- |

*aExercises are: A - Manufacturing in-basket; B - Interview simulation; C - Leaderless group discussion (negotiation); D1 - Counselling roleplay; D2 - Counselling roleplay; E - Leaderless group discussion (problem solving); F - Scheduling exercise.*

*X*b denotes in which exercises dimensions are measured.
Each of these dimensions will now be defined below and the type of behaviours included under each dimension will be outlined. Finally, biographical data variables included in the study will be briefly discussed.

4.1.1. **MANAGEMENT DIMENSIONS**

**PLANNING/ORGANISING/CONTROLLING**

"The extent to which he/she is able to set objectives/tasks, determine the urgency of each objective, allocate resources accordingly, and monitor the progress achieved through follow up" (Charoux, 1984).

The supervisor is involved in short-range planning and is required to evaluate various workplace priorities and how best to tackle these in order to meet daily targets. Organising involves the timely deployment of men and equipment in terms of the priorities established. Here the candidate's ability to prepare for the implementation of his or her decisions by determining priorities and organising his or her resources is assessed. In addition, the ability to control people at the supervisory level has been emphasised in the research literature by (Green, Fairhurst & Snavely, 1986). On the basis of a job analysis, the candidate's ability to institute a follow up procedure to ensure that his or her planned and organised decisions were implemented was found to be important.
4.1.2 INTERPERSONAL DIMENSIONS

ASSERTIVENESS/DECISIVENESS

"The extent to which he/she is able to assert his/her authority in a decisive manner in order to get the group/individual to accomplish the task - without arousing hostility" (Charoux, 1984).

Leadership ability at the supervisory level was found to be important primarily in one-to-one situations. First-line supervisors lead followers who expect a certain amount of direction if objectives are to be met and the supervisor must therefore display assertive and decisive behaviour in dealing with subordinates.

PERSUASIVENESS

"The extent to which he/she is able to propose a course of action in such a convincing manner that the other party will be influenced to act accordingly" (Charoux, 1984).

A certain amount of Persuasiveness is required at the supervisory level in manufacturing organisations if supervisors are to influence their subordinates in such a way that the objectives of the organisation are met. An important part of the supervisor's job is to ensure that his/her team members are utilised to the organisation's best advantage.

SITUATIONAL SENSITIVITY

"The extent to which he/she is able to read a situation and react to it in a tactful and diplomatic manner" (Charoux, 1984).
If the supervisor is to achieve his or her objectives without arousing hostility, he or she needs to display sensitive behaviour (Reddin, 1972). Supervisor's must show consideration for the feelings and needs of others if they hope to create a climate where they can influence and direct events.

4.1.3. DECISION MAKING DIMENSIONS

PROBLEM ANALYSIS/SOUND JUDGEMENT/DECISION MAKING

"The extent to which he/she is able to reason in a logical and rational manner and exercise his/her sound judgement when taking decisions" (Charoux, 1984).

Effective supervisors must be able to evaluate a situation and identify potential problems and opportunities. The next step is to consider alternative courses of action, their likely costs and benefits, and to choose the most appropriate alternative. The decision taken must be based on logical assumptions, which reflect the information available and which take organisational resources into account.

4.1.4 PERSONAL DIMENSIONS

INITIATIVE

"The extent to which he/she takes the opportunity to originate action and influence events whenever he or she is confronted with a problem/obstacle" (Charoux, 1984).

It is desirable (but not essential) that the supervisor demonstrates a certain degree of initiative and creativity when analysing problems and reaching solutions. Individuals who tend to originate action and
take action beyond specific job responsibilities was mentioned by senior executives and personnel practitioners as being related to job success.

4.1.5 COMMUNICATION DIMENSIONS

ORAL COMMUNICATION

"The extent to which he/she is able to express himself or herself clearly and concisely so that others understood his/her words and know precisely what he or she wanted to say" (Charoux, 1984).

The supervisor must be able to speak clearly and concisely. In order to have good communication skills, he or she must be able to impart his or her knowledge fluently. In particular, the supervisor must have a sound knowledge of the required technical vocabulary.

WRITTEN COMMUNICATION

"The extent to which he/she is able to express himself/herself clearly in writing; to properly use technical factors such as grammar and vocabulary" (Charoux, 1984).

This dimension is desirable (but not essential) for manufacturing supervisors. Supervisors are not called upon to communicate in writing very often. When they do so, the focus is on whether the message is transferred clearly and is not wordy and difficult to understand.

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4.1.6. BIOGRAPHICAL DATA

Age, standard of education, as well as "year" (in other words, when the subject was assessed) were included as additional independent variables.

4.2 DEPENDENT VARIABLES

A variety of leadership performance measures were used in this study including both an objective measure - number of promotions, and subjective measures - a subordinate's rating of his or her supervisor's performance (Supervisory Leadership Effectiveness scale); a subordinate rating of the quality of his or her relationship with his or her superior (Leader-Member Exchange scale); a rating by a superior of his or her subordinate's performance (Employee Rating Scale) and a composite criterion.

4.2.1 COMPOSITE CRITERION

A composite criterion was constructed by incorporating promotion, Employee Rating scale, Leader-Member Exchange scale and Supervisory Leadership Effectiveness scale scores into a single score.

Various methods have been discussed for combining criteria into a single composite. These include: weighting variates so that discrimination between all possible pairs of individuals is as great as possible; equal weighting of the sub-criteria and multiple cutoffs. Nagle (1953) suggests that weights should be assigned judgementally to criteria on the basis of relevancy. The more relevant a sub-criterion the greater should be its weight. The task of weighting criteria can be made easier for the judges if comparability of units from
scale to scale is ensured by applying weights to standard score transformations rather than raw scores. In the present study, weights were assigned judgementally to the various sub-criteria as suggested by Nagle (1953). The weights attached to the sub-criteria before forming the composite criterion were in order of magnitude: Employee Rating scale (6); Promotion (4); Supervisory Leadership Effectiveness scale (2) and the Leader-Member Exchange scale (2).

4.2.2 NUMBER OF PROMOTIONS

Organisation level indices reflect something related to a person's worth to the organisation. While this criterion is often tarnished by nepotism and other personal factors such as seniority it has some reliability and is easily obtained from personnel records (Stumpf & London, 1981). Promotion constituted a progress criterion in the present study and served to indicate whether individuals assessed for supervisory leadership potential had or had not reached the supervisory level on the basis of their assessment centre scores. The number of promotions candidates had received since their time of assessment was thus used as a measure of advancement progress within the organisation.
4.2.3 SUPERVISORY LEADERSHIP EFFECTIVENESS SCALE

Subordinate ratings of managerial performance are a virtually untested criterion in assessment centre research and only one study is documented by Schmitt, Noe, Merrit and Fitzgerald (1984). The advantage of subordinate ratings are that they may be more immune than top-down evaluations to any type of subtle criterion contamination due to "good manager" stereotypes based on organisational norms and values (McEvoy & Beatty 1989).

The Supervisory Leadership Effectiveness scale developed by Taylor and Bowers (1972) was used in this study and consists of 13 items which include measures of interaction facilitation (three items), support (three items), work facilitation (four items), and goal emphasis (three items). The scale is scored on a five-point Likert-type scale with responses ranging from (1) "To a very little extent" to (5) "To a very great extent" (see Appendix A). No items are reverse scored, and a total score is obtained by taking the mean score across all items (Taylor & Bowers, 1972).

The Supervisory Leadership Effectiveness scale has been shown to be an appropriate measure for a South African sample (Pillamer, 1987; Northam, 1989). The scale was used on a sample of retail sales people (43 Whites, 50 Blacks and eight "coloureds") (Northam, 1989) and on a sample of clerical workers (70 percent White, 15 percent Black, 4 "coloured", and 4 Asian) (Pillamer, 1987). Northam (1989) obtained an alpha coefficient of 0.94 for her sample and Pillamer (1987) found the alpha coefficients for the clerical sample ranged between 0.76 and 0.88 for the various indices of the scale (see Appendix A).
4.2.4 LEADER-MEMBER EXCHANGE SCALE

The seven item Leader-Member Exchange scale (Scandura & Graen, 1984) is a measure of subordinate perceptions of the quality of the interpersonal exchange relationship between themselves and their supervisors (See Appendix D). None of the items in the subordinate rated member form scale are reverse scored, and a four-point Likert-type response format is used (Scandura & Graen, 1984). Factor analyses conducted by Nunns, Ballantine, King and Burns (1988) in two studies suggested that the Leader-Member Exchange scale (LMX) is unidimensional in nature. In the first study orthogonal rotation was achieved by means of the varimax method (Kerlinger, 1981). Using Kaiser's criterion (Child, 1975), a single factor emerged, accounting for 100 percent of the total variance. Using the same procedure in the second study, a single factor again emerged, accounting for 95 percent of the total variance. Nunns et al. (1988) contend that the LMX construct, concerns the quality of a dyadic exchange or relationship rather than multidimensional roles and should reflect a single rather than multiple dimension. A total score was therefore obtained by taking the mean score across all items.

The Leadership-Member Exchange scale has been used on a sample comprising 54 Black industrial workers from a South African manufacturing organisation (Nunns et al., 1988). The results obtained suggested that the member form of the seven-item Leader-Member Exchange (LMX) was appropriate for use in South African industry. Internal consistency reliability of the LMX scale was satisfactory, and a coefficient (Cronbach's Alpha) of 0.98 was obtained. Concurrent validity of the LMX scale was assessed by correlating the scale with conceptually related constructs using Pearson Product Moment correlations. The LMX scale correlated significantly \((p<0.001)\) in the predicted
direction \( r = 0.77 \) with "satisfaction with supervision", \( r = 0.72 \) "confrontational supervisory style", \( r = 0.54 \) with "conflict resolution behaviour", \( r = -0.63 \) "conflict provocation behaviour", and "role conflict" \( r = -0.50 \).

4.2.5. **EMPLOYEE RATING SCALE**

The seven item performance measure Employee Rating scale, developed by Graen, Dansereau and Minami (1972) assesses the superiors view of the subordinate's performance level (See Appendix C). Dimensions of work performance incorporated in the measure, include dependability, alertness, skill in dealing with people, planning (time and equipment), knowledge and judgement, overall present performance and expected future performance. The instrument was rated on a scale of 1 (unsatisfactory or a negative perception) to 5 (highly satisfactory or a positive perception of performance) (Graen et. al., 1972).

The Employee Rating scale was found to have acceptable psychometric properties for use in South Africa (Ballantine, 1989). Ballantine (1989) obtained internal consistency reliability coefficients (alpha) of 0.88 (Time one) and 0.89 (Time two) and a test-retest reliability coefficient \( r = 0.86 \) over a three month period in two South African insurance organisations. The sample was, however, predominantly White (nine percent), while approximately (two percent) of the sample were Asian and one percent Black. Ballantine (1989) points out that the Employee Rating scale had not been previously used on a South African sample.
233 Black males assessed for leadership potential at the supervisory level between 1986 and 1989 formed the sample for the study. The age of the sample ranged from 21 to 57 years with a mean age of 34.16 years and a standard deviation of 7.09. The large difference in age between the oldest and youngest subject was found to conform to research in the United States where age differences are usually much stronger in programmes for first-level supervision (Thornton and Byham, 1982). The mean level of formal education was Standard 9 (10.77 years) with a standard deviation of 1.20 (See Table 5.2). Education ranged from a low of Standard five to a high education at the tertiary level. The biographical questionnaire is included in the study as Appendix D. Subjects who attended the assessment centre were either nominated by their superiors or volunteered themselves.

**TABLE 5.2 BIOGRAPHICAL DATA ARRANGED BY ORGANISATION**

<table>
<thead>
<tr>
<th>ORGANISATION</th>
<th>N</th>
<th>AGE (IN YEARS)</th>
<th>EDUCATION (STANDARD)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>MEAN</td>
<td>SD</td>
</tr>
<tr>
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<td>-----------</td>
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</tr>
<tr>
<td>1</td>
<td>14</td>
<td>33.60</td>
<td>3.52</td>
</tr>
<tr>
<td>2</td>
<td>87</td>
<td>33.38</td>
<td>11.26</td>
</tr>
<tr>
<td>3</td>
<td>35</td>
<td>34.46</td>
<td>6.06</td>
</tr>
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<td>6</td>
<td>37.33</td>
<td>4.64</td>
</tr>
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<td>11</td>
<td>34.09</td>
<td>3.82</td>
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<td>6</td>
<td>71</td>
<td>33.59</td>
<td>4.37</td>
</tr>
<tr>
<td>7</td>
<td>9</td>
<td>33.78</td>
<td>6.75</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>AVERAGES ACROSS ORGANISATIONS</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
</table>
6. RESEARCH DESIGN

A longitudinal design and a criterion related validity strategy using archival data derived from an externally developed assessment centre implemented at seven manufacturing organisations, was adopted in order to test the relationship between assessment centre performance and subsequent success on the target job.

