INTERVIEWER IMPRESSION FORMATION AND DECISION MAKING

IN THE GRADUATE SELECTION INTERVIEW:

A THEORETICAL AND EMPIRICAL ANALYSIS

VOLUME I

NEIL ROBERT ANDERSON

Doctor of Philosophy

THE UNIVERSITY OF ASTON IN BIRMINGHAM

March 1988

1

INTERVIEWER IMPRESSION FORMATION AND DECISION MAKING IN THE

GRADUATE SELECTION INTERVIEW: A THEORETICAL AND EMPIRICAL ANALYSIS

NEIL ROBERT ANDERSON   DOCTOR OF PHILOSOPHY   1988

SUMMARY

Research into the selection interview has focused upon the processes through which interviewers reach outcome decisions, but has generally failed to elucidate the mechanisms involved in forming an impression of the interviewee's personality. Moreover, the findings of social psychological research into person perception have been largely disregarded in the context of interview research. This oversight is despite several studies which show that the interview is used primarily as a means of personality assessment and that personality considerations are highly influential upon interviewer outcome decision making.

This thesis explores interviewer impression formation in the graduate recruitment interview through a series of inter-dependent laboratory experiments and field studies. Following the development of a cognitive social model of interviewer impression formation, three laboratory experiments and two field studies are undertaken which reveal important dysfunctions in interviewer information processing. Interviewers are found to attend more closely to earlier information than to details emerging later in the interaction, concentrating for the most part upon candidate facial non-verbal behaviours. Interviewer assessments are also found to be prone to halo effect, similar-to-me effect, and personal liking bias. Further, interviewers form impressions under an overload of documented-biographical, verbal, and non-verbal information, a situation which they attempt to overcome by the use of a variety of coping mechanisms. These include the application of notably idiosyncratic structures of candidate personality construal, and the use of a ubiquitous 'suitable graduate' prototype across a diverse range of occupational groups.

The findings provide grounds for an empirically-driven re-theorising of the selection interview. It is proposed that the interview should be reconceptualised from a behavioural-perceptual forum perspective, and should be regarded as an arena for the elicitation and appraisal of the candidate's impression management skills. The implications of this alternative approach are discussed in relation to interview practices, interviewer training, interviewee training, and future research into the selection interview.

KEY WORDS: INTERVIEW; IMPRESSION FORMATION; IMPRESSION MANAGEMENT;
              NON-VERBAL BEHAVIOUR; GRADUATE RECRUITMENT.

To my mother and father.

LIST OF CONTENTS

<u>VOLUME II</u>

10

VOLUME II

VOLUME I

VOLUME II

CHAPTER ONE

INTRODUCTION

PREAMBLE

STRUCTURE

.

'Selecting employees almost always means interviewing them,
and the interview is an exercise in person perception. The
process of reviewing a candidate's credentials, conducting
an interview, evaluating the qualifications of a candidate,
and making a decision to hire or not to hire is essentially
a perceptual and decision making task within an applied
context'

(Arvey and Campion, 1984: 202).

Despite adverse validity and reliability study findings, the interview continues to hold a unique place in many organisations' selection procedures. The interview is universally popular, exerts considerable influence upon final recruitment decisions, and is expected by both recruiters and applicants alike as a medium through which to 'sell themselves' to the other party. Indeed, the interview has attained the status of social institution in this country; it is used by virtually all organisations for all types of vacancy, and this popularity refuses to diminish even in the face of several decades of research evidence casting doubt upon it s effectiveness as a selection technique.

Contributing to this popularity, it may be argued, is the flexibility afforded by the interview for two-way communication and information exchange, thus allowing mutual impression formation by the parties prior to reaching their acceptance decisions. It is these processes of impression formation which concern this thesis.

Over the last seventy years a large body of research into the selection interview has accumulated. Following on from classic studies conducted in Canada and the U.S.A. in the 1960's, more recent research has focused upon outcome decision making by interviewers, and very recently, by interviewees. Conversely, relatively little research effort has been devoted to elucidating the processes through which the parties form an impression of each other. These perceptions, however, are likely to determine acceptance decisions, and may fundamentally influence expectations of the future work relationship between employer and employee. It is apparent, then, that the modus operandi of impression formation processes represents an important topic for interview research to address.

This thesis examines these processes in the context of U.K. graduate selection interviews, and concentrates solely upon interviewer impression formation. Since the interviewer's outcome decision precedes and may therefore preclude the candidate's decision, this specialisation is justified, but is also warranted on the grounds that personality impressions in the graduate interview are likely to be crucial determinants of acceptance decisions by interviewers. That is, the graduate recruiter often possesses comparatively brief career history information as work experience is liable to be short-term amongst undergraduate students. Personality considerations may consequently be elevated to become key determinants of the interviewer's outcome decision.

Moreover, the nature of interviewing for graduate level entrants to an organisation needs to be borne in mind. Interviews are usually of short duration especially if conducted during 'milkround' visits by selectors to universities and polytechnics, but equally, graduates are likely to be recruited onto expensive induction training programmes. Further, turnover amongst graduate recruits has traditionally been high, with up to half of all graduates leaving their initial employers within three years. These factors compound the difficulties involved in graduate selection and also heighten the importance of the processes underlying interviewer impression formation.

This thesis comprises three distinct but inter-related sections: literature review, empirical investigations, and theoretical reconceptualisation.

Chapters Two and Three review the literature on, and the research studies into impression formation in the selection interview. Chapter Two overviews the bulk of macro-analytical and micro-analytical research into the interview, and by extrapolation, develops an account of the two alternative theoretical perspectives underlying these writings. Much of this literature,

it is argued, complies to an 'objectivist-psychometric' perspective of the interview, wherein interviewer decision making is viewed as a potentially objective, rational, and actuarial exercise in information processing. The interviewer's responsibility, to extract a representative sample of candidate behaviour, is commensurate with the interviewee's function to provide information as requested. From this perspective the interview should be operating as a pseudo-psychometric instrument based upon the psychometric tenets of standardisation and actuarial decision making. Conversely, the 'subjectivist-social perception' perspective theorises the interview from a radically different standpoint. Writings in this vein conceive the purpose of the interview as that of negotiating a 'psychological contract' between interviewer and interviewee consisting of expectations regarding their future work relationship. The candidate is therefore seen as participant in rather than subject to the interview. As interviewer information processing is viewed as bedevilled by a number of errors or dysfunctions, the interview is rendered an unavoidably clinical method of decision making. Both perspectives are critiqued in this chapter, and major shortcomings in the coverage of the existing interview research are noted. Chapter Two concludes by asserting the demonstrable need for more research into interviewer impression formation processes.

Chapter Three extends this literature review to consider social psychological writings on impression formation, impression management, and studies into the interpretation or 'decoding' of non-verbal behaviour. This chapter hence serves to ground the examination of interviewer impression formation undertaken in this thesis upon a review of existing research into person perception. Against this backcloth of literature review, a cognitive social model of interviewer impression formation is developed as a viable conceptual schema for this research. The perceptual process is modelled as a four-stage information processing activity: recognition, translation, assimilation, and justification.

In Chapter Four the methodological issues associated with this research are considered. The chapter commences by operationalising the model of interviewer impression formation propounded in Chapter Three into a summary research specification for the subsequent empirical work. This specification lays down the parameters for the research and sets out key objectives for this examination of interviewer impression formation. A discussion of different methodological options open for this investigation is presented, and the advantages and disadvantages of alternative strategies are acknowledged. Following this, the chapter addresses specific issues of concern in conducting interview research. These include the design of interview simulations, the use of students as surrogate experimental subjects for actual selection interviewers, and ethical issues involved in such studies.

The second section of the thesis, Chapters Five to Nine, presents the findings of the three laboratory experiments and two field studies undertaken as empirical work for this research.

Experiment I, written-up in Chapter Five, investigates the perceptual processes through which interviewers attend to and integrate written, verbal, and non-verbal information on the candidate into a coherent overall impression of personality. Particular attention is given to the effects of information overload upon the interviewer, and the resultant coping mechanisms used to deal with this situation. The effects of this overload of multi-source information are discussed in relation to interview practices, especially the one-to-one graduate selection interview.

Chapter Six reports the findings of Study A. Through personal construct psychology and its associated method of repertory grid technique, the study adopts an ideographic approach to elicit a sample of personality constructs actually used by graduate recruiters to form impressions of candidates. These perceptual dimensions are summarised and developed into a candidate assessment form for use in later experiments. This ideographic method also highlights marked individual differences between

interviewers' personality construct sub-systems, the ramifications of which are considered in the concluding section of this chapter.

Experiment II examines the under-researched issue of primacy-recency effect in interviewer impression formation and is detailed in Chapter Seven. This investigation evaluates the influence of information emerging early in the interview compared to that received by the interviewer later in the interaction. The results of this experiment, that impression formation is strongly influenced by primacy effect in information processing, is reviewed in terms of the implications for interview usage, interviewer training, and the orientation of later studies in this research.

Following on from these findings, Experiment III, reported in Chapter Eight, investigates in detail the 'perceptual links' used by interviewers to infer candidate personality from interviewee non-verbal behaviour in the opening few minutes of the interview. The ability of interviewers to recognise experimentally manipulated changes in candidate non-verbal behaviour is assessed, as are the differences between personnel managers and line managers in decoding strategies used to perceive the interviewee. The experiment thus illuminates interviewer perceptual links between candidate behaviour and impressions of personality, and the importance of two particular non-verbal cues, eye contact and facial expressions, is apparent.

Transposing and extending this experimental design into a major field study of interviewer impression formation, Chapter Nine presents the findings of Study B. In addition to examining perceptual links between candidate non-verbal behaviour and interviewer perceptions via a lens model approach, this study evaluates the influence of personal liking bias and similar-to-me effect upon impression formation. In addition, the use of universally-appropriate personality prototypes versus occupational-specific stereotypes by interviewers as screening criterion for diverse job functions is assessed. Chapter Nine

concludes by discussing in detail the practical implications of these study findings for interview practices in graduate selection procedures.

The third section of this thesis, Chapters Ten and Eleven, contrasts the findings of the empirical studies with the objectivist and subjectivist perspectives of the interview described in Chapter Two. On this basis an alternative theoretical account is developed and propounded as a more suitable conceptual framework within which to perceive the function and functioning of the interview.

Initially, Chapter Ten summarises the findings of the laboratory experiments and field studies into an eight point recapitulation of results. The cognitive social model of interviewer impression formation advocated in Chapter Three is then re-evaluated in the light of these findings, and critical dysfunctions in interviewer information processing noted. Since neither the objectivist-psychometric or the subjectivist-social perception perspectives offer adequate theoretical accounts to explain these results, the interview is re-theorised from a 'behavioural-perceptual forum' standpoint. This perspective is expounded, and the implications for graduate interview practices, interviewer training, interviewee training by careers advisors, and future research into the interview, are considered in some detail.

Chapter Eleven concludes the thesis by overviewing the preceding chapters in retrospect and by appraising the contribution of this work to the existing body of interview research. It is argued that to arrive at 'a conclusion' is inappropriate as the thesis presents a synergy of exploratory themes, both theoretical and empirical in nature. The chapter closes by asserting that these themes provide, at least in principle, a framework upon which further research into impression formation processes in the interview may be developed.

<u>CHAPTER TWO</u>

<u>THEORISING THE SELECTION INTERVIEW:</u>

<u>A META - REVIEW AND CRITIQUE OF THE LITERATURE</u>

.

INTRODUCTION

THE GRADUATE SELECTION INTERVIEW IN CONTEXT

MACRO - ANALYTICAL INTERVIEW RESEARCH

MICRO - ANALYTICAL INTERVIEW RESEARCH

CRITIQUE

THEORISING THE INTERVIEW

CONCLUDING COMMENTS

.

'The interviewer must be a person able to break through the
immediate behaviour of the candidate, which is likely to be
determined very largely by the interview situation itself,
and thus obtain real clues to his more basic qualities.
Secondly, he must be capable of observing these clues
accurately, quickly and comprehensively, and of forming a
judgement unbiased by irrelevant considerations.'
(Oldfield, 1943: 61).

Chapter Two presents an overview of the empirical research into
interviewer decision making, and a theoretical critique of the
assumptions underlying different conceptions of the interview as
an assessment technique and as a social interaction.

Initially, the context of graduate recruitment is considered, and
recent trends in the graduate labour market and organisational use
of milkround visits are discussed. Following Mayfield's (1964)
categorisation, the research into interviewer decision making is
reviewed in two sections: (i) macro-analytical studies into
validity and reliability, and, (ii) micro-analytical studies into
the information processing strategies of interviewers. This body
of research is then critiqued, weaknesses in its coverage
highlighted, and the essentially functionalist and positivist
nature of these works adjudged. Finally, the theoretical
assumptions made by two distinguishable schools of thought are
extrapolated into alternative perspectives on the selection
interview. The 'objectivist-psychometric' school, founded upon the
classic psychometric tenets of objective information processing
through actuarial prediction and standardisation, is criticised
for flawed but on-going attempts to re-model the interview as a
pseudo-psychometric instrument. The 'subjectivist-social
perception' school, circumscribed by the self-imposed theoretical
isolation of interview research from social psychological
writings, is reviewed and proclaimed as a more suitable
perspective and model for research into interviewer decision
making and impression formation.

THE GRADUATE SELECTION INTERVIEW IN CONTEXT

The selection interview is only one phase of the recruitment process and, as such, it stands in relation to, and is influenced by, other procedures and wider trends in graduate recruitment. Thus, the context of graduate recruitment, particularly the state and operation of the labour market and the milkround, inevitably affects interview practice. It is necessary, then, to briefly describe this context in order to evaluate the generality of interview research findings to the graduate selection interview.

The Graduate Labour Market

The single most influential determinant of the pattern of graduate recruitment activity is the highly seasonal basis of this labour market. The vast majority of graduates enter the labour market after summer examinations at institutions of higher education, and hence, organisations need to contract individuals earlier in the academic year. This periodic supply of graduates leads to the spate of recruitment activity, including employers' visits to institutions, termed the 'milkround', in the early part of the spring term. Pressures to recruit during this short period are thereby evident, resulting in selectors interviewing many graduates in the early months of the calendar year. Initial interviews tend to be short (usually lasting around 30 to 45 minutes), with interviewers conducting several interviews each day. Pressures of time are therefore paramount, and this factor needs to be acknowledged as an influential consideration in interviewing practices.

Another factor affecting recruitment is the balance between the supply of graduates entering the job market, and the demand for such staff by private and public sector organisations. Pearson (1986) reports that the total numbers of graduates leaving U.K. universities hovered around 60,000 between 1979 and 1987, with polytechnic output adding approximately another third to this figure. Department of Education and Science projections (1985) up

to 1989/1990 show no substantive increase in these figures in line with recent government White and Green Papers on higher education (1985, 1987). Conversely, reports suggest that most organisations expect their requirements for graduates to increase over the next few years (Wilby, 1986; Blinkhorn, 1986; AGCAS, January 1988). The point is that demand is likely to exceed supply over the coming years (Parsons, 1985; Pearson, 1986), and that graduate interviewers will be operating in a 'sellers market'.