Establishing the predictive validity of a method for evaluating potential and the characteristics that indicate potential, involves drawing inferential links among three kinds of information: job behaviours (what the supervisor does on the target job); the assessment centre (what the supervisor does, measured on a set of dimensions) and job performance (how well the job gets done). A criterion-related validity strategy was adopted to demonstrate that the assessment centre does in fact predict success in management over a period of time after the initial assessment has taken place.

The key question in establishing criterion-related validity is how well assessment centre performance predicts job performance. This is represented by the solid line in Figure 5.1. An assessment centre is developed, based on an analysis of the target job or jobs (as represented by the dotted line in Figure 5.1), candidates are evaluated in the assessment centre (the predictor), and the centre itself evaluated based on the extent to which assessment centre predictions are accurate or inaccurate when judged against some measure of job performance (the criterion).
Figure 5.2 shows how the criterion-related validity strategy worked in practice in the present research. 233 subjects were assessed in the assessment centre over a period of four years.

Unlike the most common longitudinal designs where assessment centre results are collected at one point in time and performance measures are collected at time (T)1, 2 and 3, assessment centre results were collected in the present study at T¹, T², T³, and T⁴ and performance measures were collected at one point in time (see Figure 5.3).
FIGURE 5.2 RESEARCH STRATEGY

Criteria are: SLE - Supervisory Leadership Effectiveness scale
ERS - Employee Rating Scale
LMX - Leader-Member Exchange scale

FIGURE 5.3 LONGITUDINAL DESIGN
Assessment centre results had to be interpreted carefully as subjects assessed in 1989 would most likely have had less opportunity for promotion than candidates assessed in 1986 as the former had less time (one year) than the latter (four years) to be promoted into a supervisory position. Similarly, subjects promoted in 1990 would have had less time to acclimatise to their supervisory positions than those promoted in 1987, 1988 or 1989 and would probably have received lower performance ratings than would have been the case had they been given more time to function as supervisors. For this reason, it was decided to investigate whether the amount of time between the collection of assessment centre results and the promotion and performance criteria had any effect on the predictive validity of the assessment centre.

Finally, the results had to be interpreted carefully because managers were aware of the assessment centre results of their subordinates. The feedback they received may have influenced the decisions they made concerning the promotion of their subordinates as well as how they rated the performance of subordinates who had been promoted to the supervisory level.

6.1 DATA ANALYSIS

Using the SPSS computer programme (Nie, Hull, Jenkins, Steinbrenner & Brent, 1975), means, standard deviations and intercorrelations between all variables were calculated and the predictive validity of the assessment centre was investigated by means of stepwise multiple regression analysis.

Stepwise multiple regression analysis was chosen because it is particularly suited to a research design in which there
is more than one independent variable (Kerlinger, 1979). Stepwise multiple regression analysis allows the researcher to analyse the unique contribution of each dependent variable, controlling for the influence of all other independent variables in the equation (Cohen & Cohen, 1975). Corrections for shrinkage were made using Darlington's (1968) formula. Corrections for attenuation (criterion unreliability) (Guilford, 1954) and restriction of range on the criterion (Gulliksen, 1950) were also calculated when investigating the long term predictive validity of the assessment centre.

Figure 5.2 shows that the data analysis was carried out on two samples (see 1 and 2). Firstly, all subjects (N=233) could be compared on the upward mobility criterion and the relationship between promotion and assessment centre scores was investigated by performing a stepwise regression analysis. A chi square analysis was then calculated to examine the significance of the relationship between the predictor (assessment centre) and promotion.

Secondly, only 134 subjects were promoted to the supervisory level from the original sample (N=233) and it was therefore impossible to evaluate the performance of those who were not promoted to the supervisory level without placing "unpromising" non-promoted candidates into responsible positions. As this was impractical, performance measures were collected only for the subjects (N=134) who were promoted to the supervisory level. A stepwise regression analysis was calculated for the Supervisory Leadership Effectiveness scale, the Leader-Member Exchange scale, the Employee Rating scale as well as the composite criterion. In addition, a linear regression analysis was calculated for the composite criterion.

Finally, in order to investigate the internal psychometric properties of the assessment centre, internal consistency
coefficients were calculated for each of the independent variables using coefficient alpha (Guilford, 1954). Interrater reliability coefficients were calculated using a technique recommended by (Ebel, 1951).
CHAPTER 6

RESULTS

1. RELIABILITY

1.1. HYPOTHESIS 1: INTERNAL CONSISTENCY

The first seven columns of Table 6.1 show the correlations between the rating of each dimension within each exercise, and the total score for each dimension for the (N=233) subjects. These scores represent the overlap of the rating of the dimension in each individual exercise with the sum of the ratings of the same dimension from the other exercises. In other words, the 0.75 correlation for Initiative in the manufacturing in-basket exercise (see Table 6.1) indicates the extent to which Initiative as measured in that exercise makes a contribution to the assessment of that dimension. The two lowest correlations in Table 6.1 were those for Problem Analysis/Sound Judgement/Decision Making r=0.54 in the interview simulation and r=0.52 for Written Communication in the in basket exercise. These correlations were, however, all significant at the 0.01 level of significance.

Average correlations across all dimensions within each exercise range from 0.66 to 0.79 and can be seen in the horizontal column headed "averages" at the bottom of the Table.
### Table 6.1 Internal Consistency of the Assessment Centre

<table>
<thead>
<tr>
<th>Exercises</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D1</th>
<th>D2</th>
<th>E</th>
<th>F</th>
<th>R</th>
<th>O</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planning/Organising/Controlling</td>
<td>0.77</td>
<td>----</td>
<td>0.74</td>
<td>----</td>
<td>----</td>
<td>0.69</td>
<td>0.68</td>
<td>0.71</td>
<td>0.89</td>
</tr>
<tr>
<td>Problem/Judgement/Decision</td>
<td>0.84</td>
<td>0.54</td>
<td>0.70</td>
<td>0.80</td>
<td>0.71</td>
<td>0.60</td>
<td>0.77</td>
<td>0.70</td>
<td>0.89</td>
</tr>
<tr>
<td>Situational Sensitivity</td>
<td>0.64</td>
<td>0.70</td>
<td>----</td>
<td>0.80</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>0.68</td>
<td>0.84</td>
</tr>
<tr>
<td>Initiative</td>
<td>0.75</td>
<td>0.67</td>
<td>0.72</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>0.92</td>
<td>0.82</td>
</tr>
<tr>
<td>Assertiveness</td>
<td>0.74</td>
<td>----</td>
<td>0.70</td>
<td>0.84</td>
<td>0.72</td>
<td>0.61</td>
<td>----</td>
<td>0.74</td>
<td>0.66</td>
</tr>
<tr>
<td>Persuasiveness</td>
<td>----</td>
<td>0.69</td>
<td>0.63</td>
<td>0.79</td>
<td>----</td>
<td>0.73</td>
<td>----</td>
<td>0.54</td>
<td>0.79</td>
</tr>
<tr>
<td>Written Communication</td>
<td>0.52</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>0.74</td>
<td>0.28</td>
</tr>
<tr>
<td>Oral Communication</td>
<td>----</td>
<td>0.85</td>
<td>----</td>
<td>0.73</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>0.71</td>
<td>0.79</td>
</tr>
<tr>
<td>Averages</td>
<td>0.71</td>
<td>0.69</td>
<td>0.70</td>
<td>0.79</td>
<td>0.72</td>
<td>0.66</td>
<td>0.73</td>
<td>0.65</td>
<td>0.78</td>
</tr>
</tbody>
</table>

*Exercises are: A - Manufacturing in-basket; B - Interview simulation; C - Leaderless group discussion (negotiation); D1 - Counselling roleplay; D2 - Counselling roleplay; E - Leaderless group discussion (problem solving); F - Scheduling exercise.*
The correlations in the column headed "reliability" are a measure of the extent to which the independent ratings of the dimensions (for example, Persuasiveness) in the different exercises consistently and reliably measured the overall construct (for example, the overall Persuasiveness rating). Alpha coefficients (Cronbach, 1951) were calculated for each dimension.

The internal consistency of the independent variables ranged from an Alpha coefficient of 0.92 for Initiative to an Alpha coefficient of 0.28 for Written Communication with an overall average of 0.65.

Finally, Table 6.1 shows the correlation for each dimension with the overall assessment rating (OAR) in the last column on the right. All dimensions appear to make a contribution to the overall assessment rating (OAR) although the correlation for the Written Communication dimension (r=0.52) was low which can be explained by its low reliability (0.28). A low correlation between a dimension and the (OAR) would indicate that the dimension does not play an important role in the minds of assessors in determining overall performance. The (r=0.52) correlation was, however, significant at the 0.01 level of significance.

1.2 HYPOTHESIS 2: INTERRATER RELIABILITY

The reliability coefficients (see Table 6.2a) were calculated for each of the eight dimensions across the various exercises for a sample of (N=41) assessors. Interrater reliabilities ranged from a high (0.93) to a low of 0.64 with a median of 0.85. In general, a reliability coefficient of 0.80 or above is considered acceptable for this type of measurement procedure (McConnell & Parker,
Six of the reliability coefficients were above 0.80, one (0.79) was very close to 0.80 and only one (0.64) fell below this cutoff score.

**TABLE 6.2 (a) INTERRATER RELIABILITY COEFFICIENTS FOR INDIVIDUAL DIMENSIONS**

<table>
<thead>
<tr>
<th>ASSESSMENT CENTRE DIMENSIONS</th>
<th>RELIABILITY COEFFICIENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planning/Organising/Controlling</td>
<td>0.81</td>
</tr>
<tr>
<td>Problem/Judgement/Decision</td>
<td>0.93</td>
</tr>
<tr>
<td>Situational Sensitivity</td>
<td>0.79</td>
</tr>
<tr>
<td>Initiative</td>
<td>0.85</td>
</tr>
<tr>
<td>Assertiveness</td>
<td>0.91</td>
</tr>
<tr>
<td>Persuasiveness</td>
<td>0.64</td>
</tr>
<tr>
<td>Written Communication</td>
<td>0.84</td>
</tr>
<tr>
<td>Oral Communication</td>
<td>0.87</td>
</tr>
<tr>
<td>Median</td>
<td>0.85</td>
</tr>
</tbody>
</table>

**TABLE 6.2 (b) INTERRATER RELIABILITY COEFFICIENTS ACROSS DIMENSIONS**

<table>
<thead>
<tr>
<th>EXERCISES</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D1</th>
<th>D2</th>
<th>E</th>
<th>F</th>
<th>AVERAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.89</td>
<td>0.82</td>
<td>0.85</td>
<td>0.79</td>
<td>0.64</td>
<td>0.91</td>
<td>0.87</td>
<td>0.82</td>
<td></td>
</tr>
</tbody>
</table>

Exercises are:  
A - Manufacturing in-basket;  
B - Interview simulation;  
C - Leaderless group discussion (negotiation);  
D1 - Counselling roleplay;  
D2 - Counselling roleplay;  
E - Leaderless group discussion (problem solving);  
F - Scheduling exercise.
Table 6.2(b) indicates that the reliability of observer ratings are high across several different exercises. The highest reliability coefficient was 0.91 between assessors for the leaderless group discussion (problem solving) exercise. Inter-rater reliability was lowest in Part two of the counselling exercise, with a coefficient of agreement of 0.64. The average agreement between assessors was 0.82, which seems to suggest that the assessment centre is more reliable than is indicated by the internal consistency estimates. This can be explained by the fact that the two measures account for different sources of error variance and interrater reliability is a less stringent evaluation technique, providing the higher reliability scores (Hinrichs & Haanpera, 1976).