A related problem for organisations is that of high labour turnover. Publicly accessible statistics are sparse, but three recent surveys hint at the severity of this problem. Parsons (1985), in a survey of 9,000 graduates, found that 28 per cent had left their original employers within three years of graduation, and 42 per cent had left within five years. Brennan and McGeevor (1987) surveyed one in ten of all 1982 CNAA cohort graduates. They report that 58 per cent of respondents had held two or more jobs in just three years since graduation. This high labour turnover, the authors argue, was a function of low job satisfaction amongst respondents, coupled with a widely held opinion that the first job was only a temporary placement. Finally, a very recent report suggests that this problem remains, with one in four of 57 companies surveyed experiencing graduate retention difficulties (Recruitment Report: Personnel Management, December, 1987).

High wastage rates are a particular difficulty for organisations because graduates are often recruited for trainee managerial positions (Gordon, 1983; Mabey, 1986) involving comparatively high training and induction costs. Consequently, the stakes in the selection process are high, but the pressures exerted by labour market factors force organisations to make initial screening decisions early on. These conflicting forces undoubtedly influence interviewer decision making.

Compounding these difficulties, from the organisation's point of view, is the homogeneity of educational and experiential background of many graduates. That is, graduates, by virtue of the

screening process to enter higher education, possess fairly similar qualifications, and also, many lack longer-term work experience upon which to base selection decisions. Hence, this homogeneity of background creates a 'pre-restriction of range' effect, whereby graduate recruiters are forced to choose from an elitist pool of labour which has already been screened by the higher education system. In addition, graduates are comparatively well advised on self-presentational strategies at interview by the careers advisory services located in universities and polytechnics. A considerable volume of literature guiding the candidate is also made available by the careers services (e.g. AGCAS Workbook Series, 1986; Roberts et al., 1987; Simpson, 1987). As a result, many graduates are likely to be well informed regarding their opportunities and perceived value to organisations, and are probably quite aware of the most effective means by which to achieve their goals.

All of the aforementioned factors act in consort to compound selection difficulties, but perhaps the most restrictive factor is the time constraints within which initial screening decisions need to be made.

Milkround Trends and Interview Research Generality

The annual spate of visits by graduate recruiters to universities and polytechnics to interview final year students has changed in complexion over recent years. Whilst there are conflicting reports over whether milkround visits by employers have increased or decreased of late (Connor and Prior-Wandesforde, 1986; Staninelli, September 1987), graduates are certainly making fewer applications than in previous years (Connor and Prior-Wandesforde, 1986). In spite of the AGCAS/SCOEG/NUS Code of Practice (1985) which warns against the use of autumn term interviews, some organisations, particularly professional accountancy firms, have increased the number of interviews performed in the first academic term (Connor and Prior-Wandesforde, 1986). However, the period of most concentrated activity remains January to April, with many

organisations also conducting interviews on their own premises during these months.

As a consequence of these peculiarities of the graduate labour market and the milkround interview itself, two principal points of caution must be borne in mind concerning the generality of the interview research reviewed in the following sections of this chapter. Firstly, much of the research has been conducted in the U.S.A. or Canada, and cross-national differences in culture and legislative provisions may limit the generality of the study findings. Secondly, different studies have investigated interviewer decision making for a variety of job statuses and occupational groups. Although ease of access to organisations recruiting college graduates has generated many studies at this level of selection, the applicability of these findings can only be accepted with some caution, particularly across diverse job functions. These caveats noted, however, it is reasonable to accept the major findings of research into the interview as applicable to UK graduate selection interviewing since a number of recurrent themes emerge from these studies.

MACRO-ANALYTICAL INTERVIEW RESEARCH

A Meta-review of Interview Research: 1911 to 1987

Review articles summarising the findings of research into interviewer decision making have been published at regular intervals over the last 40 years (Wagner, 1949; Mayfield, 1964; Ulrich and Trumbo, 1965; Schmitt, 1976; Arvey, 1979; and, Arvey and Campion, 1982). These reviews provide a detailed account of the findings resulting from the empirical studies. Rather than replicate their contents in this chapter, it is intended here to over-view or 'meta-review' the critical themes which emerge from the research, and to update the picture to include findings published since Arvey and Campion's comprehensive review in 1982.

28

Furthermore, this meta-review takes a critical stance to the study findings to expose weaknesses in the coverage, methods, and interpretation of the results of this body of research. Specific issues are also discussed in greater depth in later chapters.

Appendix I (Volume II) presents a meta-review of the major studies into interviewer decision making published between 1911 and 1987. It is important to note that several recurrent and influential themes of findings emerge from this literature, and it is these themes that this discussion focuses upon.

Validity and Reliability

Interview studies testify ad nauseam to the unacceptably low predictive validity and inter-rater reliability of interviewers conducting one-to-one interviews. As if to support this received doctrine, recent developments in meta-analysis and validity generalisation permit definitive statements regarding the general level of predictive efficiency to be expected at interview (see, Hunter and Hunter, 1984; Schmitt et al., 1984). Using supervisory ratings as the criterion measure, Reilly and Chao (1982) calculate an estimated average validity coefficient of $r = 0.19$ for the interview (n studies = 12, N subjects = 987). Against the same criterion, Hunter and Hunter (1984) quote the slightly less optimistic coefficient of $r = 0.14$ (n studies = 10, N subjects = 2,694). Thus, the long-standing opinion that interviewer assessments are poor predictors of job performance has been vindicated.

A recent exception to this trend is a study by Arvey et al. (1987) into interview validity for predicting success as a salesperson. Interviewer assessments correlated $r = 0.34$ and $r = 0.51$ with first and second year supervisory ratings, the coefficients improving to $r = 0.42$ and $r = 0.61$ respectively after correction for attenuation and restriction of range. These unusually high levels of predictive validity are probably accounted for by the similarity between effective interview behaviour by the candidate

29

and job behaviour needed as a salesperson, prompting Robertson and Smith (1987) to argue that the interviews were functioning as 'surrogate work-sample tests' (p.13) in this particular circumstance.

Evidence relating to inter-rater reliability is no more encouraging. Although as Monahan and Muchinsky (1983) note, there has been a marked decline in the number of studies addressing this question since the 1950's, Wagner's (1949) review of the findings of early reliability studies suggests that interviewer assessments are basically unreliable. Across 174 sets of ratings, reliability coefficients ranged from r - 0.23 to r - 0.97 for assessments of specific traits, and from r - -0.20 to r - 0.85 for ratings of overall ability. More recent findings also indicate poor consistency between interviewers, with ratings of only three traits, intelligence, sociability, and likability, having been found to elicit higher inter-rater reliability.

It can only be concluded that on the psychometric grounds of validity and reliability, interviewers' ratings have failed to attain credibility and are certainly not acceptable as accurate and consistent predictors of job performance.

Interview or Interviewer Validity and Reliability?

As noted by Lopez (1975) and Torrington and Hall (1987), one persistent and erroneous interpretation of the macro-analytical research findings is apparent in the literature. Low validity and reliability findings have generally been attributed to the interview as an assessment technique, rather than to individual interviewers as assessors. This misinterpretation has led to the incorrect view that it is the interview which is invalid and unreliable, whereas, in fact, it was the rating strategies and outcome assessments of individual interviewers which were under investigation not the interview per se. As Carlson et al., (1971) assert, there is no such thing as 'the interview' and, clearly, there are as many interviews as there are combinations of

30

interviewers and interviewees. It is therefore nonsense to refer to 'interview validity' as if it were some kind of ubiquitous measure. Nonetheless, where validity and reliability coefficients for individual interviewers are quoted in the literature (e.g. Wagner, op. cit), the level of predictive efficiency achieved is commonly quite poor.

Improvements in Predictive Efficiency: The Creation of Incompatible Entities?

In response to rapid developments in psychometric testing over the last four decades, published attempts to enhance the psychometric efficiency of interviews have borrowed from the accepted tenets of test construction, seeking to improve interview validity and reliability to match those pertaining to tests. A variety of prescriptions and techniques have been developed to increase interviewer validity and reliability. These vary in the degree to which the interactive element of the encounter is restricted, and the extent to which standardisation is imposed upon structure, content, and assessment procedures. Earlier recommendations, such as the use of structured and panel interviews as opposed to unstructured, dyadic interviews (Wagner, 1949), resulted in only marginal improvements in validity and reliability. These attempts have been superceded by techniques which have actually attained predictive prowess comparable to that of tests and assessment centres. However, these improvements have only been achieved by the imposition of psychometrically-grounded procedures which have altered fundamental characteristics of the interview.

For instance, Latham and colleagues (Latham et al., 1980; Latham and Saari, 1984) claim predictive validity coefficients approaching $r = 0.40$, and inter-rater reliability coefficients of almost $r = 0.80$ for their 'situational interview' technique. This method relies on the use of critical incident job analysis to generate a series of situational questions asked at interview. Candidates' replies are rated by interviewers on pre-formated five-point scales. Thus, the interview is highly structured and

31

interviewers' rating strategies are standardised, leading to high inter-rater reliability. In principle, though, there is no reason why these situational questions should not form a written test, nor the critical incidents identified during job analysis be developed into a situational exercise as part of an assessment centre. Indeed, very recent research ratifies this contention. Weekley and Gier (1987) report similarly impressive levels of predicitive validity (r = 0.47) and reliability (r = 0.84) for a situational interview developed to select sales personnel. However, once implemented, and despite training provisions, managers were using the technique as an oral test by both reading verbatim the questions and the range of answers constituting the rating scales.

Another recent example of the imposition of psychometric procedures onto the interview is the 'patterned behaviour description' ,or BD, interview (Janz, 1977, 1982). Here candidates are required to justify decisions made concerning major life events, such as career path changes. Again, this information could be obtained using the well-validated method of a biodata inventory. One final example is the highly structured interview developed by Mayfield et al. (1980). As Herriot (1987a) notes, this use of the interview is akin to using biodata screening, since the interview is relegated to an information collection tool rather than being an opportunity for information exchange.

All of these techniques only attain credibility as psychometric instruments by the imposition of psychometric procedures onto the interview, and in so doing they alter the interview to resemble more valid and reliable instruments. That is, these radical approaches re-model central interactive elements of the interview to reduce it to a one-way information collection device. Paradoxically, these methods forfeit the advantages of flexibility and bilateral information exchange associated with ordinary structured interviews, and cited by Arvey and Campion (1982) as major reasons for its popularity. Clearly, these examples hint at the fundamental incompatibility of the psychometric tenets of

standardisation and actuarial information processing with the dynamic, interactive situation of the selection interview.

The Popularity - Validity Dilemma

There is a dilemma, then, in that the interview remains almost universally popular despite adverse macro-analytical study findings and flawed attempts to enhance its predictive efficiency (Herriot, 1984; Anderson, 1986; Smith and Robertson, 1986).

The extent and consistency of this popularity over the last fifteen years is evidenced by three major surveys into organisational selection procedures for managerial staff (Kingston, 1971; Gill, 1980; Robertson and Makin, 1986). The most recent survey (Robertson and Makin, 1986) was targeted at larger U.K. organisations, and of the 108 organisations that replied, 99 per cent used interviews at some stage in their managerial recruitment procedures. Most respondents conducted more than one interview for each vacancy filled. Further, the use of the one-to-one interview was far more popular than the panel interview, with over 65 per cent of organisations responding that panel interviews were never used and less than 5 per cent reporting that they were always used. One point to note is that this survey covered larger organisations, which one might have expected to be making greater use of tests and assessment centres to select managerial staff. This was in fact not the case; only 9 per cent regularly used personality tests and a negligible 2 per cent used assessment centres.

The findings of Robertson and Makin concur with those of the two earlier surveys (Kingston, 1971; and, Gill, 1980), suggesting the continued popularity of the interview over the past fifteen years. Arvey and Campion (1982) propose reasons for this reliance on the interview which centre upon interviewers' confidence in their own ratings, and the flexibility afforded to provide job information to the candidate. Moreover, as Lewis (1985) observes, the interview is expected by both interviewers and interviewees alike

as a ritual of the selection process, but it is particularly welcomed by candidates as an opportunity to sell themselves to the organisation.

One other non-functional reason for this reliance on the interview is overlooked in the literature, however. It is conceivable that the inequitable power distribution between the parties at interview has perpetuated its popularity. As a social interaction the selection interview bestows unusual power upon one of the participants (the interviewer) to determine the outcome of the very purpose for the other's attendance (the interviewee). The interviewer is therefore in a position to ensure the compliance of the candidate as the interviewee's main reason for attending is to affect a desirable outcome decision. This 'asymetrically reciprocal' interaction (Argyle, 1974) is founded upon a grossly inequitable distribution of power between the interactants which is rare in other social encounters. The interviewer is consequently empowered with virtually unbounded authority to ask questions of interviewees, exemplified by various types of so-called 'stress interview', to which candidates must provide reasonable answers if they are to achieve their goal. Consequently, the interview may be <u>intrinsically satisfying</u> for the interviewer who, armed with the ultimate sanction of rejection, is able to ensure compliance. This explanation has not been widely noted in the literature, but appears to be a feasible, alternative account for the interviews continued popularity.

It has been noted that macro-analytical studies into validity and reliability have generated a dismal picture of the interview's efficiency as an assessment technique. Spurred on by these findings, other studies have examined the process of interviewer decision making in an attempt to disclose errors in information processing. These studies, grouped under the generic heading of micro-analytical research, are critically discussed in the following section.

MICRO-ANALYTICAL INTERVIEW RESEARCH

Pioneering Micro-analytical Research Programmes

Two pioneering programmes of research into interviewer decision making have exerted long-term effects upon the development of micro-analytical research. These are the McGill studies, conducted under the direction of E.C. Webster at McGill University, Canada, and the LIAMA studies conducted by R.E. Carlson and colleagues at the Life Insurance Agency Management Association (LIAMA) in the USA.

The McGill studies represent an important landmark in the history of micro-analytical interview research as their principal findings have been replicated in many investigations since, and their orientation has influenced the perspective of later studies into interviewer decision making. Although the findings were summarised by Webster in a form accessible for practitioners in 1964, their impact upon interview practices has been disappointing (Webster, 1982; personal correspondence, March 1987).

The LIAMA studies were reported in summary by Carlson et al. in 1971. These studies have also influenced subsequent interview research to a considerable extent.

The findings of both of these research programmes are referred to in this review, but one critical point to note at the outset is the seminal nature of these early researches. Thus, as with the macro-analytic research, a number of recurrent themes are apparent in the body of micro-analytic research, several of which originate from the McGill and LIAMA studies.

A Five-fold Typology of the Research

Bellows and Estep (1954) distinguish between two sources of
information available to the interviewer: face-to-face data, and
'auxiliary' data including biographical details, test scores,
references, and so forth. Part II of Appendix I extends this
framework into a five-fold typology of variables researched by
micro-analytic studies:

1. Documented-Biographic variables (i.e. auxiliary data)
2. Interviewee verbal behaviour variables
3. Interviewee non-verbal behaviour variables
4. Interviewer-related variables
5. Other variables

Documented-Biographic Variables

There is ample evidence to indicate that application form details
exert considerable influence upon interviewer outcome decisions
(Springbett, 1958; Tucker and Rowe, 1979; Dipboye, 1980). Two
recent studies typify the trend of this research into 'expectancy
effect'. Dipboye et al. (1984) had 25 student interviewers rate
candidates either having previewed the application form in
advance, or without access to application form details. Subjects
in the preview condition collected more additional information at
interview, but were less influenced by candidate behaviour in
their overall evaluations than subjects who were denied access to
the applications. Wareing and Stockdale (1987) examined the
influence of pre-interview information (appraisal reports and
personnel files) on promotion interviews in the British police
force. Interviewers, acting as a promotion panel, rated candidates
before and after the interview. Across 83 interviews, pre-
interview ratings predicted post-interview ratings in 75 per cent
of cases.

36

Both of these studies re-affirm the strong influence of expectancy effect upon interviewer judgments, and their findings ally with the results of other research into the relative impact of information which emerges either early on or later during the interview itself. Several studies (Springbett, 1958; Anderson, 1960; Crowell, 1961; Johns, 1975; Peters and Terborg, 1975) have shown the predominance of early information over later information upon interviewer decisions. This effect, referred to by Asch (1946) as 'primacy-recency' effect is examined further in Chapter Seven.

To summarise, this research into the influence of documented-biographical information upon interviewer outcome decisions suggests that the decision making process is strongly deterministic. Early information carries disproportionate weight even where this is in the form of written data, and initial assessments made before the interview are often highly predictive of outcome evaluations.

<u>Interviewee Verbal Behaviour Variables</u>

Comparatively little research has focussed upon the influence of linguistic variables upon interviewer decision making. Sigelmam et al. (1980), however, report the results of an investigation into the effects of speech and non-verbal behaviour patterns of mentally retarded job applicants in simulated employment interviews. It was found that 'speech intelligibility' and 'responsiveness' were most influential upon interviewer outcome decisions. Other research illustrates the significant effect of speech content and fluency (Hollandsworth et al., 1979), and the proper use of pauses in speech by applicants (Parsons and Liden, 1984) upon interviewer evaluations. Also, interviewees with foreign and regional accents have been found to receive less favourable ratings (Kalin and Rayko, 1978; Honey, 1984).

Overall, though, the research into the effects of interviewee verbal behaviour is patchy, and other speech-related variables

such as answer duration, sentence construction, and so forth, remain unresearched.

Interviewee Non-verbal Behaviour

In contrast to this paucity of verbal behaviour research, several recent studies have examined the influence of candidate non-verbal behaviour upon interviewer assessments. Although the balance of these findings supports the claim that candidate non-verbal behaviour is influential upon interviewer evaluations, there is controversy over the relative importance of non-verbal cues in comparison to verbal behaviour and documented-biographical information.

Imada and Hakel's (1977) laboratory experiment, where candidate non-verbal behaviour was manipulated under two experimental conditions, is typical of other research into this area using simulated interview methods. A female confederate interviewee was trained to vary her non-verbal style across two conditions. In the 'immediacy' condition (Mehrabian, 1972), the interviewee maintained eye contact, smiled frequently, adopted an attentive posture, gestured regularly, and assumed a smaller interpersonal distance and a direct body orientation to the interviewer. In the 'nonimmediacy' condition the interviewee displayed the opposite non-verbal cues. The verbal content of the interviews was held standard by the use of a script. Imada and Hakel report that non-verbal behaviour accounted for 43 per cent of the variance in interviewer ratings, whilst, perhaps not surprisingly, interviewers rated the immediacy condition significantly more favourably than the nonimmediacy condition.

Several other studies have used similar laboratory experimental methods and have recorded significant relationships between candidate non-verbal behaviour and interviewer ratings. However, critical methodological shortcomings are evident in many of these experiments. As Gifford et al. (1985) argue, the most unacceptable weakness is the use of contrived simulations of the interview,

where often, candidate non-verbal behaviour is so distorted as to undermine the external validity of any findings. The conditions of non-verbal behaviour posed by Imada and Hakel (1977) exemplify this problem, and are extreme indeed compared with the findings of research into behavioural patterns during dyadic conversations (see pilot study, Appendix II, for further comments). Unfortunately, Imada and Hakel's simulation is not atypical of others in this area, and thus there are grounds to doubt the generality of these laboratory experiments findings to real selection interviews.

An alternative methodological approach has been taken by a few studies which have investigated the impact of non-verbal behaviour in actual selection interviews (Hollandsworth et al., 1979; Forbes and Jackson, 1980; Lau, 1982; Parsons and Liden, 1984; Gifford et al., 1985). Despite this fundamental difference in method, all of these studies apart from Hollandsworth et al. (1979) found significant effects for candidate non-verbal behaviour. It therefore seems prudent to conclude that candidate non-verbal behaviour is a substantial determinant of interviewer evaluations. Unfortunately, existing research has focussed upon interviewer outcome decisions, and has not clarified the effects of non-verbal behaviour upon the process of interviewer impression formation. This omission is a serious shortcoming and one which needs to be rectified by micro-analytical research into this perceptual process.

The influence of completely extraneous factors such as candidate style of dress and use of attractive scents upon interviewer assessments has been demonstrated in three studies conducted since Arvey and Campion's (1982) review paper. Baron (1983) had male and female candidates attend simulated interviews either wearing or not wearing perfume or cologne. It was found that female interviewers rated candidates wearing scent more favourably, not just on dimensions of physical appearance, but also on dimensions such as intelligence, modesty, qualifications, and overall suitability. Male interviewers, on the other hand, reacted in the

39

opposite manner, rating candidates wearing scent less favourably than those without perfume or cologne. Forsythe et al. (1985) varied the degree of masculinity of dress style of female applicants for managerial positions. Dress style was varied across four conditions, ranging from 'least masculine' (a light coloured dress) to 'most masculine' (a dark navy suit with a white blouse). The results of this study showed a significant effect for dress style upon interviewer ratings (82 per cent of whom were male: personal correspondence, September 1985). Thirdly, in a study into the relative weight allocated to candidate dress style and physical attractiveness, Bardack and McAndrew (1986) found the latter to be most influential upon interviewer assessments, but the former also exerted significant effects.

These three studies show the susceptibility of interviewer evaluations to irrelevant factors of candidate presentational style, and illustrate the tendency for raters to extend their impressions of physical presentation to infer qualities of personality and ability.

Other research besides Bardack and McAndrew's (1986) study has illuminated the potent influence of the physical attractiveness of the candidate upon interviewer ratings. Several studies (Heilman and Saruwatari, 1979; Cann et al., 1981; Gilmore et al., 1986; Hui and Yam, 1987) point to the biasing effects of attractiveness, with physically attractive candidates receiving more favourable ratings across a range of dimensions. Gilmore et al. (1986), for example, found that attractive candidates were not only more likely to be recommended for employment, but were also perceived as having more appropriate personalities for the job and were expected to perform better than their less attractive counterparts. Hui and Yam (1987) report similar confounding effects upon interviewer evaluations of candidate personality, and these studies therefore suggest the influence of halo effect in ratings of attractive candidates. That is, these findings provide persuasive evidence that candidate physical attractiveness produces errors of halo effect in interviewer evaluations, with

attractive applicants being perceived as also having attractive
personal characteristics.

Interviewer – Related Variables

The research reviewed so far has concentrated upon interviewee
behaviour as it affects interviewer decisions. Other studies have
focussed upon interviewer behaviour, and can be sub-divided into
research addressing

(a) the influence of interviewer experience and training,

(b) the effects of interviewer physical behaviour,

(c) information processing, or the cognitive behaviour of
    interviewers,

(d) discriminatory practices by interviewers.

These categories are not mutually exclusive however, and clearly,
there is some degree of overlap between studies examining
interviewer information processing and the micro-analytical
research reviewed in other sections.

(a) Interviewer Experience and Training

The findings of one of the LIAMA studies illustrates the minimal
influence of interviewer experience upon quality of assessments.
Carlson (1967a) found that experience failed to increase inter-
rater reliability, but merely served to magnify the influence of
quota requirements upon selection decisions. The point is made
forcefully by Carlson et al. (1971):

> 'It was concluded that interviewers benefit very little from
> day-to-day interviewing experience, and apparently the
> conditions necessary for learning are not present in the
> day-to-day interviewer's job situation.' (p.270).

41

Carlson et al. therefore point to the role of interviewer training as the means to enhance interviewer performance. However, there is a lack of consensus amongst the studies as to whether interviewer training improves the validity and reliability of assessments. Wexley et al. (1973) report some success in training student interviewers to eliminate contrast effects in ratings (that is, allowing ratings of previous candidates to affect the assessment of the present applicant), whilst Vance et al. (1978) found that the use of behavioural rating scales in preference to graphic scales slightly reduced errors of rating. Heneman (1975), on the other hand, failed to improve interviewer validity in ratings of structured and unstructured interviews through training consisting of instruction upon the use of job descriptions and rating strategies. Indeed, in only two recent studies was interviewer performance improved significantly as a result of highly intensive and participative training workshops (Howard and Dailey, 1979; Howard et al., 1979). These improvements, it should be stressed, related to interviewer behaviour (i.e. questioning techniques, active listening skills, and information collection), rather than to the validity or reliability of assessments. Interestingly, Keenan (1978a) found that training increased interviewers' confidence in their own assessment abilities quite markedly, an effect termed the 'illusion of validity' by Kahneman and Tversky (1973) and Einhorn and Hogarth (1978). In brief, this research casts doubt upon the psychometric effectiveness of interviewer training programmes, whilst it seems likely that training provisions are liable to unjustifiably enhance interviewers' confidence of their rating abilities.

(b) Interviewer Physical Behaviour

Most of the above cited research has approached interviewer decision making under the classic behaviourist psychological model of stimulus-response (S-R) between interviewee behaviour (stimulus) and interviewer evaluations (response). Only recently has research taken account of the interactive nature of interview behaviour. Hence, something of a 'cyclical S-R-R' model has been

developed, wherein interviewer behaviour (stimulus) affects interviewee behaviour (response), which in turn influences interviewer ratings (response). Keenan and Wedderburn (1975), for instance, had eight confederate interviewers either emit non-verbal signals of approval to candidates (maintaining eye contact, smiling, and nodding frequently), or give signals of disapproval (gaze avoidance, frowning, and head shaking). Subjects reviewed videotape recordings of the interviews and rated the candidate afterwards. Keenan found significant differences in ratings dependent upon the condition of interviewer non-verbal behaviour, indicative of the impact of interviewer approval upon candidate behaviour, and ultimately, upon evaluations of the candidate.

Other research illustrates the connection between interviewer behaviour and interviewee perceptions and willingness to accept a job offer. Rynes and Miller (1983) found that candidates actively decoded interviewer behaviour as indicative of their chances of success, whilst Campion (1980), and Harn and Thornton (1985) both report significant effects between interviewer behaviour and the candidate's willingness to accept any offer of employment. This relationship is moderated by perceived job opportunities in other organisations, though, according to research by Liden and Parsons (1986). Herriot (1987a) extends these findings to suppose that interviewer behaviour is perceived by the candidate to infer characteristics of the organisation as a whole, suggesting that if the applicant likes the interviewer then they may also determine the organisation to be a desirable place of work (see also Keenan, 1978b).

Interactive research based on the S-R-R model of interviewer behaviour is at its early stages of development, but the move away from conceptualising the interview purely as a predictor of candidate behaviour, but also as an affector of both perceptions and future behaviour, is laudable and essential if the views and opinions of the candidate are to be researched.

(c) Interviewer Cognitive Behaviour

Research into interviewer cognitive behaviour is plentiful, but the essential commonality amongst these studies is the attempt to elucidate interviewers' strategies of information processing. Again, a number of recurrent themes are apparent, several of which originate from the McGill studies.

One important theme concerns the existence of two levels of 'good candidate' stereotypes used by interviewers to screen applicants. Four of the studies conducted at McGill generated evidence that interviewers held distinct perceptions of the 'successful candidate', and that the interview served as a medium to obtain information to compare applicants against stereotypes (Sydiaha, 1959; 1961; Bolster and Springbett, 1961; Rowe, 1963). This finding has been replicated since in several investigations (Mayfield and Carlson, 1966; Hakel et al., 1970a; Hakel, 1971; Hakel and Schuh, 1971), although more recent attention has been directed at a second level of stereotype of the suitable candidate for different job functions and occupational groups. Jackson and colleagues (Rothstein and Jackson, 1980; Peacock and Jackson, 1981; Jackson et al., 1982) report the findings of a series of studies which they argue support the existence of occupation-specific stereotypes used by interviewers to screen against for different job functions. This argument is discussed further in Chapter Nine.

In essence, these studies highlight the stereotypical perceptual dimensions applied by interviewers to simplify the complex task of suitability decision making. Other research has focussed upon the process of decision making, and in particular, it has uncovered a series of biases and dysfunctions in interviewer information processing. Perhaps the most widely cited empirical finding concerns interviewer decision times, the belief being that interviewers reach outcome decisions in the opening few minutes of the interview and then spend the remainder of the interaction in a search for confirmatory evidence. This opinion appears to

originate from one of the early McGill experiments (Springbett, 1958) which recorded an average interviewer decision time of just under four minutes. However, as discussed in Chapter Seven, the empirical research supporting this belief is sparse and methodologically weak. Conversely, several studies testify to the salience of a related bias in interviewer decision making, that of allocating disproportionate weight to negative information on the candidate (Bolster and Springbett, 1961; Maier, 1966; Carlson and Mayfield, 1967; Miller and Rowe, 1967; Hollman, 1972). Although most of these studies constructed hypothetical applicants using written stimulus materials, the external validity of their findings appears acceptable. As Webster (1964) and Arvey and Campion (1982) assert, the interviewer only receives feedback on unsuccessful appointees (i.e. false positives) since their performance is visible to the organisation. Applicants rejected during the selection procedure who actually would have performed adequately (i.e. false negatives) are unseen by the interviewer's peers, and are thus not problematic to the interviewer. This political reality of selection causes the interviewer to engage in a search for negative information (Webster, 1964) in order to ensure the acceptability of successful candidates.

There is some recent evidence to suggest that interviewers utilise 'confirmatory information seeking strategies' to obtain data to ratify and justify initial impressions of the candidate (Snyder and Swann, 1978). Despite findings that this strategy may not be consistently applied by interviewers (Sackett, 1982; Pennington, 1987) nor applied in search of evidence of specific traits (McDonald and Hakel, 1985), there are sufficient practical grounds to suspect that many interviewers actively seek information to confirm early perceptions.