2. VALIDITY

2.1. DISTRIBUTION OF PREDICTOR AND CRITERION VARIABLE SCORES

Table 6.3 shows the mean and standard deviations for predictor variables and criterion variables. The standard deviation gives an index of how widely the scores are dispersed about the mean (average value) (Brown, 1976). The larger the standard deviation, the more widely scattered are the scores. Skewness scores for the dimensions (which are not shown) were not significantly greater or smaller than zero, ranging from -0.11 to 1.26 thus indicating (interestingly) that dimension scores are normally distributed.
### Table 6.3: Means and Standard Deviations of Predictor and Criterion Variables

<table>
<thead>
<tr>
<th>VARIABLE NAME</th>
<th>MEAN</th>
<th>STANDARD DEVIATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>YEAR&lt;sup&gt;a&lt;/sup&gt;</td>
<td>3.21</td>
<td>0.98</td>
</tr>
<tr>
<td>AGE&lt;sup&gt;b&lt;/sup&gt;</td>
<td>34.34</td>
<td>7.12</td>
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<td>EDUC&lt;sup&gt;c&lt;/sup&gt;</td>
<td>4.84</td>
<td>1.13</td>
</tr>
<tr>
<td>PLAN</td>
<td>626.62</td>
<td>326.27</td>
</tr>
<tr>
<td>JUDG</td>
<td>1587.97</td>
<td>610.75</td>
</tr>
<tr>
<td>SENS</td>
<td>883.76</td>
<td>310.80</td>
</tr>
<tr>
<td>INIT</td>
<td>320.95</td>
<td>141.60</td>
</tr>
<tr>
<td>ASSE &lt;sup&gt;b&lt;/sup&gt;</td>
<td>864.07</td>
<td>311.98</td>
</tr>
<tr>
<td>PERS</td>
<td>757.12</td>
<td>255.54</td>
</tr>
<tr>
<td>WRTT</td>
<td>277.09</td>
<td>163.92</td>
</tr>
<tr>
<td>ORAL</td>
<td>588.67</td>
<td>266.51</td>
</tr>
<tr>
<td>PROMO&lt;sup&gt;c&lt;/sup&gt;</td>
<td>0.65</td>
<td>0.59</td>
</tr>
<tr>
<td>SLE</td>
<td>33.19</td>
<td>11.88</td>
</tr>
<tr>
<td>LMX</td>
<td>16.33</td>
<td>5.80</td>
</tr>
<tr>
<td>ERS</td>
<td>18.69</td>
<td>6.67</td>
</tr>
<tr>
<td>COMP</td>
<td>139.57</td>
<td>98.47</td>
</tr>
</tbody>
</table>

<sup>a</sup> Smallest values are for: Year 1 = 1986; Education 1 = Std. 5

<sup>b</sup> Largest values are for: Year 4 = 1989; Education 7 = Tertiary Education

<sup>c</sup> Criterion are: PROMO = Promotion, SLE = Supervisory Leadership Effectiveness scale; LMX = Leader-Member Exchange scale; ERS = Employee Rating scale; COMP = Composite Criterion.

### 2.2. Intercorrelations Between Predictor and Criterion Variables

Table 6.4 shows the correlations between assessment centre dimensions (as well as biographical data) and criteria. A correlation coefficient is an index of association between two measures (Boehm, 1982). Whether the degree of association between predictor and criterion has occurred simply by chance is indicated by the significance levels under the table.
The results suggest that year, age and education did not correlate highly with any of the criteria. Sound Judgement seemed to correlate more significantly with the various criteria out of the assessment centre dimensions although both Initiative and Assertiveness appeared also to correlate across all criteria better than the other dimensions.

**TABLE 6.4 CORRELATIONS BETWEEN PREDICTORS AND CRITERIA**

<table>
<thead>
<tr>
<th></th>
<th>YEAR</th>
<th>AGE</th>
<th>EDUC</th>
<th>PLAN</th>
<th>JUDG</th>
<th>SENS</th>
<th>INIT</th>
<th>ASER</th>
<th>PERS</th>
<th>WRITT</th>
<th>ORAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>PROMO</td>
<td>-0.01</td>
<td>0.12</td>
<td>0.29</td>
<td>0.38</td>
<td>0.24</td>
<td>0.25</td>
<td>0.32</td>
<td>0.20</td>
<td>0.06</td>
<td>0.17</td>
<td></td>
</tr>
<tr>
<td>(233)</td>
<td></td>
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</tr>
<tr>
<td>SLE</td>
<td>0.04</td>
<td>0.18</td>
<td>0.44</td>
<td>0.49</td>
<td>0.18</td>
<td>0.51</td>
<td>0.44</td>
<td>0.33</td>
<td>0.28</td>
<td>0.35</td>
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<tr>
<td>(134)</td>
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</tr>
<tr>
<td>LMX</td>
<td>0.09</td>
<td>-0.10</td>
<td>0.04</td>
<td>0.26</td>
<td>0.53</td>
<td>0.05</td>
<td>0.47</td>
<td>0.43</td>
<td>0.14</td>
<td>0.33</td>
<td>0.48</td>
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<tr>
<td>ERS</td>
<td>0.22</td>
<td>-0.06</td>
<td>0.11</td>
<td>0.35</td>
<td>0.57</td>
<td>-0.00</td>
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<td>0.45</td>
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<tr>
<td>COMP</td>
<td>0.17</td>
<td>-0.09</td>
<td>0.08</td>
<td>0.43</td>
<td>0.54</td>
<td>0.10</td>
<td>0.39</td>
<td>0.44</td>
<td>0.31</td>
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</tr>
</tbody>
</table>

* p<0.05  ** p<0.01  * Sample sizes for criteria are included in parentheses
2.3. **INTERCORRELATIONS BETWEEN ALL VARIABLES**

Pearson correlations between all variables were calculated (see Table 6.5) and provide further information on the relationship between variables. Multicolinearity (predictors correlating highly with each other are redundant) did not appear to pose a significant problem when the 0.80 cutoff suggested by Lewis-Beck (1980) was used.

The highest correlations between dimensions were $r = 0.71$ between Planning and Assertiveness and $r = 0.74$ between Sound Judgement and Assertiveness. The correlation between Sound Judgement and Planning was second highest, falling between the two correlations just discussed, with a coefficient of $r = 0.73$.

Sound Judgement tended to correlate more highly with other dimensions than those other dimensions correlated between themselves. Another example of this is the $r = 0.69$ correlation between Sound Judgement and Oral Communication. This indicates a degree of overlap between Sound Judgement and other predictors and suggests that those predictors explain a large amount of the same variance of the criteria as Judgement.
<table>
<thead>
<tr>
<th></th>
<th>YEAR</th>
<th>AGE</th>
<th>EDUC</th>
<th>PLAN</th>
<th>JUDG</th>
<th>SENS</th>
<th>INIT</th>
<th>ASER</th>
<th>PERS</th>
<th>WRITT</th>
<th>ORAL</th>
<th>PROMO</th>
<th>SLE</th>
<th>LMX</th>
<th>ERS</th>
<th>COMP</th>
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<tbody>
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</tr>
<tr>
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<td>1,00</td>
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<td>0,30</td>
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</tr>
<tr>
<td>PERS</td>
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<td>-0,02</td>
<td>0,29</td>
<td>0,50</td>
<td>0,26</td>
<td>0,47</td>
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<tr>
<td>WRITT</td>
<td>0,21</td>
<td>-0,02</td>
<td>0,09</td>
<td>0,43</td>
<td>0,42</td>
<td>0,11</td>
<td>0,36</td>
<td>0,34</td>
<td>0,37</td>
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<tr>
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<td>-0,04</td>
<td>0,35</td>
<td>0,69</td>
<td>-0,10</td>
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<td>0,52</td>
<td>0,16</td>
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<tr>
<td>PROMO</td>
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<td>-0,02</td>
<td>0,12</td>
<td>0,29</td>
<td>0,38</td>
<td>0,24</td>
<td>0,26</td>
<td>0,32</td>
<td>0,20</td>
<td>0,06</td>
<td>0,17</td>
<td>1,00</td>
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<tr>
<td>SLE</td>
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<td>0,02</td>
<td>0,18</td>
<td>0,44</td>
<td>0,49</td>
<td>0,18</td>
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<td>0,28</td>
<td>0,35</td>
<td>0,37</td>
<td>1,00</td>
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<tr>
<td>LMX</td>
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<td>-0,10</td>
<td>0,04</td>
<td>0,26</td>
<td>0,53</td>
<td>0,05</td>
<td>0,47</td>
<td>0,43</td>
<td>0,14</td>
<td>0,33</td>
<td>0,48</td>
<td>0,19</td>
<td>0,28</td>
<td>1,00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ERS</td>
<td>0,22</td>
<td>-0,06</td>
<td>-0,11</td>
<td>0,35</td>
<td>0,57</td>
<td>-0,00</td>
<td>0,52</td>
<td>0,45</td>
<td>0,25</td>
<td>0,39</td>
<td>0,52</td>
<td>0,17</td>
<td>0,35</td>
<td>0,37</td>
<td>1,00</td>
<td></td>
</tr>
<tr>
<td>COMP</td>
<td>0,17</td>
<td>-0,09</td>
<td>0,08</td>
<td>0,43</td>
<td>0,54</td>
<td>0,10</td>
<td>0,39</td>
<td>0,44</td>
<td>0,31</td>
<td>0,34</td>
<td>0,38</td>
<td>0,34</td>
<td>0,40</td>
<td>0,08</td>
<td>0,45</td>
<td>1,00</td>
</tr>
</tbody>
</table>

* p<0,05    ** p<0,01  * Sample sizes for criteria are included in parentheses
There were no significant intercorrelations between the various criteria. This could be expected given that each of the criteria are largely narrow measures of specific aspects of the ultimate criterion - the ultimate criterion being leadership. Some of the higher correlations were between the various multiple criteria and the composite created out of them. That the "narrow" criteria were less likely to correlate amongst each other than with the Composite criterion could have been expected, given that the Composite criterion is a closer approximate to the ultimate criterion, and contains elements of each of the multiple criteria.

2.4. HYPOTHESIS 3: PREDICTIVE VALIDITY

2.4.1. STEPWISE MULTIPLE REGRESSION ANALYSIS: COMPOSITE CRITERION

Table 6.6 shows the multiple correlation coefficient (R) between the independent variables entered into the regression equation in a stepwise fashion and the composite criterion. R represents the extent to which the independent variables (predictors) correlate with the criterion measure (Kerlinger & Pedhazur, 1973). As can be seen from the table, Sound Judgement was the best predictor and was therefore entered into the regression analysis first. Persuasiveness was the independent variable that in combination with Sound Judgement increased R the greatest amount. It was therefore, the second predictor variable entered into the regression analysis. The analysis was then terminated after Step two because no other independent variables in combination with Sound Judgement and Persuasiveness increased the multiple correlation coefficient significantly.
### TABLE 6.6 RESULTS OF STEPWISE REGRESSION PROCEDURE FOR THE COMPOSITE CRITERION

<table>
<thead>
<tr>
<th>PREDICTOR</th>
<th>STEP</th>
<th>MULTIPLE</th>
<th>CHANGE</th>
<th>F TO ENTER</th>
<th>F TO REMOVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>VARIABLE</td>
<td>NO.</td>
<td>R</td>
<td>R²</td>
<td>CHANGE IN R²</td>
<td>CHANGE IN R²</td>
</tr>
<tr>
<td>ENTERING</td>
<td>R²</td>
<td>R²</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EQUATION</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| JUDG | 1 | 0.54 | 0.29 | 0.29 | 54.72 |
| PERS | 2 | 0.56 | 0.31 | 0.02 | 4.58 |

R² is the cumulative variance and it represents the variance of the dependent variable accounted for by all the independent variables already in the equation. Together both Sound Judgement and Persuasiveness accounted for 31 percent of the variance of the dependent variable.

Change in R² or the unique variance, represents the variance of the dependent variable accounted for by each independent variable separately. Table 6.6 shows that the independent variable Sound Judgement accounted for 29 percent of the variance of the composite criterion. Persuasiveness then added a further two percent to amount of variance explained by Sound Judgement when it was entered into the regression analysis.

"F-to-enter" and "F-to-remove" are helpful in determining the relative importance of the selected variables and indicate the statistical accuracy with which the coefficients are estimated. At each step the variable with the highest "F-to-enter" value is included in the equation. When no variable has an "F-to-enter" value greater than 4, the stepping procedure stops. If, at any step, the "F-to-remove" value for an already entered variable drops below
3.9, it is removed as it is no longer statistically significant (Nie et al., 1975).

Sound Judgement had the highest "F-to-enter" value out of the predictor variables and was entered into the regression analysis first. Its "F-to-enter" value was 54.72 which then became its "F-to-remove" value in subsequent steps. If that "F-to-remove" value had decreased from 54.72 to below 3.9 in subsequent steps, Sound Judgement would have been removed from the regression analysis. None of the biographical variables were entered in the regression analysis for the Composite criterion, as can be observed in Table 6.6, as they did not increase the ability of the regression equation to explain the variance of the criterion at a statistically significant level.

2.4.2. LINEAR REGRESSION ANALYSIS: COMPOSITE CRITERION

Multiple linear regression was computed for the composite criterion (see Table 6.7). Unlike the stepwise regression procedure all the independent variables are considered as a single group and are used to estimate the regression equation (Pedhazur, 1982). An optimal prediction equation is not generated because independent variables which explain the same portion of the variance of the dependent variable as other independent variables are not removed from the equation (Kerlinger, 1979).

Table 6.7 provides additional information on variables not entered into the stepwise regression. The column headed "Coefficient (b)" shows the partial regression coefficient for each independent variable. The partial regression coefficient indicates the change in the dependent variable associated with a one-unit change in each independent variable holding the other independent variables constant. Partial regression coefficients do not allow for comparisons between predictor variables.
To solve the problem they are standardised so that the effect of the differential units of measurement (for example, year and planning) can be compared.

<table>
<thead>
<tr>
<th>PREDICTOR VARIABLE</th>
<th>COEFFICIENT (b)</th>
<th>STANDARD ERROR</th>
<th>STANDARD COEFFICIENT (B*)</th>
<th>T</th>
<th>P (2 TAIL)</th>
<th>TOLERANCE</th>
<th>MULTIPLE R</th>
<th>R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>YEAR</td>
<td>3.27</td>
<td>10.30</td>
<td>0.03</td>
<td>0.32</td>
<td>0.75</td>
<td>0.51</td>
<td>0.56</td>
<td>0.32</td>
</tr>
<tr>
<td>EDUC</td>
<td>-0.51</td>
<td>7.91</td>
<td>-0.01</td>
<td>-0.06</td>
<td>0.95</td>
<td>0.65</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PLAN</td>
<td>0.01</td>
<td>0.04</td>
<td>0.04</td>
<td>0.29</td>
<td>0.77</td>
<td>0.31</td>
<td></td>
<td></td>
</tr>
<tr>
<td>JUDG</td>
<td>0.06</td>
<td>0.03</td>
<td>0.36</td>
<td>1.81</td>
<td>0.07</td>
<td>0.14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SENS</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>-0.03</td>
<td>0.98</td>
<td>0.52</td>
<td></td>
<td></td>
</tr>
<tr>
<td>INIT</td>
<td>-0.02</td>
<td>0.08</td>
<td>-0.02</td>
<td>-0.20</td>
<td>0.84</td>
<td>0.43</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ASSER</td>
<td>0.00</td>
<td>0.04</td>
<td>0.00</td>
<td>0.04</td>
<td>0.97</td>
<td>0.31</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PERS</td>
<td>0.07</td>
<td>0.04</td>
<td>0.17</td>
<td>1.77</td>
<td>0.08</td>
<td>0.56</td>
<td></td>
<td></td>
</tr>
<tr>
<td>WRITT</td>
<td>0.04</td>
<td>0.06</td>
<td>0.07</td>
<td>0.77</td>
<td>0.44</td>
<td>0.58</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ORAL</td>
<td>0.03</td>
<td>0.05</td>
<td>0.08</td>
<td>0.64</td>
<td>0.53</td>
<td>0.33</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The standard deviations of the predictor variables are used to transform the b into a standardised coefficient called beta (B*). Standardised partial regression coefficients provide a means to compare the importance of an independent variable in predicting the composite criterion with all other independent variables (Brown, 1976). From Table 6.7 it can be seen that the highest beta weights are associated with Sound Judgement (0.36) and Persuasiveness (0.17) followed by Oral Communication. The importance of Sound Judgement and Persuasiveness is reflected in their entry into the stepwise regression first and second respectively.
The standard error refers to the standard error of the partial regression coefficient. It is a measure of the variation of $b$ and is used for a test of significance for $b$. T tests for the partial regression coefficients were calculated by dividing each partial regression coefficient by its corresponding standard error. The resulting values are shown under the column headed "T". The level of significance of each of these T scores is indicated in the column "P (2 tail)".

On the basis of the T test for the coefficient associated with the independent variable Sound Judgement, it can be concluded that the partial regression coefficient $b$ is not significantly different from zero at the 0.05 level of significance.

Tolerance values indicate whether an independent variable is considered redundant. An independent variable is not entered into the equation if it fails to pass the tolerance limit, in other words, if its square multiple correlation ($R^2$) with independent variables already in the equation exceeds 1.0 minus tolerance or if its entry will cause the squared multiple correlation of any previously entered variable in the equation to exceed 1.0 minus tolerance (Cohen & Cohen, 1975). In practice if one independent variable has a high squared multiple correlation with the other independent variables, it is unlikely that the independent variable in question contributes significantly to the prediction equation. None of the tolerance values in Table 6.7 exceeded 1.0 and all the independent variables were therefore included in the regression analysis.

Table 6.7 also shows the multiple correlation coefficient and cumulative variance for all the predictor variables entered into the equation. The addition of variables other than those entered in the stepwise regression did not add to the size of the multiple correlation and added just one
percent to the amount of variance of the composite criterion explained by Sound Judgement and Persuasiveness on their own.

The use of just two independent variables in the stepwise analysis, provided sufficient explanatory power to account for the variance of the criterion, thus removing the need to include all the other variables simply to account for an additional one percent of variance of that criterion.

2.4.3. **STEPWISE MULTIPLE REGRESSION ANALYSIS: PROMOTION CRITERION**

Stepwise multiple regression was computed for the promotion criterion in Table 6.8. As with the composite criterion Sound Judgement was entered first into the equation. \( R \) indicates that the highest predictive value was provided by the assessment centre dimension Sound Judgement. The inclusion of Sensitivity at Step two increased the ability of the predictors to predict promotion for the sample \((N=233)\). The multiple \( R \) at Step one was \( r = 0.38 \) and this increased to \( r=0.42 \) at Step two. Sound Judgement explained 15 percent of the variance of the criterion and this was increased to 18 with the inclusion of Situational Sensitivity. A correction for shrinkage was made once stepping was stopped, and it was found that the multiple \( R \) decreased from \( r = 0.42 \) to 0.33 in its predictive value when Darlington's (1968) statistical formula was applied. A statistical correction was made (rather than applying the original regression equation to a follow up sample) because, Murphy (1988) found that most commonly used single sample cross-validation design estimates possess no clear-cut advantages over formula estimates. Shrinkage refers to the decline in predictive efficiency when the regression line derived for the original sample on which validity data was gathered is used to make
predictions for a second sample drawn from the same population (Casio, 1987).

**TABLE 6.8 RESULTS OF STEPWISE REGRESSION PROCEDURE FOR PROMOTION**

<table>
<thead>
<tr>
<th>PREDICTOR</th>
<th>STEP</th>
<th>MULTIPLE R</th>
<th>CHANGE</th>
<th>F TO ENTER</th>
<th>F TO REMOVE</th>
<th>MULTIPLE R AFTER</th>
<th>SHINKAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>VARIABLE</td>
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<td>R</td>
<td>R²</td>
<td>IN R²</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ENTERING</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>EQUATION</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>JUDGE</td>
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<td>0.38</td>
<td>0.15</td>
<td>0.15</td>
<td>39.46</td>
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<tr>
<td>SENS</td>
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<td>0.42</td>
<td>0.18</td>
<td>0.03</td>
<td>9.30</td>
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<td></td>
</tr>
</tbody>
</table>

2.4.3.1. RELATIONSHIP BETWEEN ASSESSMENT CENTRE PERFORMANCE AND PROMOTION: CHI SQUARE ANALYSIS

Table 6.9 shows a Chi square analysis calculated for all 233 subjects who were assessed in the assessment centre. The results indicate that there is less than one chance in 1000 that the relationship between assessment centre ratings and whether the subject was promoted or not could have been obtained by chance. The table suggests that there is a positive relationship between performance during the assessment centre and subsequent promotion to the supervisory level.
TABLE 6.9  CHI-SQUARE ANALYSIS FOR PROMOTION

| SUBJECTS WITH LOW OR BELOW AVERAGE OVERALL ASSESSMENT RATINGS (OAR'S) | SUBJECTS WITH HIGH OR AVERAGE OVERALL ASSESSMENT RATINGS (OAR'S) |
|-----------------|------------------|-------------------|-----------------|
| PROMOTED        | 18               | 116               | 134             |
| NOT PROMOTED    | 75               | 24                | 99              |

(p < 0.001)

2.4.4. STEPWISE MULTIPLE REGRESSION ANALYSIS: SUPERVISORY LEADERSHIP EFFECTIVENESS

Stepwise regression results for the Supervisory Leadership Effectiveness scale are presented in Table 6.10. The independent variables which were best able to predict Supervisory Leadership Effectiveness differed from those able to predict either the composite or the promotion criterion. Initiative and Planning were able to predict the criterion with a coefficient of $r = 0.56$. Together, both accounted for 32 percent of the variance of the criterion. Initiative accounted for 26 percent of the variance and Planning added another 5 percent. Stepping was stopped after Planning was entered into the
regression analysis. The shrinkage formula was applied to the multiple R and it was reduced from 0.56 to 0.47.

**TABLE 6.10 RESULTS OF STEPWISE REGRESSION PROCEDURE FOR THE SUPERVISORY LEADERSHIP EFFECTIVENESS SCALE**

<table>
<thead>
<tr>
<th>PREDICTOR VARIABLE</th>
<th>STEP NO.</th>
<th>MULTIPLE R</th>
<th>CHANGE IN R²</th>
<th>F TO ENTER</th>
<th>F TO REMOVE</th>
<th>MULTIPLE R AFTER SHRINKAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>INIT</td>
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<td>0.51</td>
<td>0.26</td>
<td>0.26</td>
<td>49.28</td>
<td>0.47</td>
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<tr>
<td>PLAN</td>
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<td>0.56</td>
<td>0.32</td>
<td>0.05</td>
<td>10.85</td>
<td>0.47</td>
</tr>
</tbody>
</table>

2.4.5. **STEPWISE MULTIPLE REGRESSION ANALYSIS: LEADER-MEMBER EXCHANGE SCALE**

Sound Judgement and Planning were able to predict the Leader-Member Exchange scale with a Multiple R = 0.56 (see Table 6.11). Planning increased the multiple R from 0.53 to 0.56 when it was entered. Together both independent variables accounted for 31 percent of the variance of the criterion. These predictors had both been important in accounting for the variance of some of the criteria discussed previously. As with the other criteria, non of the biographical data variables were included in the regression analysis. The multiple R after shrinkage for the Leader-Member Exchange criterion was 0.47.
TABLE 6.11 RESULTS OF STEPWISE REGRESSION PROCEDURE
FOR THE LEADER-MEMBER EXCHANGE SCALE

<table>
<thead>
<tr>
<th>PREDICTOR</th>
<th>STEP</th>
<th>MULTIPLE</th>
<th>CHANGE</th>
<th>F TO ENTER</th>
<th>F TO REMOVE</th>
<th>MULTIPLE R</th>
</tr>
</thead>
<tbody>
<tr>
<td>VARIABLE</td>
<td>NO.</td>
<td>R</td>
<td>R2</td>
<td>IN R2</td>
<td>AFTER</td>
<td>SHRINKAGE</td>
</tr>
<tr>
<td>ENTERING</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EQUATION</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
+===========+======+==========+=======+========+============+=============+=============|
| JUDG 1    | 0,53 | 0,28     | 0,28   | 52,24       |             |            |
| PLAN 2     | 0,56 | 0,31     | 0,03   | 6,73        | 0,47        |            |

2.4.6 STEPWISE MULTIPLE REGRESSION ANALYSIS: EMPLOYEE RATING SCALE

Table 6.12 shows the stepwise regression results for the superior's rating - the Employee Rating scale. More independent variables appear to make a contribution in predicting the performance of the supervisor as is perceived by his or her "boss". Sound Judgement was entered first into the regression analysis. Initiative was entered at Step two, followed by Oral Communication and then Written Communication. The multiple R for Sound Judgement was 0,57 and this was increased to 0,64 with the inclusion of the other three predictors.