All of these findings support the earlier contention that interviewer decision making is highly deterministic, with initial impressions influencing final assessments to a considerable and disproportionate degree. Still more research supports this interpretation, and hints at the perceptual processes involved in

snap decision making by interviewers. One bias found to be prevalent is so-called 'similar-to-me effect' (Rand and Wexley, 1975). This effect, that interviewers rate candidates with similar biographical backgrounds, attitudes, and personalities to their own more favourably than those who differ in these respects has been discovered in several investigations (Sattler, 1970; Baskett, 1973; Wexley and Nemeroff, 1974; Peters and Terborg, 1975; Dalessio and Imada, 1984). Peters and Terborg (1975) found that perceived attitude similarity exerted significant influence upon interviewers' ratings of applicant resumes. Rand and Wexley (1975) extended this finding to the similarity of biographical background between white interviewers and both white and coloured applicants, concluding that biographical background was a major determinant of evaluations. Recently, Dalessio and Imada (1984) report a slightly different interpretation of this effect. Comparing the influence of perceived similarity-to-self and similarity to an ideal candidate perception, it was found that interviewer decisions were more related to the ideal-applicant match than to the self-applicant match. This finding re-asserts the predominance of stereotypical construal of candidates by interviewers, suggesting that perceived similarity-to-self functions as a somewhat less salient bias. Nonetheless, there appears to be a definite tendency for interviewers to 'recruit in their own image', presumably on the assumption that their success in the organisation is as good a criterion as any other in interview decisions.

Not unrelated to similar-to-me effect is the finding that the interviewer's personal liking for the candidate biases overall evaluations of suitability. Keenan (1977), in a study of UK graduate milkround interviews, found positive and significant correlations between interviewer ratings of personal liking and overall ratings. It appears from his results that personal liking bias operated as a specific type of halo effect, tending to influence interviewers' ratings on all other dimensions of assessment.

Finally, the bias of contrast effect has emerged from numerous empirical investigations as a pertinent feature of interviewer decision making (Rowe, 1967; Carlson, 1968, 1970; Wexley et al., 1973; Kopelman, 1975; Schuh, 1978). This effect, that interviewer ratings of the present candidate are partially dependent upon evaluations of previous candidates, was originally reported by Rowe (1967) in one of the McGill studies, but has become a repetitive finding of studies since. The implication, that interviewer evaluations of the present candidate may be affected by the proportion of candidates already accepted in relation to recruitment quotas, should not be overlooked.

In summary, this domain of interview research has uncovered a set of consistent biases or dysfunctions in interviewer decision making. These comprise, stereotyping, negative information weighting bias, confirmatory information seeking strategies, similar-to-me effect, personal liking bias, and contrast effect.

(d) Discriminatory Practices by Interviewers

A considerable volume of research conducted in the USA into discrimination by interviewers against blacks, females, handicapped and older applicants is reviewed by Arvey (1979). Unfortunately, these findings can only be applied to the context of interviews in this country with considerable caution, due to the notably different employment legislation frameworks in the two countries. Nevertheless, Arvey's review concludes the undesirable but consistent impact of sexual discrimination, age discrimination, and discrimination against physically and mentally handicapped applicants in interviewer assessments. On the other hand, the trend of the US research into racial discrimination points to less discrimination in this area, although this may well be a function of the particularly stringent statutory provisions against racial discrimination. It has been argued that discrimination issues have received rather scant attention in the UK (Anderson and Shackleton, 1986), and much research is required

before definitive statements may be made concerning the influence of discriminatory prejudice upon interviewer decision making.

To conclude this meta-review of the micro-analytical research into interviewer decision making, it may be stated that this research has elucidated stereotypical dimensions utilised by interviewers to screen candidates against, and has simultaneously highlighted a series of recurrent biases in interviewer information processing. This body of empirical research is certainly not above criticism, however, and the following section identifies pertinent weaknesses to develop a critique of the assumptions implicit in, the methods used by, and the range of variables focussed upon by the existing interview research.

CRITIQUE

A Critique of the Interview Research Paradigm

Kuhn's (1962) concept of the paradigm of a scientific community which defines the area of study, acceptable methods for conducting research, and expected standards of solutions presented, is directly applicable to the research into the interview. In terms of Burrel and Morgan's (1979) and Morgan's (1983) typology of inter-related paradigms of social science research, the vast majority of interview studies are firmly rooted in a functionalist paradigm wherein positivist and nomothetic assumptions prevail. To quote, the research

> 'is often problem-oriented in approach, concerned to provide practical solutions to practical problems ... [through attempts] ... to apply the models and methods of the natural sciences to the study of human affairs'
> (Burrel and Morgan, 1979: 26).

These methods are exemplified by the frequent use of laboratory and quasi-laboratory experimental designs, which, although

possessing no inherent shortcomings per se, have necessarily limited the range of variables investigated. Indeed, this dominant methodological approach has resulted in a near-absence of studies taking an interpretive approach to interview research. Undoubtedly, this myopic compartmentalisation of the research into a functionalist frame of reference has restricted the generation of knowledge regarding the selection interview. The case for more interpretive research is demonstrated by the example of the Silverman and Jones (1975) study.

An Ethnographic Study of Graduate Selection

Silverman and Jones (1975) present a unique account of the graduate recruitment process of a large public sector organisation. An ethnographic method of research was employed, which essentially entailed an attempt to understand and relate the sense-making activities of actors participant in the selection process through close contact with individual recruiters over a period of time. Audio tapes of initial milkround interviews, as well as recordings of a two-day assessment centre, were analysed in depth. These recordings were replayed to the selectors, who were asked to justify and explain their decision processes at each point in the procedure. Through this ethnographic approach the authors analyse and interpret the rhetoric of the interactions between recruiters and candidates, culminating in an account of the actors' attempts to make sense of their own decisions. To illustrate, Silverman and Jones interpret one recruiter's comments upon hearing the audio recording of one of his interviews, as evidence of 'a failure to learn the social skills necessary to create an impression of "acceptability"' (p.32). The recruiter stated

> 'I found that he was ... um ... not particularly confident. That is to say ... he was the sort of bloke who had got there by hard work and, and it seemed to me had got very little out of being at university, except perhaps a degree – which I suppose is all important!'
>
> (p. 32: ibid.)

49

The study presents an essentially interpretive account of interviewers' decision processes, and as such, it illustrates the potential of this alternative paradigmatic framework for generating original research findings. Only one other major published study has adopted a similar stance (Herriot and Wingrove, 1984), revealing marked differences in the ways that individual recruiters react to application form details.

Consequently, there is a need for research to concentrate upon individual processes in interviewer decision making through the application of interpretive and ideographic study designs as opposed to solely concentrating upon nomothetic research. As Guion (1986) contends

> 'Studying individuals rather than groups may help us to distinguish valid from invalid interviewers, or between traits an interviewer can assess validly and traits better assessed by others or in other ways' (p.5).

In conclusion, the functionalist, positivist, and nomothetic stance of much of the interview research has confined findings to specific variables and contexts. There is a demonstrable need for research into the interview which adopts alternative frames of reference, and in particular, research drawing from an interpretive, ideographic perspective.

Lack of Impression Formation Research

At a different level to this paradigmatic critique of interviewing research lies an important further shortcoming in the existing coverage of the studies. In spite of Wright's (1969) plea for a 'supra-disciplinary' approach, interview research remains isolated from social psychological theories of, and empirical research into, impression formation. This has led to a preponderance of studies using the outcome decision alone as the criterion measure, against very few studies into the process of interviewer impression formation.

50

Arvey and Campion (1982) are scathing in their condemnation of the paucity of research into the processes through which interviewers form impressions of candidate personality, and point out that the interview itself is 'essentially a perceptual process' (p. 312). This admonition is particularly appropriate since, as Peacock and Jackson (1981) argue, many practitioner texts stress the main function of the interview as being a means of personality assessment (Black, 1970; Fear, 1978, for instance). Moreover, responses to the Gill survey (1980) into managerial selection procedures reveal the perceived importance of personality factors at interview, a finding replicated by Keenan (1982). Gill concludes

> 'almost without exception personality factors are ranked above such factors as experience, qualifications, or intelligence' (1980: 26).

In addition to this, Guion (1986) rightly acknowledges another related weakness in the interview research, that few models of this perceptual process have been published. One can only concur with his suggested directions of future interview research

> 'Together, the use of ideographic research in the study of cognitive processes may change substantially our views about the value of interviews as predictors' (p. 6).

In conclusion, the critical oversights in the body of interview research stem from the lack of studies taking an interpretive-ideographic stance, and the isolation of research from theoretical developments and empirical findings of research into impression formation. There is hence a pressing need for research, guided by social psychological writings on person perception, to integrate and synergise from this wider theoretical and empirical base.

51

In view of the failure of the macro-analytical and micro-analytical research to develop clearly-articulated models and theoretical accounts of the interview, it is necessary to interpret and extrapolate the available writings to identify two alternative theoretical schools of thought on interviewer decision making.

The 'Objectivist-Psychometric' School

Writings in the objectivist-psychometric tradition conceive of the interview as a pseudo-psychometric instrument, which should be operating as an actuarial method of decision making as opposed to a clinical method (Meehl, 1954). Totally objective information processing by the interviewer is seen as an attainable goal to be reached by the imposition of sufficient control mechanisms to negate sources of 'error' in interviewer judgement. These mechanisms include, for instance, the standardisation of administration and assessment of the interview. The interviewer is viewed as a (potentially) logical and rational information collector and processor, whose position is ideally that of non-participant observer to the interaction and whose responsibility is to obtain and interpret a representative sample of candidate behaviour. Obversely, the status of the candidate is one of servility, and the candidate's function is solely one of information provision (Anderson, 1987a).

Two variants of this perspective are apparent. The first is to be found within the interview research conducted by occupational psychologists, and the second is apparent in texts of best practice and interviewer training courses aimed primarily at personnel recruiters.

(a) The Occupational Psychology Research Perspective

Much of the research reviewed in this chapter, particularly the macro-analytical studies, conforms to the objectivist-psychometric model. The twin phobias of interview validity and reliability have pre-occupied this research effort, and have generated various attempts to improve the psychometric properties of the interview described earlier. The result has been successively more psychometrically-driven re-models of the interview, which restrict elements of flexibility and interactivity cited as the major reasons underlying its continued popularity. Unfortunately, though, this conception of the interview has affected, and is evident in, most texts on interviewing practice and many interviewer training programmes.

(b) The Practitioner Guide Perspective

Despite England and Paterson's (1960) call for a moratorium on 'how to interview' guidebooks almost thirty years ago, a steady flow of normative, prescriptive texts has continued to influence interviewer practice (see, MacKenzie Davey and McDonnell, 1975; Higham, 1979; Bolton, 1983; and, Courtis, 1985, for more recent examples). The prescriptions for best practice have often been based more on anecdotal than empirical evidence, but as Wood (1986) observes, these texts urge practitioners to adopt a 'professional/bureaucratic' approach in order to increase objectivity and meet ethical considerations of non-discriminatory recruitment. This approach is exemplified by the standardised assessment typologies of Rodger (1952) and Munro Fraser (1978), which often form the corner-stones of interviewer training packages. The assumption is that rational information processing by interviewers is possible, so long as the guidelines and systematic models decreed are adhered to.

Keenan's (1978a) study into the effects of interviewer training illuminates the probable outcome of such prescriptive measures. His finding, that interviewers' confidence in their assessment

abilities increased significantly, points to a kind of placebo effect, since interviewers believed that they could perform better afterwards regardless of the actual effectiveness of the training programme.

The objectivist-psychometric perspective of the interview, restricted by its reliance upon elements of testing methodology, fails to take account of four crucial factors in interviewer decision making. Firstly, each interview is unique, and thus the goal of standardisation of administration is basically inappropriate. Secondly, interviewers interpret information quite differently from one another, hence disrupting the objective of standardised information processing strived for and largely met in psychometric testing. Thirdly, interviewer behaviour influences candidate behaviour which in turn effects interviewer ratings. This unavoidable reality of the interaction nullifies the possibility of non-participant, personally-detached decision making by interviewers. Finally, interviewer information processing is bedevilled by a variety of dysfunctions which militate against the ideal of objective decision making based upon an actuarial model. Clearly, these oversights amount to a false depiction of the interview, which, it may be argued, has generated a misguided but popular conception of interviewer decision making as a pseudo-actuarial ideality.

The Subjectivist - Social Perception School

As a result of the theoretical isolation of the interview research from developments in social psychology, there remains a dearth of theorisings adopting a subjectivist-social perception stance. Two authors in particular have been active, however, E.H. Schein (1970, 1978) and P. Herriot (1981, 1984, 1987a, 1987b). Underlying their writings is a view of the interview as a social encounter, where bilateral communication between the parties determines the interviewer's role as that of participant observer in the interaction. The outcome of the interview is seen, not only as an assessment of the interviewee by the interviewer, but the

formulation of a 'viable psychological contract' comprised of mutual expectations of future work commitments. This perspective acknowledges the reflexive nature of the participants' behaviour in the interaction, thus subscribing to an S-R-R model of interviewer evaluation. This view counters the very possibility of personally-detached interviewer evaluation of the applicant, and the interviewee is therefore seen as participant in, and not just subject to, the decision making process (Anderson, 1987a).

(a) The Viable Psychological Contract

Schein (1970, 1978) presents a view of the selection process and the interview which is fundamentally different to that propounded in objectivist-psychometric writings. Central to his perspective is the notion of a viable psychological contract between organisational human resource needs and the career objectives of individuals. Schein argues

> 'The two processes [selection and job entry] can be seen as a kind of negotiation between the "recruits" and the organization members with whom they deal, leading to a viable psychological contract - a matching of what the individual will give with what the organization expects to receive, and what the organization will give relative to what the individual expects to receive' (1978: 81,82).

Schein's concept of the psychological contract is founded upon expectations held by both parties to the selection negotiation. The difficulty, Schein contends, is one of obtaining accurate information from the other in 'a climate of mutual selling' (Schein, 1978: 85). More recent studies suggest that this difficulty may be compounded at interview due to time constraints upon the duration of the interaction. Herriot and Rothwell (1983), for instance, concluded that both parties expected the other to talk for a greater proportion of the time than they actually did, resulting in neither set of expectations being met. Other findings support this lack of congruity between interviewer and interviewee expectations (Keenan and Wedderburn, 1980; Fletcher, 1979), indicating the validity of Schein's case that the interview should

be perceived as a situation where both parties attempt to outguess the other's deception attempts on the basis of limited and distorted information.

The remedy to these problems, Schein asserts, is that organisations should provide candidates with more realistic and accurate job information upon which to base their expectations. This, in turn, should lead to a more solid basis upon which to reach a viable psychological contract, and subsequent research by Wanous (1978, 1979) confirms this point in that providing applicants with realistic job previews reduced staff turnover (see also Mabey, 1986).

(b) Role Theory and Attribution Theory at Interview

Herriot (1981, 1984, 1987a, 1987b) builds upon Schein's concept of the viable psychological contract by applying role theory (Biddle, 1979) and attribution theory (Jones and Davis, 1965; Kelley, 1972) to develop his portrayal of the interview as a rule-governed social episode.

Turning to role theory, Herriot (1984) argues that the interviewer and interviewee play distinct but reciprocal roles, each based upon the other's expectations of acceptable behaviour in the interaction:

> 'The applicant is expected to be confident where he has reason to be, but not brash; to be polite, but not sycophantic; lively and interested, but not voluble or manic; to answer the question and keep to the topic, but to volunteer occasional additional information; to demonstrate a degree of nervousness, but not to remain visibly anxious throughout the interview.' (p. 78).