Sound Judgement accounted for 33 percent of the variance of the criterion and this figure increased to 41 at Step four. The multiple R was subsequently reduced when shrinkage was accounted for (from 0,64 to 0,55). The assessment centre dimensions were best able to predict this criterion, which can be seen from the size of the multiple R (even when shrinkage has been taken into consideration).
### Table 6.12: Results of Stepwise Regression Procedure for the Employee Rating Scale

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Step</th>
<th>Multiple R</th>
<th>Change ( R^2 ) in ( R^2 )</th>
<th>( F ) to Enter</th>
<th>( F ) to Remove</th>
<th>Multiple R After Shrinkage</th>
</tr>
</thead>
<tbody>
<tr>
<td>JUDG</td>
<td>1</td>
<td>0.57</td>
<td>0.33</td>
<td>0.33</td>
<td>111.58</td>
<td></td>
</tr>
<tr>
<td>INIT</td>
<td>2</td>
<td>0.60</td>
<td>0.37</td>
<td>0.04</td>
<td>13.60</td>
<td></td>
</tr>
<tr>
<td>ORAL</td>
<td>3</td>
<td>0.62</td>
<td>0.39</td>
<td>0.02</td>
<td>8.61</td>
<td></td>
</tr>
<tr>
<td>Writt</td>
<td>4</td>
<td>0.64</td>
<td>0.41</td>
<td>0.02</td>
<td>9.08</td>
<td>0.55</td>
</tr>
</tbody>
</table>

2.5. **Hypothesis 4: Long Term Predictive Validity**

Table 6.13 shows the correlation coefficients between the overall assessment rating (OAR) and the promotion criterion (over time). No corrections for restriction of range were made because the full range of criterion scores for the sample (N=233) were available. Range restriction occurs when a sample exhibits systematically less variance than the population to which generalisations are to be made (Thorndike, 1949). No corrections for criterion attenuation were made because promotion is measured at the nominal level and criterion unreliability did not present a problem. Attenuation is "the reduction of a coefficient of correlation from its theoretical true value due to errors of measurement in the variables being correlated" (Ebel, 1965, p.446). The assessment centre did not increase in its ability to predict upward mobility. This can be observed by
examining the size of the correlation coefficients from $r = 0.33$ in 1989 to $r = 0.25$ in 1986.

TABLE 6.13  OVERALL ASSESSMENT RATING (OAR)  
CORRELATIONS OVER FOUR YEARS WITH PROMOTION

<table>
<thead>
<tr>
<th>PREDICTOR</th>
<th>YEAR</th>
<th>SAMPLE SIZE</th>
<th>$r$ x $y$</th>
</tr>
</thead>
<tbody>
<tr>
<td>OAR</td>
<td>1986</td>
<td>15</td>
<td>0.25</td>
</tr>
<tr>
<td>OAR</td>
<td>1987</td>
<td>38</td>
<td>0.58</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>**</td>
</tr>
<tr>
<td>OAR</td>
<td>1988</td>
<td>55</td>
<td>0.44</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>**</td>
</tr>
<tr>
<td>OAR</td>
<td>1989</td>
<td>125</td>
<td>0.33</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>**</td>
</tr>
</tbody>
</table>

* $p \leq 0.05$  ** $p \leq 0.01$

For the Supervisory Leadership Effectiveness criterion scale corrections for criterion unreliability and range restriction were made (see Table 6.14). The criterion mentioned above, conforms to what Linn (1968) describes as the usual differential prediction situation where all test scores are available for everyone in the sample, but not all criterion scores are available for any given person. Those persons for whom complete data is available on the predictor and criterion variables are referred to as the restricted group (Sands, Alf & Abrahams, 1978) and an estimation of the validity coefficient, where all criterion scores
were available, was made. Correlation coefficients did not increase over time. The overall assessment rating was less able to predict whether a candidate would or would not receive promotion since the time of his or her assessment in 1986 than it was in 1989. The correlation coefficient obtained in 1987 of a 0.0001 was particularly insignificant.

TABLE 6.14 OVERALL ASSESSMENT RATING (OAR) CORRELATIONS OVER FOUR YEARS WITH THE SUPERVISORY LEADERSHIP EFFECTIVENESS SCALE

<table>
<thead>
<tr>
<th>PREDICTOR</th>
<th>YEAR</th>
<th>SAMPLE SIZE</th>
<th>rxy</th>
<th>ryy</th>
<th>rxyr</th>
<th>SDu</th>
<th>SDr</th>
<th>rxyr</th>
</tr>
</thead>
<tbody>
<tr>
<td>OAR</td>
<td>1986</td>
<td>10</td>
<td>0.31</td>
<td>0.71</td>
<td>0.35</td>
<td>7.67</td>
<td>5.77</td>
<td>0.45</td>
</tr>
<tr>
<td>OAR</td>
<td>1987</td>
<td>22</td>
<td>0.01</td>
<td>0.80</td>
<td>0.01</td>
<td>11.67</td>
<td>10.61</td>
<td>0.0001</td>
</tr>
<tr>
<td>OAR</td>
<td>1988</td>
<td>32</td>
<td>0.69</td>
<td>0.83</td>
<td>0.75</td>
<td>11.51</td>
<td>11.47</td>
<td>0.74</td>
</tr>
<tr>
<td>OAR</td>
<td>1989</td>
<td>74</td>
<td>0.45</td>
<td>0.68</td>
<td>0.54</td>
<td>11.81</td>
<td>11.71</td>
<td>0.55</td>
</tr>
</tbody>
</table>

* p < 0.05  ** p < 0.01

Rxy, Rxyr, Rxyz refer to observed validity, validity corrected for lack of criterion reliability, and validity corrected for both criterion unreliability and range restriction, respectively; SDu and SDr are the unrestricted and restricted standard deviations of the criterion; and Ryy is the reliability of the criterion.
Both Tables 6.15 and 6.16 show long term predictive validity coefficients which do not increase over time. Correlation coefficients for the Leader-Member Exchange scale (see table 6.15) appear to be higher in the middle two years (1987 and 1988) than in the extremes (1986 and 1989). The correlation coefficient for 1986 is actually negatively related to the criterion (-0.44).

Correlation coefficients for the Employee Rating criterion (see Table 6.16) contrast with those of Table 6.15. The variables at the extremes are higher than those in the middle with the correlation coefficient calculated for 1986 higher than those calculated in any other year. Validity coefficients, however, do not increase consistently from 1989 to 1986.

**TABLE 6.15 OVERALL ASSESSMENT RATING (OAR) CORRELATIONS OVER FOUR YEARS WITH THE LEADER-MEMBER EXCHANGE SCALE**

<table>
<thead>
<tr>
<th>PREDICTOR</th>
<th>YEAR</th>
<th>SAMPLE SIZE</th>
<th>rxy</th>
<th>ryy</th>
<th>rxyr</th>
<th>SDu</th>
<th>SDr</th>
<th>rxycl</th>
</tr>
</thead>
<tbody>
<tr>
<td>OAR</td>
<td>1986</td>
<td>10</td>
<td>-0.35</td>
<td>0.76</td>
<td>-0.40</td>
<td>4.21</td>
<td>2.59</td>
<td>-0.44</td>
</tr>
<tr>
<td>OAR</td>
<td>1987</td>
<td>22</td>
<td>0.61</td>
<td>0.49</td>
<td>0.87</td>
<td>5.27</td>
<td>4.13</td>
<td>0.67</td>
</tr>
<tr>
<td>OAR</td>
<td>1988</td>
<td>32</td>
<td>0.62</td>
<td>0.81</td>
<td>0.68</td>
<td>5.14</td>
<td>4.15</td>
<td>0.81</td>
</tr>
<tr>
<td>OAR</td>
<td>1989</td>
<td>74</td>
<td>0.45</td>
<td>0.79</td>
<td>0.51</td>
<td>5.84</td>
<td>5.42</td>
<td>0.59</td>
</tr>
</tbody>
</table>

*p < 0.05  **p < 0.01
### 6.16 OVERALL ASSESSMENT RATING (OAR) CORRELATIONS OVER FOUR YEARS WITH THE EMPLOYEE RATING SCALE

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Year</th>
<th>Sample Size</th>
<th>( r_{xy} )</th>
<th>( r_{yy} )</th>
<th>( r_{xyr} )</th>
<th>( S_d u )</th>
<th>( S_d r )</th>
<th>( r_{xycl} )</th>
</tr>
</thead>
<tbody>
<tr>
<td>OAR 1986</td>
<td>10</td>
<td>0.71</td>
<td>0.91</td>
<td>0.75</td>
<td>5.31</td>
<td>4.43</td>
<td>0.82</td>
<td></td>
</tr>
<tr>
<td>OAR 1987</td>
<td>22</td>
<td>0.23</td>
<td>0.84</td>
<td>0.25</td>
<td>5.24</td>
<td>4.93</td>
<td>0.25</td>
<td></td>
</tr>
<tr>
<td>OAR 1988</td>
<td>32</td>
<td>0.23</td>
<td>0.84</td>
<td>0.24</td>
<td>5.82</td>
<td>5.32</td>
<td>0.32</td>
<td></td>
</tr>
<tr>
<td>OAR 1989</td>
<td>74</td>
<td>0.61</td>
<td>0.88</td>
<td>0.64</td>
<td>6.57</td>
<td>6.14</td>
<td>0.67</td>
<td></td>
</tr>
</tbody>
</table>

* \( p \leq 0.05 \)  ** \( p \leq 0.01 \)

### 2.6. HYPOTHESIS 5: FACE VALIDITY

The "face" validity of the assessment centre was investigated by examining managers' responses as well as candidates' responses to questions on the assessment centre technique. Of the 186 managers, 84 percent felt that the exercises were fair and relevant, 78 percent felt satisfied with the assessor training they received, and 97 percent felt satisfied with the assessment centre as a means to identify leadership potential. 88 percent of the 232 respondents who experienced the assessment centre process felt they were behaving in a normal manner when undergoing the various exercises. None of the candidates felt they were being discriminated against because they were Black, and 92 percent stated that they would recommend to their peers and subordinates that they should attend the assessment centre.
CHAPTER 7

DISCUSSION AND CONCLUSIONS

1. RELIABILITY

The reliability of the assessment centre was examined using two approaches - internal consistency and interrater reliability. The assessment centre proved to have acceptable psychometric properties. Internal consistency reliability coefficients were predominantly greater than the 0.70 cutoff stipulated by (Cook et al. 1981), and the agreement between assessors proved to be acceptable, with interrater reliability coefficients (on average) above 0.80 - a figure suggested in the research literature by McConnell and Parker (1972). The research results therefore supported hypotheses one and two of the study.

1.1. INTERNAL CONSISTENCY

According to Thornton and Byham (1982) research by Byham (1981), Hinrichs and Haanpera (1976), Huett (1975), and Neidig, Martin and Yates (1978) has reported fairly low internal consistency estimates. In a study by Hinrichs and Haanpera (1976) the internal consistency of assessment centre dimensions in a large manufacturing organisation was investigated. The overall average of Cronbach Alpha coefficients across 14 behavioural dimensions was 0.49. This figure was relatively low when compared with the average reliability coefficient of 0.65 obtained in this
study. Hinrichs and Haanpera (1976) found a highest average Alpha coefficient of 0.73 for Oral Communication and only marginal internal consistency reliability for two dimensions - 0.38 for Decision Making and 0.42 for Creativity. In the present study five of the reliability coefficients were equal to or greater than 0.70. A coefficient of 0.68 for Situational Sensitivity was only slightly less than 0.70, and the coefficients of 0.54 for Persuasiveness and 0.28 for Written Communication were significantly less than this figure.

Although internal consistency estimates tended to be low, Hinrichs and Haanpera (1976) found in their study that an assessment centre in one country, which had a well-organised full day observer training programme had an Alpha coefficient of 0.86, while in another country where three hours of video training for observers took place, an Alpha coefficient of only 0.55 was found. The potential for increasing reliability through more careful attention to observer training has been emphasised by Thomson (1970) as well as Bray and Grant (1966) and is suggested by Hinrichs and Haanpera as a possible reason for differences in reliability estimates in their study.

The emphasis placed on assessor training could explain the positive results (0.65 average Alpha coefficient) obtained in the present study.

Internal consistency results need to be interpreted cautiously, as they are concerned with the reliability of the assessment centre and do not provide evidence for construct validity. The essential characteristic of this method is that the criterion used is none other than the total scores on the dimensions themselves (Anastasi, 1982). Internal consistency helps to characterise the behaviours sampled by the assessment centre, but in the absence of data external to the assessment centre little can be
learned about what the assessment centre actually measures. In order to establish construct validity, convergent and discriminant analyses examining the relationship between assessment centre dimensions and external variables with which the dimensions should and should not theoretically correlate, need to be calculated.

Correlations between the rating of each dimension within each exercise and the total score for that dimension suggest that all of the dimensions measured in the various exercises made a contribution to the construction of the overall dimension score. The lowest correlations were those for Sound Judgement $r = 0.54$ in the Interview Simulation and $r = 0.52$ for Written Communication in the In-basket exercise, but both dimensions correlated positively with the overall Sound Judgement and Written Communication scores respectively. If a dimension measured in a particular exercise did not contribute to the evaluation of the candidate on that dimension, then it might be useful to consider not continuing to measure that dimension in that particular exercise.

Average correlations across all dimensions within each exercise ranged from $0.66$ to $0.79$. The high average correlations for each exercise suggest that the exercises are all making a contribution to the evaluation of the various dimensions measured in them. If the average correlation across all dimensions in a particular exercise was found to be low, then that exercise would need to be redesigned or replaced.

Correlations between each dimension and the overall assessment rating (OAR) revealed that all of the dimensions made a contribution to the construction of the (OAR); except for the Written Communication dimension ($r = 0.52$). This can be explained by the low reliability coefficient associated with this dimension (0.28). A very low
correlation would indicate that the dimension contributed little in the minds of the assessors in forming the overall assessment rating. If a dimension contributed little to the overall assessment of a candidates' leadership potential, then devaluing the weight attached to that dimension should be considered.

Conclusions based on an inspectional analysis of correlations between (dimension measured in exercises and the total score for that dimension) or (correlations between each dimension and the overall assessment rating) as in Table 6.1 are at best uncertain. More precise statistical techniques are required before a conclusion about the construct validity of dimensions can be reached. A factor analysis, for example, could be used to determine this although it is beyond the scope of the present study.

1.2 INTERRATER RELIABILITY

The present assessment centre demonstrated satisfactory interrater reliability. This is an important question for assessment centre research as a unique feature of the assessment centre technique is the use of multiple observers or assessors whose judgements regarding the observed performance of candidates are pooled (Huck, 1973).

Dicken and Black (1965) examined the extent to which assessors agreed with each other in their ratings of candidates on assessment centre dimensions in a manufacturing organisation. Interrater reliabilities ranged from 0.85 to 0.98 with a median score of 0.92. McConnell and Parker (1972) found interrater reliability coefficients ranging from 0.64 to 0.90 with a median score of 0.83 for 14 dimensions measured in an assessment centre in four manufacturing organisations.
The assessment centre (which formed the basis of this study) had interrater reliability coefficients ranging from 0.64 to 0.93 with a median of 0.85. These results compare favourably with the results of previous studies and suggest that there is significant agreement between assessors when rating subjects on the eight dimensions measured in the assessment centre. It would seem that the emphasis placed on assessor training was responsible for this.

Interrater reliability coefficients have also been examined across exercises. For example, Bray and Grant (1966) in their original monograph describing the American Telephone and Telegraph (AT&T) assessment centre reported interrater reliabilities of 0.60 for their manufacturing problem and 0.75 for their group discussion problem. Greenwood and McNamara (1967) investigated the degree of interrater reliability in situational tests. Their results indicated that the reliability of assessor ratings were reasonably high for a Manufacturing In-Basket (0.74); a Leaderless Group Discussion (negotiation) (0.66) and a Leaderless Group Discussion (problem solving) (0.70).

In another study Clingenpeel (1979) reported interrater reliability coefficients of 0.72 and 0.69 for two Leaderless Group Discussion exercises used in a foreman selection programme (Gatewood, Thornton & Hennessey, 1990).

In the present study, the reliability coefficient for the Manufacturing exercise was 0.71, for the Leaderless Group Discussion (negotiation) 0.85 and for the Leaderless Group Discussion (problem solving) 0.91. The Manufacturing exercise coefficient of 0.71 was significantly higher than that in the Bray and Grant study, and slightly lower than that obtained by Greenwood and McNamara. Both Leaderless Group Discussion reliability coefficients were higher than those cited by Greenwood and McNamara and Clingenpeel. These results indicate that there is significant agreement between
the assessors when rating the performance of subjects across the dimensions in each of the exercises. The results compare favourably with research (particularly in the case of the In-Basket) where there is only modest support for the usefulness of this exercise as a measurement tool (Schippmann, Prien & Katz, 1990). Unfortunately, no data could be found on which to compare the interrater reliabilities for some of the other exercises with research in manufacturing organisations in the United States.

2. VALIDITY

The research findings for the predictive accuracy (validity) of the assessment centre are as significant as those for reliability and support hypotheses three and four of the study. The behavioural dimensions measured in the assessment centre correlated highly with the criteria and explained a significant amount of the variance of those measures when compared with a meta-analysis by Gaugler, Rosenthal, Thornton and Bentson (1987) of 50 assessment centre studies containing 107 validity coefficients.

2.1 PREDICTIVE VALIDITY

Observed validity coefficients for the assessment centres reviewed in the study ranged from -0.25 to +0.78 with a corrected mean and variance for all the assessment centres of 0.37 and 0.17, respectively (Gaugler, Rosenthal, Thornton & Bentson, 1987). The results obtained in this study show that validity coefficients ranged from a low of 0.42 (0.33 after shrinkage) accounting for 18 percent of the variance for the promotion criterion, to a high of 0.64 (0.55 after shrinkage) accounting for 41 percent of the variance of for the Employee Rating scale. Only the lowest validity coefficient (after shrinkage had been taken into account) was lower than the average validity coefficient of 0.37 obtained by Gaugler et. al, (1987). All the validity
coefficients met the minimum requirement of 0.30 for acceptable validity stipulated by the Equal Employment Opportunity Commission (EEOC) in the United States.

The length of the assessment centre did not appear to adversely affect the validity coefficients associated with it. The present assessment centre differs from the typical American assessment centre in its administration in that, it is run over one-and-a-half days. These results indirectly support Moses' (1973) finding that an early identification programme (run over a day) generated validity coefficients of comparable accuracy to those of a regular (lengthier) assessment programme. The fact that validities for the shortened assessment centre in this study were above the average for the studies outlined by Gaugler et al. (1987) for regular assessment centres, indicates that its length did not affect its ability to identify effective Black supervisors.

Another issue in research circles relates to the ability of the assessment centre to predict different types of criteria (Klimoski & Strickland, 1981; McEvoy & Beatty, 1989; Turnage & Muchinsky, 1984). The results of the Gaugler et al. (1987) meta-analysis support previous research indicating that assessment centres are more valid for predicting an assessee's job potential ($r = 0.53$) than for predicting performance ($r = 0.36$). For example, Cohen et al. (1977) concluded that predictive accuracy was highest for job potential ($r = 0.63$) followed by progress ($r = 0.40$) and job performance ($r = 0.33$). Both Klimoski and Strickland (1981) and Turnage and Muchinsky (1984) found that assessment centres predicted progress but not performance criteria.

The results of the present research found the lowest correlation ($r = 0.33$ after shrinkage) for the promotion criterion and the highest correlations ($r = 0.47$ after shrinkage) for both subordinate ratings of performance and
the superior's rating of performance ($r=0.55$ after shrinkage). These findings are contrary to those in the research studies outlined and also differ from Thornton and Byham's (1982) review of assessment centre studies which found that assessment centres were equally effective in predicting several types of criteria.

Criterion contamination has been described as a potentially serious problem in assessment centre research (Turnage & Muchinsky, 1984). Validity studies without criterion contamination are rare and only ten published studies exist (McEvoy & Beatty, 1989). The present study was no exception and it was felt that the validity results could have been inflated artificially by "direct" criterion contamination. Direct contamination occurs when those assigning ratings, or making promotion decisions to be used as criteria are aware of candidates' scores on the predictor variable.

Gaugler et. al's (1987) meta-analysis found no significant differences between the validity coefficients obtained in studies that operationally used assessment centre data in making selection and promotion decisions and those that did not. Their findings refute the contention that "direct" contamination explains the observed validities of assessment centres. They believe that validity results subject to direct criterion contamination are as true a reflection of the predictive accuracy of the assessment centre as results that are not affected by "direct" criterion contamination. This provides some defense against accusations that the present results are inflated by direct criterion contamination.

An examination of the relationship between individual predictor variables and the criteria, revealed that biographical data did not have a significant relationship with any of the dependent variables in the study. Biographical data was not entered into any of the regression
the superior's rating of performance (r=0.55 after shrinkage). These findings are contrary to those in the research studies outlined and also differ from Thornton and Byham's (1982) review of assessment centre studies which found that assessment centres were equally effective in predicting several types of criteria.

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An examination of the relationship between individual predictor variables and the criteria, revealed that biographical data did not have a significant relationship with any of the dependent variables in the study. Biographical data was not entered into any of the regression
analyses. These results are similar to those of Gaugler et.al. (1987) where no relationship was found, for example, between average age of assessesees and predictive validity of the assessment centre. In another study by McEvoy and Cascio (1989) meta-analysis procedures revealed that age and job performance were generally unrelated. Furthermore, there was little evidence that type of performance measure (ratings versus productivity measures) or type of job (professional versus non-professional) moderated the relationship between age and job performance significantly. However, they did find the relationship between age and job performance for very young employees to be consistent and moderately positive. The present study did not however, focus exclusively on the relationship between age and performance for those who were very young.

In another study, younger supervisors were found to engage in more relationship-oriented activities than older supervisors (Gilbert, Collins & Brenner 1990). These differences in leadership effectiveness based on the age of the leader were not strong, however, and the authors concluded that they did not justify revised human resource policies in areas such as recruitment, selection, appraisal or promotion. This suggests, for example, that if the relationship between age (for younger candidates) and the LMX criterion were to be examined, different results might have been found.

The present results differed from those of Spangenberg et.al. (1989) where biographical data was included in a stepwise regression analysis and increased the multiple correlation from ($r=0.37$) to ($r=0.41$). Their results supported the findings of an American study by Schmitt et.al. (1984), which demonstrated the value of biographical information as a predictor of performance.
The dimensions which contribute most to the prediction of the criteria vary depending on the criteria examined. Sound Judgement followed by Persuasiveness was most predictive of the composite criterion. No further predictors were entered into the stepwise regression analysis. That Sound Judgement proved to be the most important predictor of the composite criterion might have been expected. Firstly, it was important in predicting a number of other criteria in the study. Secondly, Sound Judgement, as defined in the assessment centre is at the centre of the manager or supervisor's work processes. If a supervisor is to fulfil such traditional managerial functions as planning, organising and controlling, he or she needs to scan the environment for new information and to decide what information is relevant and what can be discarded. He or she must recognise potential problems, in other words, use his or her judgement to prioritise them in order to solve them and then come to a decision as to how to deploy his or her manpower to bring about the desired solution (Mintzberg, 1973).

It was more surprising, in terms of the flow of dimensions, that Persuasiveness was entered into the regression analysis at Step two. Once an individual has identified a problem, he/she must Plan and Organise his/her actions and then communicate those actions either orally, or in a written form, in a Persuasive, Sensitive yet Assertive manner (Charoux, 1984). The solutions to the problems encountered by an individual need to be creative and he or she must be able to initiate actions without troubling his or her superior all the time.

The practical and economic rather than psychological nature of the criterion could be a possible explanation for the entry of Persuasiveness, a dimension perceived to be of lesser importance (in terms of the flow of dimensions) than other dimensions, at Step two in the regression analysis.
Results of the stepwise regression analysis for promotion revealed that Sound Judgement was again entered first into the regression analysis. One would expect promotion decisions to be made on the basis of whether a subordinate had the cognitive skills necessary to identify and analyse problems and make logical and rational decisions to solve those problems. In addition to his or her ability to function in a supervisory position, the ability to react tactfully and diplomatically to the needs and feelings of his or her superior might be expected to play a role in influencing promotion decisions. Hence the entry of Situational Sensitivity at Step two. In addition, the results of the Chi Square analysis indicated that there was a positive and significant relationship between how candidates performed on the assessment centre and their upward mobility and supported the contention that the assessment centre would be able to predict the promotion criterion.