Thus, there is established a set of unspoken rules which govern the interaction. According to Herriot, applicant behaviour is thereby interpreted in terms of expectations and attributions. In-role behaviour is expected and will not give rise to attributions concerning the interviewee, but in line with Kelley's (1972)

Discounting Principle, will be attributed to conformity to situational requirements. Conversely, according to Kelley's (1972) Augmentation Principle, the interviewer will attribute unexpected behaviour to personality dispositions rather than to the situational constraints of the interview itself. Errors occur where the interviewer falls foul of the 'fundamental attribution error' (Ross, 1977). This occurs where candidate behaviour is attributed to dispositional factors, whereas in fact, situational factors were the primary cause (Jones and Harris, 1967, Oldfield, 1943). Herriot points out that this error may be commonplace in interviewer judgements.

An important strand to Herriot's argument stems from his conception of the interview as a social negotiation. He states that the generally reported low interview validity coefficients result from 'confusion about rules and objectives' (1984: 81), advocating that the interview 'should not be conceptualised as a psychometric device ... [but] ... as a social episode with somewhat ambiguous rules' (1984: 77). More recently, he has proposed a re-appraisal of the functions and purposes which the interview may fulfil (Herriot, 1987a). He suggests that the interview may either serve an acquaintance-making function as an initial meeting between the parties, an assessment function if sufficiently structured to ensure validity, or finally, it may operate as a medium to finalise the psychological contract between the parties.

To recapitulate, the subjectivist-social perception writings of Schein and Herriot portray the interview in a radically different light to the traditional objectivist-psychometric literature. The interview is more reasonably perceived as a social process culminating in a psychological contract between the parties based upon their expectations regarding future work relationships. Nevertheless, the interview is still regarded as one means through which to predict the acceptability or viability of this match.

Although recently Herriot (1987a) has acknowledged the inequitable distribution of power between the participants, this perspective can be criticised for its depiction of the interview as a situation where the candidate necessarily possesses sufficient power to be able to negotiate outcomes. In reality, as argued earlier in this chapter, the interviewee holds negligible power and is completely subordinate to the questioning strategies of the interviewer. Perhaps in only the most extreme labour market conditions, where demand far outstrips supply, does this power balance alter, and only then if the interviewee is conscious of the advantageous bargaining situation. The implicit rule that the interviewer directs the discourse is therefore operationalised and perpetuated through the grossly inequitable power distribution between the parties. Indeed, to regard the interview as a 'negotiation' is to misconstrue the nature of the interaction (Anderson, 1988). Since the interviewer's decision precedes and may therefore preclude the interviewee's decision concerning acceptance of their future relationship, the interviewer owns the right of 'first refusal'. It is only after the interviewer has accepted the candidate that the interaction becomes more of a bilateral negotiation than a unilateral enquiry. In sum, the interviewer's outcome decision is predominant and may only be influenced by the candidate in subtle ways due to this power differential.

CONCLUDING COMMENTS

In conclusion, over the last seventy years, but particularly since the 1960's, a growing body of interview research has illuminated the process and veracity of interviewer decision making. The susceptibility of interviewers to errors in information processing is evidenced by numerous studies concluding the influence of expectancy effect, primacy effect, halo effect, stereotyping, confirmatory information seeking strategies, similar-to-me effect, personal liking bias, and contrast effect upon interviewer evaluations of candidates. Attempts to improve predictive efficiency grounded upon the objectivist-psychometric perspective have only accomplished predictive respectability by transforming the structure of the interview to resemble other more valid and reliable techniques. The theoretical account advocated by the subjectivist-social perception school, in synergy with social psychological theorisings and empirical findings on person perception, provides an alternative point of departure to examine the under-researched issue of interviewer impression formation.

IMPRESSION FORMATION:

A REVIEW OF THE SOCIAL PSYCHOLOGICAL RESEARCH

INTRODUCTION

IMPRESSION FORMATION: AN OVERVIEW

IMPRESSION MANAGEMENT AND SELF-PRESENTATION

NON-VERBAL BEHAVIOUR DECODING STUDIES

A COGNITIVE SOCIAL MODEL OF INTERVIEWER

                      IMPRESSION FORMATION

CONCLUDING COMMENTS

'The interviewer after the interview possess and carries
about with him a kind of "homunculus"-like representation
of the candidate. The model is essentially a "working
model", a "living image"; and when occasion demands, it can,
so to speak, be taken out of its box and made to perform. It
is by placing this creature in imagined circumstances, and
by watching its behaviour, that the interviewer is enabled
to make predictions about the candidate's probable behaviour
in those circumstances.'

                            (Oldfield, 1943: 107)

Chapter Three extends the review of the interview literature undertaken in Chapter Two to consider social psychological research into the processes through which an individual forms an impression of another's personality. This discussion draws from three bourgeoning and inter-related areas of literature: impression formation, impression management, and empirical studies into the interpretation or 'decoding' of non-verbal behaviour. This chapter reviews briefly these diverse topics, and concentrates on the process of impression formation, especially the relationships between the sender's (or 'target' individual's) non-verbal behaviour and the receiver's (or 'perceiver's') decoding process. As most studies into impression formation have been conducted either using written traits as stimulus materials, or in dyadic social situations, the generality of their findings to the graduate selection interview is appraised and several caveats regarding acceptability noted. The chapter concludes by synergysing the interview and social psychology research into a cognitive social model of interviewer impression formation which is propounded as a viable conceptual schema for subsequent empirical research.

IMPRESSION FORMATION: AN OVERVIEW

Impression Formation Defined

Impression formation, otherwise termed person perception or interpersonal perception, is defined by Cook (1971) and Warr and Knapper (1968) as follows:

> 'the forming of judgments by people about other people, and more especially those judgments (which are the great majority) that concern people as social animals.'
>
> (Cook, 1971:14).

> 'the process involved in knowing the external and internal states of other people'.
>
> (Warr and Knapper, 1968:2).

Warr and Knapper (1968) distinguish between judgments of transitory emotional states, or 'episodic' judgments, and judgments of personality, or 'dispositional' judgments. It is the latter which has dominated this area of research and which is the main concern of this chapter.

The processes through which individuals form impressions of others has been the subject of considerable applied research (see Cook, 1979, and Schneider et al., 1979 for recent reviews). It is contended here that this literature may be sub-divided into two parts: firstly, research into how physical stimuli are translated into psychological meaning, and secondly, how these cognitions are assimilated into a coherent overall impression of the target person. Studies into information translation are reviewed later in this chapter. The focus of concern in the first two sections is to describe two major theoretical approaches to assimilation research: Information Integration Theory (IIT) and Implicit Personality Theory (IPT).

Information Integration Theory

N.H. Anderson has, over the last twenty years, developed a detailed perspective of information processing by individuals based upon a number of experimental studies in a variety of judgmental situations (see Anderson, 1981, 1982). Central to this perspective have been studies of both translation strategies, termed the 'valuation function' in IIT, and assimilation processes, termed the 'integration function' by information integration theorists. This experimental approach has facilitated an investigation of 'cognitive algebra' by Anderson and his colleagues, resulting in mathematical specifications or information processing 'rules' guiding the impression formation process. Two alternative types of models of impression formation have emerged from successive experiments: adding models, and averaging models.

The Adding Model

Shanteau and Nagy (1984) argue that

> 'Adding, in simple terms, states that the component
> information about a stimulus person is summed to form a
> final judgment.' (p. 51).

Thus, for an adding model to represent the impression formation process each supplementary piece of positive or negative information must result in a proportional change in the perceiver's overall impression of the target person. For example, Anderson (1965) presented subjects with either two or four positively connotated adjectives such as 'reasonable', 'truthful', 'enthusiastic', and 'original'. He found that subjects formed a more favourable overall impression from four stimulus adjectives than from two, supporting the operation of the adding model. Several other studies, however, fail to confirm the adding model (e.g. Shanteau and Anderson, 1969; Anderson, 1973; 1975), and instead point towards the use of averaging models in impression formation.

Averaging Models

A concise statement of the averaging rule is also put foward by Shanteau and Nagy (1984)

> 'In contrast to adding, averaging states that the overall judgment is the mean of the individual components of information.' (p. 51).

Two different types of averaging model have been found to be operational, constant-weight averaging and differential-weight averaging. In the former, each item of information carries equal weight in relation to the overall impression. If a differential-weighting model applies, then items carry differing weights but the underlying process of integration remains one of averaging to arrive at the outcome judgment. It is therefore the valence of each piece of data which affects the overall impression in that extreme items contribute more than non-extreme items. Experimental support can be cited for both types of averaging model. Anderson (1962), for instance, concluded that subjects, presented with two positive and one negative trait adjective, integrated these following a constant-weight model. Conversely, Lampel and Anderson (1968) report that subjects' reactions to adjective descriptors and photographs conformed to a differential-weight model. One study into interviewer impression formation finds similarly. Nagy (1981) presented subjects with photographs, written information of experience, and personal recommendations on hypothetical candidates for the position of computer programmer/analyst. The results, analysed by multiple ANOVAs, indicated significant interactions between experience and recommendations, confirming the application of a differential-weight averaging model by the personnel manager and student subjects.

IIT research clarifies the different 'combination rules' applied by perceivers, and it is clear that the three models of adding, constant-weight averaging, and differential-weight averaging may have direct application to interviewer impression formation. However, there is a marked absence of realistic field studies in

IIT research, with the norm being the use of written adjectives as stimulus materials. This point of criticism can also be leveled against much of the research into implicit personality theory (IPT) discussed in the following section.

Implicit Personality Theory

A long-standing finding of social psychological research is that individuals do not perceive personality traits in an isolated manner, but believe there to be co-occurrence between particular traits. Bruner and Tagiuri (1954) originally termed this phenomenon the individual's 'naive implicit theory of personality', but classic research by Asch (1946) had in fact uncovered this artifact of impression formation some years earlier.

Asch presented two groups of subjects with seven written traits, six of which were identical but the fourth trait presented was either 'warm' for the first group or 'cold' for the second. Large discrepancies in inferential processes emerged between the groups with, for example, 91 per cent of the first group inferring that the target individual was also 'generous', whereas only 8 per cent of the second group made this attribution. Asch interpreted these results as evidence of an underlying structure of trait relationships. He argued that the traits 'warm' and 'cold' acted as 'central traits' as they fundamentally influenced outcome perceptions, whilst other adjectives were more peripheral and therefore less influential. Asch concluded that subjects combined the stimulus traits into a coherent overall impression or Gestalt through this perceived matrix of co-occurrences.

In terms of information integration theory, these results support the use of a differential-weight averaging model of impression formation, but as more recent research suggests, the warm-cold dichotomy was probably operating as a core factorial dimension in impression formation. Indeed, there is persuasive evidence from a range of research methods that there exists an underlying

conceptual structure of between three and six core personality dimensions. Osgood et al., (1957) used the semantic differential method and factor analysis to reveal the three dimensions of 'evaluation' (good - bad), 'activity' (active - passive), and 'potency' (strong - weak) as central factors. Similarly, Lay and Jackson (1969) also found three factors (aggression - social desirability, compulsivity - control, and independence - dependence) using the alternative method of a cue trait inventory. Rosenberg and Sedlak (1972) uncovered five oblique factors from free-descriptions, whilst Warr and Haycock (1970) found six factors. Notable similarity of underlying structure is apparent across these studies, with the three basic dimensions of evaluation, activity, and potency present in all of these researches. These similarities are summarised in Figure 3.1.

As Arvey and Campion (1982) note, research into interviewer decision making has basically ignored these social psychological findings, an oversight which can only be condemned as unacceptably myopic. Indeed, it is reasonable to assume that interviewers apply their own implicit theories of personality, since halo effect has been found to influence interviewers' ratings in several studies reviewed in Chapter Two.

To conclude, the research into IIT which has evolved three distinct models of information processing (i.e. adding, constant-weight averaging, and differential-weight averaging), together with the findings of research into implicit personality theory, may hold direct application to interviewer impression formation.

FIGURE 3.1

THE SIMILARITY OF CORE TRAIT STRUCTURES ACROSS PERSONALITY RESEARCH STUDIES

STUDY	Osgood et al., 1957	Lay & Jackson, 1969	Rosenberg & Sedlak, 1972	Warr & Haycock, 1970
METHOD	Semantic Differential	Cue Trait Inventory	Free-form Descriptions	Personality Differential Scales
PERSONALITY FACTORS	Evaluation (Good - Bad)	Aggression - Social Desirability	Good - Bad / Good Intellectual - Bad Intellectual / Good Social - Bad Social	Personal Likableness / Moral Goodness
	Activity (Active - Passive)	Compulsion - Control	Hard - Soft	'Interpersonal Activity' [1] / 'Intellectual Activity'
	Potency (Strong - Weak)	Independence - Dependence	Dominant - Submissive	Interpersonal Potency / Intellectual Potency

FOOTNOTE

[1] Warr & Haycock do not quote factor titles. These titles are derived from the factor matrix, and are thus personal interpretations of their results. 'Interpersonal Activity' loads onto quiet - noisy, careful - careless, solitary - sociable, and emotional - unemotional. 'Intellectual Activity' loads onto agile - clumsey, slow - fast, flexible - dogmatic, and uncritical - critical.

67

Other research has approached this process from an impression
management perspective in an attempt to delineate the self-
presentational strategies at the disposal of individuals. In a
comprehensive review of the strategies and techniques of
impression management, Schlenker (1980) draws from Goffman's
(1959) theatre analogy to describe intentional attempts to
manipulate the impression formation process of another person.
Fletcher (in press) identifies a variety of self-presentational
strategies used by interviewees, including information filtering,
falsely assertive behaviour at interview, and exaggerating
personal achievements. Surveying this literature, then, two
strategies in particular hold extensive application to the
selection interview situation. The first is the unmitigated
attempt by one interactant to deceive the other, the second is the
less extreme self-presentational technique of ingratiation as an
attempt to induce personal liking so as to affect a desired
outcome from the other interactant. Each of these will be
considered in turn.

Deception

A series of studies by Ekman and Friesen has elucidated the
behavioural cues which divulge interpersonal deception attempts.
Ekman and Friesen (1969) found that a psychiatric in-patient,
motivated to create a favourable impression in order to be
discharged, was able to control her facial expressions
successfully but revealed her unstable state in repetitive body
movements. Ekman et al. (1972) termed these cues, unintentionally
given-off by the deceiver, as 'non-verbal leakage' and several
more recent studies confirm the superiority of bodily cues over
facial expressions as reliable indicators of deception. In this
study, the authors found that deceivers engaged in more self-
manipulating behaviours such as face-touching, whilst Knapp et al.
(1974) report that deception is often accompanied with shorter
durations of gaze at the other person. Individuals attempting to

deceive also have higher voice pitch than normal (Ekman et al., 1976), use less head nods, and have more speech disturbances coupled with a slower rate of speech than otherwise (Mehrabian, 1972).

Deception attempts are revealed in the facial expressions of the deceiver, though, as 'micromomentary facial expressions' (Hagard and Isaacs, 1966). These cues, manifest as split-second changes in expression, were found by Hagard and Isaacs (1966) to be of between one-eighth and one-fifth of a second duration, and are not detectable by the naked eye (Ekman and Friesen, 1975). Thus, although clues to deception may be present in facial expressions, it is unlikely that these will be recognised by the interviewer. Certainly, the degree of control exercised by deceivers over bodily cues is less acute, allowing deception to be noticed more easily by attending to bodily rather than facial cues.

On this premise, the problem for the graduate interviewer is two-fold. The interviewer has to first obtain a non-deceptive sample of behaviour to compare against any subsequent deceptive behaviour. Clearly, the interviewee has a vested interest to deceive regarding weaknesses in his or her application, and certainly, the interviewee is attempting, if not to deceive the interviewer outright, to embellish their personal qualities so as to maximise their chances of success. The dividing line between deception and skilful self-presentation is therefore quite narrow, and this is the second difficulty faced by the interviewer. Nonetheless, a recent attempt to train individuals to identify deception attempts met with some success (DePaulo et al., 1984). Subjects given specific training on non-verbal distinctions between truthful and deceptive presentations were able to judge deception attempts with considerable accuracy, indicating the feasibility of conducting training for selection interviewers in this area.

Ingratiation

Ingratiation involves the conscious attempt by one interactant to be liked by the other in order to affect a desired outcome or favour (Rosenfeld, 1966). Without doubt, this strategy is adopted by some interviewees, and, in the light of Keenan's (1977) findings of significant correlations between interviewers' ratings of personal liking and overall evaluations, ingratiation may very well be an effective self-presentational technique.

A number of studies illustrate the verbal and non-verbal behavioural indicators of ingratiation. Ingratiators have been found to flatter the other person more, and to disagree less than non-ingratiators (Jones, 1964; Lefebvre, 1972; 1973; 1975). Non-verbally, ingratiators employ greater 'immediacy behaviours' (Mehrabian, 1972) comprising greater eye contact, and more frequent smiling, gestures, and head nods, than normal (Rosenfeld, 1966).

As will be noted from the following review of the impact of non-verbal behaviour in impression formation, these ingratiating cues are intentionally emitted by individuals to induce personal liking. However, an interesting finding emerged from Lefebvre's (1975) study into ingratiation. It was found that although subjects often assessed the motives of such behaviour correctly, their ratings of ingratiators were nevertheless more favourable than their ratings of non-ingratiators. This rather suggests that ingratiation attempts by interviewees, regardless of being detectable by the interviewer, may well be effective in inducing a favourable bias in interviewer assessments and may contribute towards a favourable outcome decision.

Antecedent Conditions of Interviewee Impression Management

A few studies have examined the concomitance between personality antecedents of impression management skills and interviewer outcome evaluations. Keenan (1982) had interviewees complete three self-assessed personality scales: The Machiavellianism scale (Christie and Geis, 1970) measuring willingness to use manipulative tactics in interpersonal communication, the Locus of Control scale (Rotter, 1966) assessing the individual's beliefs of internal versus external control over events, and finally, Bryant and Trower's (1974) Social Difficulty scale evaluating difficulties experienced in coping with social situations. It was hypothesised that individuals scoring highly on the Machiavellianism scale (High-Machs) would be significantly more successful at interview than low scorers (Low-Machs). The results showed near-zero and statistically non-significant correlations between the Locus of Control and Social Difficulty scales and interviewer ratings of the likelihood of offering follow-up interviews. Conversely, machiavellianism was related to interviewer ratings, but in the opposite direction to that hypothesised. High-Machs were rated less favourably than Low-Machs, a finding which Keenan attributed to the probability that interviewers realised that they were being manipulated and so reacted in an unfavourable manner.

This outcome seems prima facie to contradict the findings of Lefebvre (1975) where ingratiators, although perceived as such, were rated no less favourably than non-ingratiators. However, it is probable that the cause of this discrepancy is the type of impression management technique involved. Machiavellianism as a cynical, manipulatory approach towards self-presentation may lack the necessary subtlety to permit its effective use by the interviewee given the interviewer's situational power alluded to in Chapter Two. Consequently, the interviewee may be limited to less obtuse methods of impression management such as ingratiation.

71

Another antecedent condition of impression management is that of 'self-monitoring' (Snyder, 1974; Snyder and Simpson, 1984). This was defined by Snyder (1974) as 'self-observation and self-control guided by situational cues to social appropriateness' (p. 526). One recent study has investigated the impact of self-monitoring upon interviewee performance. Fletcher (1987) hypothesised that individuals using this less overt self-presentational technique would be rated more favourably in interviews for places on an undergraduate psychology course. Again, contrary to expectations, high self-monitors did not perform any better than low self-monitors . It should be noted, however, that the applicants in this study were predominantly young school leavers whose opportunity to develop self-monitoring skills was obviously more limited than for graduate or managerial candidates. At more senior levels of recruitment, self-monitoring may be an important skill in the interviewee's self-presentational repertoire.

To conclude this review of the principal techniques of impression management, it can be seen that skilful self-presentation by the interviewee may fundamentally influence interviewer impression formation. This evidence further undermines the validity of the objectivist-psychometric perspective of the interview, pointing to the fact that the interviewee is not merely a servile information-provider, but has the capacity to manipulate and direct outcomes by subtle and unobvious means.

One important communication source in impression management is the presenter's non-verbal behaviour, with research into both deception and ingratiation attempts revealing the non-verbal cues emitted by individuals using these strategies. Other research has concentrated specifically upon the interpretation or decoding of non-verbal behaviour. It is this topic of the translation of non-verbal cues into perceptions of the other's personality which concerns the third and final part of this literature review.

NON-VERBAL BEHAVIOUR DECODING STUDIES

Particularly over the last two decades, non-verbal behaviour research has built up a detailed picture of the links between the non-verbal cues of the target person and the resultant inferences by the perceiver to dimensions of personality. The purpose of this section is to review the principal findings of these studies in relation to interviewer impression formation.

It should be pointed out at the outset that the physical context of the selection interview places certain restrictions on the non-verbal behaviour of the participants. The major confining factor is the seating arrangement which restricts the spatial behaviour and bodily orientation of the interactants. Thus, research into proxemics (Hall, 1966) and studies of orientation are not considered here. Rather, this review focuses upon four types of non-verbal behaviour found to be influential in studies into non-verbal behaviour at interview reviewed in Chapter Two. These are: gaze and eye contact, facial expressions, head nods, and kinesics (i.e. body movements).

Initially, however, it is necessary to introduce this area of study by defining non-verbal communication and so setting out the parameters of this review.

Towards a Definition of Non-verbal Communication

Although as Harper et al. (1978) point out, there is no universally accepted definition of non-verbal communication, the view of Knapp (1972) seems apposite

> 'Non-verbal communication designates all those human responses which are not described as overtly manifested words' (p. 57).

This definition is indeed all-encompassing, but it highlights the need to define carefully one's terminology. According to Wiener et

al. (1972), for an act to be communicative there has to be both intentional encoding by the sender and accurate decoding by the receiver. As Bull (1982, 1985) argues, this qualification is too stringent as the sender may not be aware of the message transmitted, and similarly, the receiver may interpret non-verbal cues incorrectly (an inaccuracy known as 'decoding error'). Bull asserts that the communicative significance of any act needs to be established by the researcher, and not just accepted as a fait accompli. It is this task which has occupied most of the research effort of decoding studies and is also the focal point of this review.

Gaze and Eye Contact

Gaze, where one interactant only looks at the other, and eye contact or 'mutual gaze' (Argyle and Cook, 1976), where both interactants look simultaneously, have been extensively researched (see Kleinke, 1986). It is possible, though, to categorise the findings of the decoding studies in terms of attributions to attentiveness, attraction, liking, honesty, competence, and dominance.

1. Attentiveness

Gaze is perceived by the recipient as a sign that the other is paying attention during an interaction (Kleinke et al., 1973; Kleinke et al., 1975). Indeed, it would seem that looking at the other, particularly while listening, is regarded as social etiquette, with gaze-avoidance being interpreted as a lack of interest in the conversation (Argyle and Cook, 1976). The result of not looking is that the other person replies more briefly to questions (Aiello, 1977; Kleinke et al., 1975), and may perceive the gaze-avoider as generally less competent (Kleck and Nuessle, 1968; Keenan and Wedderburn, 1975). These studies support von Cranach's (1971) contention that gaze is interpreted as 'the announcement of a readiness to communicate'.

2. Attraction

A number of studies have indicated that gaze, and particularly eye contact, is perceived as a signal of physical attraction. Individuals look more at others whom they perceive as attractive (Coutts and Snyder, 1975; Kleck and Rubenstein, 1975), and the recipients of gaze are likely to accurately decode this as a sign of physical attraction (Wiener and Mehrabian, 1968). Interestingly, these findings apply to observers as well as to the interactants themselves. It has been found that observers perceive high levels of gaze between individuals as indicative of interpersonal liking and the closeness of the relationship between the parties (Thayer and Schiff, 1974), and also as a signal of sexual interest (Thayer and Schiff, 1977).

Clearly, however, the sexual composition of the dyad affects these interpretations, with high eye contact in an all-male dyad normally indicating aggression rather than physical attraction (Hillabrant, 1974). Furthermore, the perception of high levels of gaze differs between male and female subjects. In a study which involved giving subjects false feedback concerning the amount of time they had looked at their partner, Kleinke et al. (1973) found that males rated females as more attractive when told they had given them low levels of gaze. Females, on the other hand, evaluated males as more attractive when informed that they had exhibited high levels of gaze.

The thrust of these findings, then, is that individuals look more at others whom they perceive as physically attractive, and this is likely to be perceived as such by recipients and observers of high levels of gaze.

3. Liking

Greater gaze and eye contact is decoded as signifying greater personal liking, not only by the recipient (Kleck and Nuessle, 1968; Mehrabian, 1968; Lim, 1972; Scherer and Schiff, 1973; Kleinke et al., 1974; Naiman and Breed, 1974; Thayer and Schiff, 1974), but also by non-participant observers (Abele, 1981; Shrout and Fiske, 1981). This relationship, it should be noted, appears to be curvilinear, and not linear as in the case of physical attraction. Extremely high levels of gaze are rated less favourably than moderate levels of gaze. For instance, Argyle et al. (1974) report findings that across five conditions of gaze (zero, while talking, while listening, spontaneous, and, continuous), increased gaze was rated more favourably on a liking dimension up until the spontaneous condition. Continuous gaze was perceived as less likable than spontaneous gaze but more likable than the other three conditions. Argyle and Cook (1976) attribute this finding to the likelihood that continuous gaze may be seen as unacceptably intimate behaviour in formal encounters and at close interpersonal distances. Alternatively, it is possible that this level of gaze could have been interpreted as a dominance or threat signal, as discussed below.

Other research suggests that perceptions of liking may also be a function of the duration of gaze. Kendon and Cook (1969) found that subjects who looked for long glances were rated more favourably than those who looked more frequently but with short glances. This suggests the importance of steady and maintained glances in affecting an impression of liking in the other.

Overall, these findings indicate a positive but curvilinear relation between gaze levels and ratings of personal liking, with the caveat that longer duration glances are more favourably evaluated than shorter duration glances.

4. Honesty

A few studies illustrate the connection between high levels of gaze and attributions of honesty and truthfulness regarding the communicator's spoken message. Exline and Eldridge (1967) report that authenticity of the verbal message of a confederate subject was rated more favourably when accompanied with direct gaze at the recipient. Similarly, Hemsley and Doob (1978), in a study into witness behaviour during a trial, found that those who did not avert gaze were judged as more truthful. Gaze avoidance was interpreted by both customs officials and police officers as indicative of dishonesty in two other studies (Kraut and Poe, 1980; Baxter and Rozelle, 1975). Thus, it is reasonable to conclude that perceptions of honesty and authenticity of the communicator's spoken message are influenced by gaze behaviour, with high levels of gaze being rated most favourably.

5. Competence

Linked to these findings concerning honesty is the outcome of several decoding studies that gaze is linearly associated with perceived competence and effectiveness (Kleck and Nuessle, 1968; LeCompte and Rosenfeld, 1971; Beebe, 1974; LaCrosse, 1975). Argyle et al. (1974), in their study of the perception of five different levels of gaze, report a linear relation between gaze condition and ratings on a competence scale. Further, this finding appears generalisable to the selection interview, with several interview studies concluding that interviewees who look more at the interviewer are perceived as more credible and more socially skilled (Imada and Hakel, 1977; Forbes and Jackson, 1980; Gifford et al., 1985).

One important point, then, is that there appears to be something of a trade-off between ratings of competence and those of liking at very high levels of gaze. Individuals looking continuously are likely to be perceived as more competent but may be rated less favourably in terms of interpersonal liking.

6. Dominance

A further point to note concerning high levels of gaze is that this behaviour is likely to be seen as a signal of dominance or even threat (Exline, 1971; Ellsworth, 1975; van de Sande, 1980). For example, both Hillabrant (1974) and Thayer (1969) report ratings of greater dominance in all-male dyads where gaze was high. Perceptions of this nature appear to be more common where high levels of gaze occur whilst speaking (Dovido and Ellyson, 1982). Conversely, in line with earlier comments on the perception of gaze avoidance, gaze aversion has been found to be interpreted as a sign of submissiveness (Strongman and Champness, 1968; Snyder and Sutker, 1977), or nervousness and a lack of self confidence (Cook and Smith, 1975).

To summarise this decoding research into gaze behaviour, it may be stated that individuals displaying high levels of gaze are perceived as attentive, attractive and attracted, likable, honest, and competent. Too much gaze is interpreted as less likable and even as a dominance or threat signal, whilst too little gaze is evaluated unfavourably on a range of dimensions including attentiveness , submissiveness, and nervousness.

Facial Expressions

Most research into the interpretation of different facial expressions has concerned the decoding of emotional states rather than judgments of personality disposition. It has been found that basic affect displays such as happiness, surprise, fear, sadness, anger, and disgust are recognisable across cultures (Shimoda et al., 1978) and appear to be innate (Ekman et al., 1972).

Early decoding research into facial expressions investigated relationships between facial structure and perceptions of personality. High levels of inter-rater agreement were found

78

regarding the perception of physiognomic characteristics by Secord et al. (1954) wherein thin lips were associated with conscientiousness, mouth curvature with sense of humour, and facial tension with aggression.

More recent research has moved away from physiogomy and has examined the decoding of dynamic facial expressions. The trend of these findings suggests that positive facial expressions, particularly smiling, are correlated with more favourable ratings of personality across a variety of dimensions, but especially on that of personal liking. Bayes (1972), in a study examining the relationships between verbal and non-verbal behaviour and attributions of interpersonal warmth, found that rate of smiling correlated most significantly with this dimension ($r = 0.67$). Obversely, Graham and Argyle (1975) report a significant correlation between positive facial expressions and perceptions of liking. Lau (1982) found wider effects of smiling by the target person upon subjects' perceptions. He concludes that smiling was related not only to liking but also to ratings of interpersonal warmth and intelligence. Finally, research by Riggio and Friedman (1986) shows the impact of positive facial expressions upon subjects' initial impressions. Individuals who displayed positive facial expressions were evaluated as more likable, effective, and confident, indicating the influence of primacy effect in the perception of facial movements.