Dimensions entered into the regression equation for the Supervisory Leadership Effectiveness criterion (a rating made by the subordinate of the candidate who has gone through the assessment centre), were Initiative at Step one and Planning at Step two. A possible explanation for the importance attached to Initiative by subordinates in determining who was an effective supervisor, was the ability of his or her "boss" to originate action and to generate creative solutions to the problems confronting the workforce. In addition, the ability to structure his or her activities as well as the activities of his or her subordinates was perhaps perceived by them as distinguishing an individual who could take control of situations for themselves. Hence the importance of Planning at Step two.

Providing an explanation for the entry of dimensions into the regression analysis for the Leader-Member Exchange criterion (a subordinate rating), was more difficult.
Perhaps the entry of Sound Judgement and Planning and Organising could be explained by the fact that the extent to which a supervisor is able to make rational and logical decisions (Sound Judgement) and plan his or her subordinate's tasks (Planning), reduces the amount of stress on the subordinate, making his or her tasks easier, thus enhancing the subordinate's perceptions of his or her supervisor. One would have, however, expected Situational Sensitivity to have played a more important role in explaining why one supervisor was perceived more favourably than another.

Finally, the results of the stepwise regression for the Employee Rating criterion (a rating of performance by the individual's immediate superior) shows that four dimensions were entered into the regression analysis. It would appear that more assessment centre dimensions were important in accounting for how a supervisor's immediate superior would perceive his or her performance, than was the case with how the supervisor's subordinate perceived his or her performance.

It would seem that the supervisor's superior judged his or her effectiveness, first and foremost, on his or her ability to make sound decisions. Sound Judgement therefore was entered at Step one in the regression analysis. The rationale for this might be that if a subordinate has Sound Judgement, this would free his or her superior from having to oversee every decision his or her subordinate made in order to solve the problems confronting him or her on the shopfloor. Initiative (the extent to which the supervisor is able to originate action and influence events whenever he or she is confronted with a problem) would possibly further reduce the need for the superior to spend time monitoring the actions of his or her subordinate. Hence its entry into the regression analysis at Step two.
After Sound Judgement and Initiative, Oral Communication and Written Communication were entered into the regression analysis at Step's three and four respectively. This would seem to indicate that the ability to express oneself clearly and fluently influenced how a superior perceived the performance of his or her subordinate. In addition to Oral Communication, the ability to present information in a concise manner and to express oneself clearly in a written form appeared to make a contribution to the prediction of the criterion. Both Oral Communication and Written Communication accounted for an additional two percent (each) of the criterion when entered into the regression equation. According to Penley, Alexander, Jernigan and Henwood (1991), recent empirical research by Bednar (1982), and Caldwell and O'Reilly (1982) has linked generalised communication ability to subjective appraisals of managerial performance—providing some support for the importance attached to Oral and Written Communication by the supervisor's "boss" in the present study.

2.2 LONG TERM PREDICTIVE VALIDITY

Validity coefficients were found to be largely significant and positive, but correlations between OAR's and criteria did not increase over time.

As the amount of time increases between the collection of assessment centre data and criterion data, managers making promotion decisions are less likely to be aware of candidate's assessment centre scores. If they are unaware of those assessment centre scores or have forgotten those scores, they are less likely to promote candidates on the basis of those scores. One would therefore not expect validity coefficients to be inflated as the amount of time between the collection of assessment centre and criterion data increased.
Studies (Hinrichs, 1978; McEvoy & Beatty, 1989; Mitchell, 1975) found that validity coefficients tended to increase over time. Mitchell (1975) found correlations between OAR's and a salary progress criterion for 95 managers assessed in 1966, 1967 and 1968 to be $r=0.24$; $r=0.32$ and $r=0.33$ respectively. An IBM study found that validity coefficients increased from $r=0.26$ (at Year one) to $r=0.40$ (at Year eight) (Hinrichs, 1978). These findings tend to neutralise concerns about criterion contamination as the validities associated with criterion data collected many years after the assessment centre are higher than validities one would expect to be inflated through contamination (McEvoy & Beatty, 1989; Thornton & Byham, 1982).

The present results found no relationship between criterion measures and the time when individuals were assessed in the assessment centre. The methodology of this study differed from that of previous studies, in that the time when the predictor data was collected varied rather than when criterion data was collected. These results are similar, however, to research by Gaugler et.al. (1987) as well as individual studies by Finley, (1970), Howard (1979) and Slivinski and Bourgeois (1977), which have found either no relationship between validities and time of criterion measurement or a negative relationship.

The absence of higher validity coefficients, as the time between the collection of criterion and predictor data increased, meant that no support for any long term trend in the improvement of the assessment centre's predictive accuracy, could be found. There was no evidence suggesting that studies by Hinrichs (1978), McEvoy and Beatty (1989), Mitchell (1975) and Moses (1972) showing assessment centres to be valid predictors of performance in the long run, are indeed correct. McEvoy and Beatty (1989) for example, found that the assessment centre had more predictive power when predicting criteria collected seven years after assessment.
than criteria collected two and four years after assessment. This meant that the theory that predictive validity coefficients would increase over time was not supported and motivating the cost of implementing an assessment centre on the basis of this theory was not substantiated.

2.3 FACE VALIDITY

Finally, the assessment centre was found to have "face" validity and was acceptable to both managers (assessors) and to candidates (assessees) thus supporting hypothesis five of the study. The findings support research in the United States (Boche, 1982; Kraut, 1972) which found the assessment centre to have acceptable face validity. Research articles (Brim, 1965; Ward, 1960) dealing with attitudes toward psychological testing in the United States, indicate that most unions and their members are anti-test in their attitudes, while most business executives support their use (Rhoads & Landy, 1973).

Assessment centres on the other hand, have been used successfully in a number of unionised organisations and have seemed to cause very little difficulty. (Boche, 1982) and Kraut (1972) found that 74 percent of a sample of 138 assessees in the United States felt that the assessment centre measured abilities that were job related.

The criterion of acceptability has been found to be a very important one in the United States. Davey (1984) states that if testing seems to be related to the job and an individual believes he or she did poorly on the test, there is less likelihood that an individual will challenge the results. The issue of "fairness" is likely to grow in importance in a future South Africa and research indicating that the assessment centre is acceptable to trade unions (Charoux, 1989) would appear to have potential benefits for organisations wishing to avoid a discrimination law suit.
Furthermore, the results of this study suggest that the candidates who went through the assessment centre did not feel discriminated against. The assessment centre was also acceptable to line and staff managers who are directly responsible for making selection decisions in their own departments. The acceptability of the assessment centre to managers, assessees and the unions, both in South Africa and the United States suggests that the technique is perceived to be fair by all.

3. CONCLUSION

The present research results appear to confirm the large body of research literature (Cohen, Moses & Byham, 1977; Gaugler, Rosenthal, Thornton & Bentson, 1987, Howard, 1974; Stevens, 1985) in support of the predictive validity of the assessment centre. The positive results can be ascribed to the reliability (internal consistency and interrater reliability) and the validity of the process.

Accurate and fair evaluation in assessment centres is achieved through the close simulation of tasks and the use of multiple assessors and raters (Rea, Rea & Moqaw, 1990) and the validity of the assessment centre stems from a detailed job analysis and from the systematic translation of job demands into test demands (Frank, Braken & Struth, 1988). Unlike pre-packaged assessment centre programmes, which for the most part exclude the job analysis phase (Cohen, 1986), a job analysis was an integral component of the present assessment centre's construction and it was designed to meet the specific needs of the South African manufacturing industry. Furthermore, the assessment centre meets the 'guideline and ethical consideration specifications' outlined by Spangenberg (1991) for acceptable assessment centre operations in South Africa.
3.1. THEORETICAL IMPLICATIONS

Research suggests that when using an assessment centre for basic selection (accept or reject) decisions, attempts to incorporate highly differentiated dimensions or elaborate methods of integration and discussion for assessors will not increase predictive validity. It seems that the availability of a wide range of evidence (exercises, biographical data, tests) and the assessors' belief in behavioural consistency are the most likely explanations for the predictive validity of an assessment centre used for selection, rather than high "assessment centre technology" (Jones, Herriot, Long & Drakeley, 1990).

Although the assessment centre was found to have acceptable internal consistency, acceptable interrater reliability, as well as significant predictive validity, further research needs to be conducted to enhance the assessment process and further improve its validity. United States research suggests that this can be achieved by insisting on a rigorous job analysis so that the process has content validity (Schippmann, Hughes & Prien, 1988), ensuring that the cognitive demands placed on assessors are minimised by controlling the number of dimensions assessors are required to process (Gaugler & Thornton, 1989) and focusing discussions on areas of disagreement between assessors so that consensus on candidate performance is reached (Thoreson & De Haan, 1983).

South African organisations need to continually update their assessment centres by monitoring overseas research findings and validating them under South African conditions where necessary.

From a theoretical standpoint, the findings imply further that the assessment centre is able to identify Black leadership specifically in a reliable and valid manner.
No research studies examining the validity of the assessment centre for both a Black and a White sample exist in South Africa. In fact, little research has been done in South Africa comparing the scores on any selection instrument between Blacks and Whites. Researchers (Taylor, 1987; Van der Flier & Drenth, 1980) believe that as the number of Blacks, "coloureds" and Asians competing with Whites for employment and developmental opportunities increases, the inter-ethnic comparability of test score meanings will become an issue. Accusations of discrimination can only be answered if research is done in this area.

Racial or ethnic group discrimination in employment testing has been of some concern to personnel psychologists in America (Einhorn & Bass, 1971). Research in the United States investigating "single group validity" (tests may be valid for the majority but invalid for minorities) and "differential validity" (the validities in the two applicant populations are unequal), found no evidence for single group (Boehm, 1977; Katzell & Dyer, 1977; O'Connor, Wexley & Alexander, 1975; Schmidt, Berner & Hunter, 1973) or for differential validity (Bartlett, Bobko, Mosier & Hannan, 1978; Hunter, Schmidt & Hunter, 1979; Linn, 1978) states (Hunter, Schmidt & Hunter, 1979). This meant that hypotheses of "test bias" based on the assumption that the meaning of test content differed by race could be rejected, as group differences in test scores corresponded with group differences on some criterion measure for which that test was used as a predictor.

Despite extensive evidence that tests in the United States are valid for both Blacks and Whites, research indicates fewer Black applicants achieve high scores on tests than Whites, and are consequently more likely to fall below selection cut-off scores (Hunter & Hunter, 1984; Reilly & Chao, 1982). These differences in mean test scores between
Blacks and Whites are, however, mirrored by a corresponding difference in performance on the job and are therefore real (Campbell, Crooks & Rock, 1973; Gael & Grant, 1972; Gael, Grant & Ritchie, 1975; Hunter, 1986; Hurn, 1978; Jensen, 1980, 1986).

If group mean differences are large, then it could be expected that a valid predictor would "predict" those differences and have "adverse impact". Adverse impact is deemed to occur whenever the proportions of the various groups selected for an organisation differ significantly from the proportions of the various groups who were eligible or applied for jobs in the organisation (Taylor, 1987). This means that, improved, more valid and reliable tests would probably have slightly more adverse impact (Reilly & Chao, 1982).

Adverse impact itself, is the result of variables external to the test itself - prior discrimination, inadequate teaching, poor education, and other social and economic factors which are reflected in the test scores of Blacks (Herring, 1989). Barrett (1968) concludes, that in the United States, "it is not the tests that are unfair, it is society" (p.95). Fairness is a socio-political and not a scientific issue and affirmative action legislation and the use of the adverse impact concept in evaluating selection procedures in the United States, are aimed at remedying broad societal imbalances (Gottfredson & Crouse, 1986). United States research indicates that both assessment centres and tests are valid for selecting Blacks and Whites, and that neither will be able to address adverse impact. Assessment centres are, however, more valid and have greater predictive accuracy than tests thus reducing selection errors and increasing the effectiveness of the organisation (Thornton & Byham, 1982).
Unfortunately, there is relatively little research in South Africa examining the equivalence of psychometric test scores for different groups and none for assessment centres (Taylor & Radford, 1986, Thornton & Kriek, 1989). Selection procedures are likely to be closely scrutinised in the future and legislation will probably play a role in setting guidelines for fair selection (Holburn, 1991). Whether South Africa drafts specific affirmative action legislation, as is intended in Namibia, (Namibian, Ministry of Labour and Manpower Development, 1990) or follows Zimbabwe's example and does not legislate in broader terms on Africanisation (Hofmeyr & Whata, 1991) remains to be seen.