Kinesics

Embedded in any review of kinesics must be an acknowledgement of Birdwhistell's seminal works on body movement (Birdwhistell, 1952; 1970). His comprehensive micro-analytical system of body movement notation, founded upon reducing behaviour to basic units or 'kines', has influenced the direction of later studies. Thus, the thrust of the research effort in this area has concerned the categorising of movements as opposed to the decoding process to perceptions of personality. Several types of body movements have been researched, principally, head movements, hand gestures,

posture and postural changes. This research has highlighted the maintenance functions of kinesics in conversations, with studies by Scheflen (1965) and Kendon (1970) illustrating the reciprocal 'gestural dance' between interactants which regulates the flow of conversation.

Research by Duncan (1972) and Knapp et al. (1973) indicates that the major function of head nods is as a reinforcer and turn-taking signal. Thus, a head nod is likely to be interpreted as a signal to continue speaking (Argyle, 1983). Decoding research suggests that frequent head nodding is related to perceptions of greater empathy (D'Augelli, 1974), and also to affiliative interpersonal behaviour (Mehrabian, 1971; Mehrabian and Ksionsky, 1972). It might therefore be expected from these findings that head nods are influential in the selection interview as a behavioural reinforcer. Indeed, this presumption has been supported by several interview studies which illustrate that frequency of nodding by the interviewer affects interviewee behaviour (Keenan and Wedderburn, 1975), and that nodding by the interviewee influences interviewer ratings (Imada and Hakel, 1977; Forbes and Jackson, 1980).

Relatively little decoding research has been conducted from which to infer relationships between hand gestures and attributions to personality traits. However, it is clear that in social conversation some gestures directly replace spoken words, and hence operate as 'emblems' (Ekman and Friesen, 1969). Frequent gesturing by the interviewee is associated with more favourable interviewer evaluations (Washburn and Hakel, 1973; Forbes and Jackson, 1980), but as stated in Chapter Two, the limitation of these investigations is that their criterion was basically outcome decision making, not the impression formation process. More research into the impact of hand gestures upon interviewer impression formation is consequently needed before it is possible to make assertions regarding the salience of different gestures.

Finally, under the broad heading of kinesics, decoding research into posture and postural changes needs to be mentioned briefly. Forward leaning posture is a sign of liking, as is an open posture with arms and legs uncrossed (Mehrabian, 1968; 1969; Mehrabian and Friar, 1969). Further, a forward leaning posture may convey attentiveness and interest in the conversation, whilst a reclined posture may be perceived as disinterest or reluctance to participate (Mehrabian, 1972). Bull (1987) varied drawings of postures in terms of head, trunk, arm, and leg positions in order to examine subjects' reactions on two main scales: interest/boredom, and disagreement/agreement. A highly complex set of statistical interactions emerged from the results, but these may be summarised as follows. Interest was conveyed by 'head straight', forwards lean, and 'legs drawn back' postures, whilst disagreement was decoded from the single cue of folded arms.

The frequency of postural changes may also be related to the impression formation process. Continual changes in posture are likely to be seen as a sign of nervousness and tension (Mehrabian, 1972), although equally, interviewers may expect the interviewee to display some indications of apprehension early on in the interview (Herriot, 1984).

In conclusion, this volume of experimental social psychological research throws considerable light onto relationships between the non-verbal behaviour of the target person and the resultant impressions of personality formed by the perceiver. Caution has to be exercised, though, in applying these findings to the graduate selection interview since most of these studies have been conducted in the context of dyadic social conversations posed under laboratory conditions. Nonetheless, these studies, together with the research into impression formation and impression management discussed earlier in this chapter, provide a broad platform of empirical evidence from which to develop research into interviewer impression formation.

A COGNITIVE SOCIAL PSYCHOLOGICAL MODEL OF INTERVIEWER IMPRESSION FORMATION

It was stated in Chapter Two that interview studies have been conducted in theoretical isolation from the research into impression formation, impression management, and non-verbal behaviour. Further, that interview research has generally failed to develop operational models of the process under investigation. In response to these criticisms, Figure 3.2 extends the literature review undertaken in this chapter to present a cognitive social psychological model of interviewer impression formation.

This model is developed from other models propounded by information integration theorists (e.g. Anderson, 1981), from attributional models of dispositional inference (Jones and Davis, 1965; Kelley, 1972; Trope, 1986), and from Warr and Knapper's comprehensive schemeta of interpersonal perception (Warr and Knapper, 1968).

Following the typology developed to meta-review the interview research, this model identifies three inter-related sources of information on the candidate to which the interviewer is subjected: documented-biographical, verbal, and non-verbal. Examples of items of information conveyed by each source are given, whilst impression formation by the interviewer is represented as a four-stage process in the model.

FIGURE 3.2 - SOURCES OF INFORMATION AVAILABLE TO THE INTERVIEWER

AND THE PROCESS OF INTERVIEWER IMPRESSION FORMATION

DOCUMENTED - BIOGRAPHICAL SOURCE

- Curriculum vitae
- Application form
- Psychometric test results
- References
- Correspondence

Educational achievements
Work experience
Nationality
Career objectives
Interests
Photographic information
Marital status
Medical history
Test performance scores
Reference details

VERBAL BEHAVIOUR SOURCE

'CONTENT' [2]	'PROCESS'
Type of replies	Speech disturbances
Appropriateness of replies	Pause durations before answering
Length of replies	Volume of speech
	Intonation
	Accent

NON-VERBAL BEHAVIOUR SOURCE

'STATIC' CUES [3]	'DYNAMIC' CUES
Height	Gaze patterns
Physical attractiveness	Eye contact behaviour
Colour	Facial expressions
Sex	Hand gestures
Aroma	Postural changes
Dress	Head movements

CANDIDATE BEHAVIOUR AT INTERVIEW

EXPECTANCIES [1]

INTERVIEWER IMPRESSION FORMATION

1. RECOGNITION of the salience of items of information

2. TRANSLATION [4] of physical items of information into psychological meaning

3. ASSIMILATION [4] of multiple items into a coherent impression of the candidate

4. JUSTIFICATION of the impression formed - actively seeking confirmatory evidence

OUTCOME DECISION MAKING BY INTERVIEWER

FOOTNOTES

[1] Research strongly suggests that documented-biographical source information creates expectancies which influence interviewer impressions (eg. Anderson, 1960, 1981).

[2] The verbal behaviour source (ie. interviewee utterances) may be analysed by the content of replies (eg. using Bales categories, 1950; Sydiaha, 1961, for instance), and/or in terms of process variables (eg. Sterrett, 1978; Sigelman, 1980). The latter is classified as 'non-verbal aspects of speech' by Argyle (1983).

[3] The non-verbal behaviour source may be sub-divided into relatively static cues which remain permanent throughout the interview, and dynamic cues which are constantly changing.

[4] For a more detailed treatment see Anderson (1974, 1981), and in the context of the employment interview, Nagy (1981) and, Shanteau and Nagy (1984).

The first stage, that of recognition, emphasises the pre-condition to impression formation that the interviewer must recognise the item of information as salient to the process. As Kahn and Cannell (1957) point out, recognition may not occur as many items may pass unnoticed in an interaction. This argument is examined further in Chapter Five.

The second stage of the impression formation process in the model, translation, supposes that recognised items are then translated or transposed into psychological meaning by the interviewer. Anderson (1981) terms this the 'valuation function', whereby the physical stimulus is transformed into psychological value. Here the conceptual basis of the 'valuation function' is adopted and applied to interviewer impression formation. It is thus proposed in the model that the interviewer translates items of information from the three sources into psychological meaning on dimensions of perception salient to the decision making process.

The third stage of the impression formation process, that of assimilation, is close in meaning to Anderson's 'integration function'. In essence, both terms refer to the merging of a multiplicity of items of information into a psychologically coherent whole. Contradictory information may therefore be discounted or distorted in order to form a relatively consistent impression of the candidate.

The fourth and final stage of the process portrayed in the model is that of justification. It is proposed that the interviewer may actively seek confirmatory evidence to vindicate the impression formed of the interviewee. As noted in the previous chapter, Snyder and Swann (1978) and Snyder (1981) propose that individuals adopt confirmatory information seeking strategies designed to verify initial impressions. Although recent experimental research suggests that this may not be a consistent tendency in impression formation (Sackett, 1982; McDonald and Hakel, 1985; Pennington, 1987), there is evidence nevertheless that confirmatory information seeking strategies are employed by interviewers,

possibly as a means of reinforcing their decision certainty and justifying their impressions of the candidate.

The model is intended to portray simply the process of interviewer impression formation. It is not put foward as an almanac covering all possible items of information to which the interviewer may have access, nor is it capable of representing the dynamic, interactive nature of the interview situation. Indeed, the model is a deliberate simplification of real-life interviewer impression formation, although it serves as a useful conceptual schema for this research since it symbolises the author's 'point of departure' for the subsequent empirical studies into interviewer impression formation.

CONCLUDING COMMENTS

In conclusion, this bulk of social psychological research into person perception illustrates connections between the behaviour of the target individual and the receiver's impressions of personality. These studies provide an empirical foundation upon which to build research into interviewer impression formation and, with the caveat that much of this work has been carried out in experimental settings, this research suggests the processes involved in forming an impression of candidate personality.

CHAPTER FOUR

RESEARCH SPECIFICATION AND DESIGN

INTRODUCTION

RESEARCH SPECIFICATION

ALTERNATIVE METHODOLOGICAL APPROACHES

LABORATORY EXPERIMENTS VERSUS FIELD STUDIES

CONCLUDING COMMENTS

'The master-chemist has finally produced a bubbling green
slime in his test tubes, the potential of which is great
but the properties of which are mysterious. He sits alone
in his laboratory, test tube in hand, brooding about what
to do with the bubbling green slime. Then it slowly dawns
on him that the bubbling green slime is sitting alone in
the test tube brooding about what to do with him. This
special nightmare of the chemist is the permanent work-a-
day world of the psychologist - the bubbling green slime is
always wondering what to do about you.'

(Bannister, 1970: 22).

INTRODUCTION

In Chapter Four the research specification for this investigation is presented and the methodological issues associated with conducting this research are discussed in some depth. This discourse is intended to lay the foundations for the empirical investigations and, in so doing, to address general issues of methodology as opposed to the specific descriptions of methods given in Chapter Five to Chapter Nine. These issues include the choice between qualitative and quantitative research, distinctions between laboratory experiments and field studies including issues of internal and external validity, the construction of ecologically valid videotape simulations of the graduate selection interview, the choice of the subject population for experimental designs, and ethical points in relation to interview research. Interwoven in this discussion are references to the most appropriate methodological strategies for this research, and explanations of the reasons for the adoption of particular methods.

RESEARCH SPECIFICATION

In the light of the literature reviews undertaken in Chapters Two and Three, and with reference to the conceptual schema of interviewer impression formation propounded in Figure 3.2, it is appropriate here to develop a succinct specification of the aims and objectives of this research. It is not intended that these parameters be interpreted as experimental hypotheses, but rather, that they constitute exploratory themes for the empirical studies detailed in Chapters Five to Nine.

The objectives of this research are three-fold:

1. To examine the documented-biographical, verbal, and non-verbal information recognition strategies of interviewers in relation to the impression formation process.

2. To determine the perceptual links underlying the translation of information into impressions of personality.

3. To elucidate the processes involved in interviewer assimilation of multiple perceptions of personality into a coherent, overall impression of the candidate.

It will be noted that the fourth stage of impression formation depicted in the model in Figure 3.2 is excluded from this statement of research objectives. This is because the more pressing requirement is for interview research to focus upon the actual impression formation process as opposed to the follow-up strategy of confirmatory information seeking by interviewers.

In conclusion, these three themes lay down the parameters for the following empirical studies. This specification is revisited in Chapter Ten following the presentation of the results, where the practical and theoretical implications arising from the studies are discussed in detail.

ALTERNATIVE METHODOLOGICAL APPROACHES

It is possible to identify two distinct approaches to conducting research into interviewer impression formation. These may be termed the 'quantitative' and the 'qualitative' approaches, although it should be emphasised that this dichotomy is over-simplified in the context of interview research as the strategies are not mutually exclusive.

The Quantitative Tradition

The vast majority of interview studies reviewed in Chapter Two have adopted a quantitative approach to examine interviewer or interviewee decision making. Numerical data in the form of ratings or assessments has been collected, and the data analysed by statistical means to arrive at epistemological 'results' or 'findings'. Clearly, the validity of these findings is dependent upon the accuracy of the attitudinal measures taken, and upon the correct use and interpretation of statistical techniques. The assumptions upon which linear rating scales are based are discussed further in Chapter Six.

An alternative approach to such numerical data collection has, however, been adopted by a few studies into interviewer decision making. As noted in Chapter Two, interpretive research using qualitative methods is sparse, but a couple of studies may be cited.

Qualitative Research

The Silverman and Jones (1975) study into recruiter perceptions typifies the qualitative approach to interview research. In this type of research numerical data is not sought, but rather, the dimensions underlying interviewer or interviewee decision making are elicited through introspective means. That is, subjects are encouraged to discuss their reasons for reaching a particular

decision (see also Herriot and Wingrove, 1984). Webster (1982) is
critical of this research method, however

> '... we cannot rely on people to give accurate introspective
> reports on how they form opinions. Introspection has little
> value to the study of what really influences our impressions
> of people.' (p. 46).

This view is unjustifiably negative, though, since qualitative
research provides a useful dimension of empirical findings on
interviewer impression formation. For this reason, both
qualitative and quantitative approaches are utilised in the
research undertaken for this thesis, the former to elicit
dimensions of perception, the latter to examine interviewer rating
strategies on these dimensions.

LABORATORY EXPERIMENTS VERSUS FIELD STUDIES

A further set of methodological issues concerns the choice between
laboratory experimental and field study methods of research into
interviewer impression formation. In essence, this choice is
between the use of actual interviews or interview simulations to
examine the processes involved in impression formation. The
factors influencing this choice are now considered, and the
approach adopted in this research is described.

Laboratory Experimental Methods

Woolman (1973) defines an experiment as a

> 'controlled arrangement and manipulation of conditions to
> systematically observe particular phenomenon with the
> intention of defining the influences and relationships which
> affect these phenomenon.' (p. 15)

Moreover, as Miller (1984) and Wright and Fowler (1986) point out,
the aim of any experimental design is to measure the relation
between changes in the independent variable (IV) and resultant
changes in the dependent variable (DV) or variables. Other factors

influencing this relation, termed 'irrelevant' or 'nuisance' variables, are minimised as far as is practicable.

Pure experimental psychology would dictate setting up hypotheses stating the expected relation between IV and DVs which are then confirmed or discounted by the results. A more exploratory approach is that of purposely not developing hypotheses on the grounds that insufficient research has been conducted in the past to permit the experimenter to express expectations. It is this stance which is adopted in this research, although the underlying purpose remains that of evaluating the effect of changes in the IV (candidate behaviour) upon the DVs (interviewer impressions of personality).