If South Africa follows Namibia's example, organisations will be pressurised to meet formal affirmative action obligations (Charoux & Moerdyk 1991). Selection procedures which adversely affect one race group more than another, and hinder the goal of affirmative action will have to be shown to be non-discriminatory and fair. Based on United States law, where adverse impact is acceptable if selection requirements are proven to be essential to the proper running of the business (Thacker, Blanchard & Camp, 1989) and the 1988 amendments to the unfair labour practice definition in South Africa, specifying that discrimination is justified and lawful only if commercial rationality can be proven (Campanella, 1990), South African researchers will have to duplicate American research to establish whether selection instruments are biased or equally valid for Blacks and Whites, and determine which selection technique has the greatest predictive accuracy.

Preliminary findings reveal that test scores achieved by Blacks, and to some extent by Indians and Coloureds in South Africa, are an underestimation of their true potential. Only Birkenbach and Allan (1988) found lack of evidence for differential validity in South Africa - but
for a sample of White and "coloured" apprentices (no Blacks) who were employed in a large manufacturing organisation. The use of biased psychometric tests for selecting from a multi-racial pool of applicants are therefore unlikely result in fair selection, but may be useful in measuring cognitive differences within homogeneous groups (Taylor, 1987). Unlike the United States, where Sung and Dawis (1981) for example, found the factor structure of a test battery to be invariant across different groups, Claassen (1990) found significant differences between brown and white Afrikaans-speaking children in terms of the factor structure of the General Scholastic Aptitude Test (GSAT).

Potential sources of bias are infinite and include item format, item content, test language or testing medium (Verster, 1985). Researchers need to establish whether assessment centres in South Africa are differentially valid and suffer from bias as preliminary research on testing found, or are equally valid for Blacks and Whites. Justification of test use by an appeal to empirical validity is not enough however, the potential social consequences of testing should also be appraised according to Messick (1980). Any attempt to define "fair use" of tests that relies exclusively on a statistical approach, is likely to fail (Hunter and Schmidt, 1976).

As in the United States, empirical validity will help to justify the use of selection instruments in South Africa, but future legislation may make adjustments for the environmental barriers which have disadvantaged Black opportunities in the past.

3.2 PRACTICAL IMPLICATIONS

Practically, the findings imply that the assessment centre holds promise for organisations wishing to identify their Black leadership potential. Effectively utilised, the
assessment centre can contribute to solving the skilled manpower shortage experienced by many organisations in South Africa, improve the quality of the workforce by effectively identifying competent individuals and provide the basis for efficient manpower utilisation. To be effective, however, assessment centres must become integrated into the total organisation system for dealing with the identification and development of supervisory talent. In planning and implementing an assessment centre programme, other dimensions of the human resource system must be considered such as compensation, training, development and career planning (Rothwell, 1985).

MacDonald (1988) states, for example, that assessment centres often provide employees with a plan for self-development, but too often employees fail to pursue recommended developmental activities. Assessment centres are expensive to design and operate, and only if the process is properly integrated into a system that most effectively uses the information for the proper development of the individual and the organisation, will the process of leadership identification contribute to the future effectiveness and success of organisations in South Africa.

The acceptability of the process is of practical importance to South African organisations searching for selection instruments which are not only valid and fair but also approved of by their employees. One possible explanation for the acceptability of the process amongs those assessed is the fact that feedback is always given. This would seem to create the impression amongst assessees that 'management is honest towards us'. Feedback is designed specifically to support and facilitate the growth and development of the candidate. Even at this early stage, rapport is being established between "boss" and subordinate. Although validity and fairness are the criteria which should determine the acceptability of the process, perceptions
about the process rather than factual evidence appear to be more important in persuading participants as to the acceptability of the assessment centre. There is therefore a need to create trust and to be as open and honest about the process with candidates. They must have an understanding of the goals and the aims of the process, and the reason for their attending the assessment centre before they are assessed. Factual information is of greater benefit when attempting to convince line managers and trade unions that the process is potentially beneficial for the organisation and its employees.

Probably one of the major reasons for the success of the technique has been the fact that whenever assessors are trained, it has been emphasised that the assessment centre must never stand on its own but must be perceived as part of a sequential process or "funnel". In other words, the task of a selector is to perceive the identification of leadership potential as a long term endeavour, consisting of a series of "filters" through which the candidate must emerge successfully. Under no circumstances must one lay too much emphasis on any technique or instrument when identifying Black leaders. Assessment centres must function within the context of an appropriate selection model.
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APPENDICES

APPENDIX A

SUPERVISORY LEADERSHIP EFFECTIVENESS SCALE  
(TAYLOR & BOWERS, 1972)

In relations between you and your supervisor, to what extent does your supervisor use each of the following behaviours in interactions with you. Remember you are rating how your supervisor behaves, and not how you behave or what you think is desirable. Answer items honestly and openly. Remember that your answers will remain strictly confidential.

Place a cross (X) over the appropriate rating for each item only once and make sure the rating corresponds to the appropriate item.

1. How friendly and easy to approach is your supervisor? 
   - T OT A A A
   - A B C D E

2. When you talk to your supervisor, to what extent does he or she pay attention to what you are saying? 
   - T O T O T
   - A B C D E

3. To what extent is your supervisor willing to listen to your problems? 
   - T O T O T
   - A B C D E

4. How much does your supervisor encourage people to give their best effort? 
   - T O T O T
   - A B C D E

5. To what extent does your supervisor maintain high standards of performance? 
   - T O T O T
   - A B C D E
6. To what extent does your supervisor set an example by working hard himself?

7. To what extent does your supervisor encourage subordinates to take action without waiting for detailed review and approval from him?

8. To what extent does your supervisor show you how to improve your performance?

9. To what extent does your supervisor provide the help you need so that you can schedule work ahead of time?

10. To what extent does your supervisor offer new ideas for solving job-related problems?

11. To what extent does your supervisor encourage people who work for him to work as a team?

12. To what extent does your supervisor encourage people who work for him to exchange opinions and ideas?

READ THE DIFFERENT RESPONSES TO QUESTION 13 FIRST BEFORE YOU ANSWER:

13. How often does your supervisor hold group meetings where the people who work for him can really discuss things together?

- **A** NEVER
- **B** ONCE OR TWICE PER YEAR
- **C** THREE TO SIX TIMES PER YEAR
- **D** ABOUT ONCE A MONTH
- **E** MORE OFTEN THAN ONCE PER MONTH
This is a questionnaire about your job. Please answer the following questions openly and honestly. Indicate your answer by marking only one of the four possible responses to each question with a cross (X). Remember that your answer will remain strictly confidential.

1. Do you usually feel that you know where you stand ... do you usually know how satisfied your immediate supervisor is with what you do?

   ... always know where I stand
   ... usually know where I stand
   ... seldom know where I stand
   ... never know where I stand

2. How well do you feel that your immediate supervisor understands your problems and needs?

   ... completely
   ... well enough
   ... some but not enough
   ... not at all

3. How well do you feel that your immediate supervisor recognises your potential?

   ... fully
   ... as much as the next person
   ... some but not enough
   ... not at all
4. Regardless of how much formal authority your immediate supervisor has built into his or her position, what are the chances that he or she would be personally inclined to use power to help you solve problems in your work?

... certainly would
... probably would
... might or might not
... no chance

5. Again, regardless of the amount of formal authority your immediate superior has, to what extent can you count on him or her to help you out at his or her expense when you really need it?

... certainly would
... probably would
... might or might not
... no chance

6. I have enough confidence in my immediate supervisor that I would defend or justify his or her decisions if he or she were not present to do so.

... certainly would
... probably would
... maybe
... probably not

7. How would you characterise your working relationship with your supervisor?

... extremely effective
... better than average
... about average
... less than average
APPENDIX C

EMPLOYEE RATING SCALE (GRAEN, DANSEREAU & MINAMI, 1972)

Please indicate appropriate number for each question, in respect of ............... Note, that all answers given will remain strictly confidential.

A. DEPENDABILITY:

This subordinate maintains high standards of work and performs all needed work.

1. Always cuts corners; must be watched closely to make sure work is done right.
2. Better than 1 but not fully 3.
3. Can be counted on to perform assigned jobs without being watched.
4. Better than 3 but not fully 5.
5. Always can be counted on not only to perform assigned jobs without being watched but also to perform, without being told, other jobs that should be done.

B. ALERTNESS:

This subordinate sees actions and changes which might affect his/her work.

1. Always fails to see even the big changes in his/her work surroundings until they are almost out of control.
2. Better than 1 but not fully 3.
3. Usually sees only the big changes in his/her work and surroundings.
4. Better than 3 but not fully 5.
5. Always sees the little as well as the big changes in his/her work and surroundings.
C. **SKILL IN DEALING WITH PEOPLE:**

This subordinate does and says the right things at the right time.

1. In "hot" situations with other people, this person always does and says things that make the problem worse.
2. Better than 1 but not fully 3.
3. In "hot" situations with other people, usually does and says things that do not make the problems worse.
4. Better than 3 but not fully 5.
5. Even in "hot" situations with other people, this person always says the right things to cool the people down.

D. **PLANNING:**

This subordinate makes good use of time, equipment and people.

1. Even on daily routine work, this person hardly ever picks out the more important job to do first, and usually makes poor use of time, equipment, and people to get the job done.
2. Better than 1 but not fully 3.
3. Usually can pick out the most important job to do first and usually makes good use of time, equipment and people to get the job done.
4. Better than 3 but not fully 5.
5. Even when overloaded with work, this person almost always picks out the most important job to do first, and almost always makes the best use of time, equipment and people to get the job done.

E. **KNOW-HOW AND JUDGEMENT:**

This subordinate has the know-how and judgement needed to do the job right.

1. His/her work shows that she/he does not have enough know-how and judgement needed to do the basic job.
2. Better than 1 but not fully 5.
3. His/her work shows that she/he has adequate or average know-how and judgement needed to do the basic job.
4. Better than 3 but not fully 5.
5. His/her work shows that she/he has outstanding know-how and judgement needed not only to do the basic job, but to foresee and handle unusual job problems as well.
F.  *EXPECTED LEVEL OF FUTURE PERFORMANCE:*

In meeting work standards.

1. This employee will be a clearly unsatisfactory performer.
2. Better than 1 but not fully 5.
3. This employee will be a satisfactory performer.
4. Better than 3 but not fully 5.
5. This employee will be a clearly outstanding performer.

G.  *PRESENT LEVEL OF PERFORMANCE:*

In meeting work standards.

1. This employee is clearly an unsatisfactory performer.
2. Better than 1 but not fully 5.
3. This employee is a satisfactory performer.
4. Better than 3 but not fully 5.
5. This employee is clearly an outstanding performer.
APPENDIX D

BIOGRAPHICAL QUESTIONNAIRE

This questionnaire forms part of a research project examining the long term predictive validity of the FAIR assessment centre. Permission for access to the requested data (below) has been given by ....................... A list of Names of Black males assessed for leadership potential in your organisation is attached. Please complete the biographical information for each candidate. **NB.** All information will remain strictly confidential.

BIOGRAPHICAL INFORMATION FOR PERSONNEL DEPARTMENT TO COMPLETE

1. NAME AND SURNAME OF CANDIDATE: __________________________

2. COMPANY NUMBER: ________________

3. DATE OF BIRTH: __ / __ / 19__

4. DEPARTMENT IN WHICH EMPLOYED: __________________________

5. JOB TITLE: _________________________________________________

6. NAME OF BOSS: ____________________________________________

7. HIGHEST LEVEL OF EDUCATION: STD: ________________

8. ASSESSMENT CENTRE PERFORMANCE: WHEN ASSESSED: ____/___/19__

8.1. DIMENSION SCORES (A photostat of the assessment centre consolidation form will suffice if available).

8.1.1. PLANNING/ORGANISING/CONTROLLING: __________________

8.1.2. PROBLEM ANALYSIS/SOUND JUDGEMENT/DECISION MAKING: __________________

8.1.3. ASSERTIVENESS/DECISIVENESS: __________________________

8.1.4. SITUATIONAL SENSITIVITY: _______________________________

8.1.5. PERSUASIVENESS: ________________________________________
8.1.6. INITIATIVE: 

8.1.7. ORAL COMMUNICATION: 

8.1.8. WRITTEN COMMUNICATION: 

8.1.9. OVERALL ASSESSMENT RATING (OAR): 

9. UPWARD MOBILITY MEASURE (CRITERION)

9.1. PROMOTION

9.1.1. HAS THE CANDIDATE: (Please tick if appropriate)

Left the Organisation 

Been Demoted/Fired 

Remained in the Same Position 

Been Promoted _______ Number of Times _______