A number of issues arise in connection with conducting experimental investigations into interviewer impression formation. These can be grouped under four heads: the design of stimulus materials, experimenter effect, the choice of subject population, and ethical considerations in relation to interview research.

1. Stimulus Materials

Although a number of impression formation studies have used written stimulus materials to investigate impression formation processes, this method was inappropriate here since it was the links between candidate behaviour and interviewer perceptions which were the focus of concern. It was therefore decided to use videotape recordings of candidate behaviour as the stimulus medium through which to examine the effects of different self-presentational styles upon interviewer impression formation.

A comprehensive review of the methodological considerations in this approach is provided by Scherer and Ekman (1982), but two main issues are of concern in relation to this thesis. These are the use of posed (i.e. experimentally manipulated) or naturally occurring behaviours, and the generality of subjects' ratings to those of selection interviewers.

(a) Posed Versus Natural Candidate Behaviours

As Rozelle et al. (1986) note, posed behaviours allow greater experimental control to be exercised by the researcher, the problem being that experimentally induced behaviours need to be representative of actual interview behaviour. The use of extreme behaviours by some interview studies is thus unacceptable on the grounds of ecological invalidity (see Chapter Two). It is clear, then, that care needs to be taken in the manipulation of behaviour to ensure that interview simulations are ecologically valid and hence generalisable to actual graduate selection interviews (see also Gifford et al., 1985).

A further point on this issue concerns which behaviours are manipulated given that different sources of behaviour are probably inter-linked (Archer and Akert, 1977; Druckman et al., 1982; Edinger and Patterson, 1983). Wiener and Mehrabian (1968) specify that treating any source or 'channel' of communication as independent is solely at the discretion of the researcher

> 'Channel will define any set of behaviors in a communication which has been systematically denoted by an observer and which is considered by that observer to carry information which can be studied (in principle at least) independently of any other co-occurring behaviors.' (p.51)

A channel approach is adopted in Experiment III, and further details of this are given in the Experimental Design and Methods sections of Chapter Eight. It should be stressed that although both naturally occurring and posed behaviours are used in stimulus interview recordings in this research, every practicable precaution was taken to ensure the ecological validity of recordings. Details of the measures taken in this respect are given in the Methods sections of the empirical chapters.

(b) Generality of Ratings

The second issue regards the generality of ratings performed by experimental subjects to actual assessments by graduate interviewers. Imada and Hakel (1977) found that 'rater proximity', that is, subjects rating either as interviewers, from direct observation, or from a videotape recording, did not significantly affect assessments. Nonetheless, this concern is discussed in several of the empirical chapters, but in all cases it is asserted that the experimental findings are generalisable to interviewer impression formation.

2. Experimenter Effects

A well-documented pitfall in experimental investigations is that of experimenter effects (Rosenthal, 1976). This occurs whereby demand characteristics of the situation are unintentionally communicated by the experimenter to subjects who then respond accordingly. The subject's readiness to comply to demand characteristics has long been realised by experimental psychologists; Orne (1962) quotes Pierce (1908)

> 'It is to the highest degree probable that the subject's
> general attitude of mind is that of ready complacency and
> cheerful willingness to assist the investigator in every
> possible way by reporting to him those very things which he
> is most eager to find, and that the very questions of the
> experimenter suggest the shade of reply expected.'
> (p. 779, ibid.)

To counteract the possibility of experimenter effects, a set of Standard Operation Instructions (SOIs) was developed and adhered to in each of the three experiments conducted. Standardisation of administration was therefore ensured and, since all experiments were exploratory in orientation and no specific hypotheses were developed, concerns over the influence of this effect were minimised.

3. Subject Populations

An ongoing controversy in interview research is the use of
students as surrogate experimental subjects for selection
interviewers. Access to the latter can be problematic,
particularly in the numbers required for many experimental
designs, and so the student population provides a readily
accessible alternative for the researcher.

The trend of the study findings into this question indicates that
students' ratings do not differ significantly from trained,
experienced interviewers, except that for unsuccessful candidates
students tend to be more lenient (Young et al., 1979; Jackson et
al., 1980; see also Appendix I). Gordon et al. (1986) review
studies in this area and their findings suggest the importance of
the distinction between information collection and information
processing differences between students and interviewers. Since
interviewers are trained in information collection skills it is
unreasonable to expect students to emulate these skills and to
assume their ratings to be representative of those of experienced
interviewers. However, the research into this topic shows that
students and interviewers exhibit similar information processing
strategies, and it is therefore reasonable to use students as
surrogates in experimental tasks of this nature. Consequently,
both interviewers and students participated as subjects in the
experiments conducted for this thesis, and differences between the
two groups are reported in the following chapters.

Another question concerns differences between line managers and
personnel managers in terms of impression formation processes.
Line managers have been found to concentrate more on academic
performance, whilst personnel managers are more influenced by
personality considerations (Keenan, 1976b). Again, both line
managers and personnel managers are used as subjects in this
research and differences between these groups are evaluated.

Finally, the issue of rater accountability needs to be drawn attention to briefly. Rozelle and Baxter (1981) report that informing subjects that they were personally responsible for their assessments improved inter-rater reliability. For this reason, in each of the experiments instructions given to subjects emphasised that subjects should regard themselves as personally accountable for their assessments of the candidate.

4. Ethical Considerations

Conducting research with human subjects involves the researcher complying with a set of professional standards issued by the British Psychological Society (B.P.S., April, 1978). Two of the principles contained in this statement are particularly relevant to these investigations, principles number 1 and 4:

'1. Whenever possible the investigator should inform the subjects of the objectives, and, eventually, the results of the investigation.'

'4. Deception of subjects, or withholding of relevant information from them, should only occur when the investigator is satisfied that the aims and objects of his research or the welfare of his subjects cannot be achieved by other means.'

This principle of 'participation by informed consent' was adhered to throughout this research as deception of subjects was not justifiable in any of the experiments and so was avoided. A full debriefing presentation was completed by the researcher at the end of each experimental session to inform participants of the aims and objectives of the research. Indeed, this was often a condition of access to groups of recruitment interviewers. In Study B this debriefing took the form of a written feedback report (Anderson, 1987b).

<u>Field Study Methods</u>

It was stated earlier in this chapter that the alternative to
using laboratory experimental methods is to conduct field studies
of actual graduate selection interviews. This choice is influenced
largely by considerations of desired control over variables,
constraints over access to interviewers, and requirements to
maximise the 'external validity' of the investigation (Campbell,
1957; Campbell and Stanley, 1966; Cook and Campbell, 1976). The
dilemma that is faced by the researcher is succinctly stated by
Rosenthal et al. (1979) with regard to non-verbal behaviour
decoding studies

> '... there seems to be an unfortunate trade-off between
> internal validity and external validity in decoding
> research: the greater the sophistication and control of the
> research design, the less the resulting non-verbal behaviour
> resembles natural emotional expression.' (p. 16)

The advantages stemming from the greater generality of findings
from field studies have to be offset against restrictions upon the
degree of control exerted over variables and limitations upon
access to sufficient numbers of interviewers. Furthermore, the
measurement of candidate behaviour poses additional problems in
the context of actual graduate interviews. Methods of participant
observation whereby the researcher is present at interview and
periodically records candidate behaviour (see Forbes and Jackson,
1980, for example) were inappropriate for this research into
interviewer impression formation. Access problems coupled with
persistent doubts over the effects of the researcher's presence
upon candidate behaviour were important factors which militated
against adopting a participant observation method. Consequently,
detailed ratings of candidate behaviour completed by interviewers
were used in this research, but this strategy was only accepted
once the ability of interviewers to recognise differences in
behaviour was established by laboratory experimental means (see
Experiment III, Chapter Eight for details).

To conclude, both experimental and field study methods are utilised in this research. The methods are adopted contingent upon such factors as access opportunities, considerations of internal versus external validity, and requirements for control over candidate behaviour. The research relies upon both methods of data collection acting in conjunction so that successive investigations follow on from the findings of the previous experiment or study.

CONCLUDING COMMENTS

This chapter overviews the major issues of methodology connected with undertaking research into interviewer impression formation. These general issues are supplemented in each of the chapters reporting the empirical findings by a detailed description of the experimental or study design and method. It is to these reports of the empirical investigations that the thesis now turns.

CHAPTER FIVE

EXPERIMENT I

AN INVESTIGATION INTO THE EFFECTS OF

DIFFERENTIALLY LIMITED INFORMATION AVAILABILITY

UPON IMPRESSION FORMATION

INTRODUCTION

EXPERIMENTAL DESIGN

METHOD

RESULTS

DISCUSSION

CONCLUSION

'the interviewer is presented with more information than
can be processed simultaneously, and, in trying to deal with
it all, deals with none of it effectively.'

(Krauss, 1981: 329)

INTRODUCTION

Source Predominance in Interviewer Impression Formation

Underlying the cognitive social model of interviewer impression formation propounded in Chapter Three is the assumption that the interviewer receives, processes, and assimilates information from various sources into an organised and relatively coherent impression of the candidate. Regrettably, however, the trend of research into information processing in the interview has been highly atomistic in approach. Many studies have basically attempted to establish the salience of different sources of information in terms of its influence upon assessments of the interviewee. This research has sought to establish the relative importance of application form, verbal, and non-verbal information upon subsequent hiring decisions, with different studies concluding the predominance of each of the three sources.

Rasmussen (1984), for instance, found that application content accounted for the greatest proportion of total variance in ratings of the interviewee. Contrary to this finding are those of a number of studies which indicate non-verbal behaviour as most influential, (Imada and Hakel, 1977; Young and Beier, 1977; McGovern and Tinsley, 1978; and Parsons and Liden, 1984). Amongst several studies concluding the predominance of verbal information, Sterrett (1978), and Hollandsworth et al. (1979) can be cited as typical examples. Sterett reports that non-verbal behaviour exerted little and statistically non-significant influence upon personality trait ratings of the interviewee, whilst Hollandsworth et al. found in an extensive study of 338 campus interviews that the verbal replies of applicants contributed most to favourable interview outcomes and that non-verbal behaviours were only minimally influential.

One is forced to conclude that this type of research, in seeking to establish the predominance of one source of information over

another, has generated polemic and contradictory study findings. More critically, it has failed to address the central issue of elucidating the process of interviewer impression formation. In sum, existing research has attempted to establish 'source predominance', and not 'source utilisation' by interviewers, and has contributed relatively little to an understanding of information processing and impression formation in the employment interview.

Differential Source Availability Research

Other research has adopted what can be termed a 'source availability' type of experimental design to establish the impact of the various sources of information upon outcome decisions.

An early study by Giedt (1955) investigated the judgmental processes of clinical psychologists under different conditions of information availability. Giedt showed videotape recordings of counselling interviews to clinicians with either sound and vision, sound only, vision only, or gave a verbatim transcript to subjects. He found that as more information was made available the more accurate subjects' assessments of patients became against criterion measures of personality made by the hospital psychologist. The only exception to this trend of incremental accuracy were ratings completed where both sound and vision were made available. In this condition, raters achieved no greater accuracy than if they had only been subjected to sound cues alone. Shapiro (1966) used a similar method, again in the context of the clinical interview. Low correlations were reported between subjects' ratings of interviewee feelings during the interaction across different conditions of information availability. Contradictory results are reported by Ferris and Gilmore (1977) in a study of selection interview outcomes. In this research, ratings of the applicant were largely unaffected by information availability.

Washburn and Hakel (1973) conducted something of a hybrid experiment in that they both limited source availability and attempted to ascertain source predominance upon ratings of interviewer enthusiasm. Comparing audiovisual, visual, and transcript sources of information availability, they found that visual cues were most influential upon ratings of interviewer enthusiasm. Conclusions to the contrary are drawn by Wish (1979) who asserts that assessments of different types of dyadic interactions were influenced primarily by verbal rather than non-verbal content.

Overall, this area of research has also generated contradictory findings which make it difficult to interpret the effects of limiting the availability of information upon impression formation.

Selective Attention and Information Overload

The studies conducted by Washburn and Hakel (1973) and Wish (1979) corroborate classic research by cognitive psychologists which indicates that individuals possess only limited capacity to process information (e.g. Broadbent, 1952; Mowbray, 1952, 1953). Broadbent (1958) advocates the notion of 'selective attention' whereby the individual reduces incoming information by listening to just some of the multiple stimuli. More recently, Krauss (1981) suggests that the selection interviewer is under 'information overload'. He argues that

> 'the interviewer is presented with more information than
> can be processed simultaneously, and, in trying to deal with
> it all, deals with none of it effectively' (1981: 329).

This is an important supposition, both in the context of micro-analytical research into information processing in the interview, and with regard to macro-analytical studies into the predictive validity of the interview as a selection technique. If the interviewer is faced with an intolerable load of information, then the generally reported low interview validity coefficients may be attributable to the information processing limitations of the

interviewer rather than to any inherent weaknesses in the interview as a selection technique.

The concept of information overload is examined in detail in this chapter, and the effects of multi-source information availability upon interviewer impression formation are evaluated and appraised. Experiment I examines the existence and effects of information overload upon the process of impression formation through the use of a limited source availability experimental design. The experiment investigates the recognition, translation, and assimilation phases of the impression formation model presented in Chapter Three, and in particular, it examines the assimilation of documented-biographical, verbal, and non-verbal source information.

EXPERIMENTAL DESIGN

A laboratory experiment was designed to differentially limit information availability to subjects and so to evaluate the effects of this upon

(a) the numbers of adjectives checked by subjects as personality trait descriptors of the candidate, and,

(b) the concordance between subjects' assessments of the candidate and the candidate's self-assessment.

The second objective was derived from the continuing debate over intractable issues of accuracy in person perception. Earlier attempts to uncover the qualities of 'the good judge of others' (e.g. Taft, 1955) have received little research attention in more recent years, due in part to the scathing criticisms levelled at methodological oversights in the early work (Cronbach, 1955; Mischel, 1968, 1973). However, Cook (1979), and Schneider et al. (1979) both advocate such accuracy studies as potentially useful in view of developments in criterion measure sophistication in

personality testing. Moreover, very recent work has returned to the accuracy issue, and it seems likely that this issue may become an important one in future interview research (Ferguson, 1987; DePaulo et al., 1987; Hastie and Rasinski, in press).

Experiment I introduces the concept of 'concordance' between subjects' assessments and the interviewee's self-assessment in preference to that of 'accuracy', so as to avoid any assumption of the infallibility of the construct validity of the criterion measure (e.g. Cronbach, 1955; Hampson, 1982). No specific hypotheses were developed for this experiment in order to facilitate an exploratory investigation into the relationship between information availability and impression formation.

Four different conditions of information availability to subjects were used:

(1) Audiovisual condition (both sound and vision available)

(2) Audio condition (only sound available)

(3) Visual condition (only vision available)

(4) Transcript condition (only a typed verbatim transcript
of the interview available).

In all four conditions the documented-biographical information presented to subjects was held constant. Thus, the influence of the content of verbal information alone (transcript condition), content and process verbal information (audio condition), non-verbal information (visual condition), and combined verbal and non-verbal information (audiovisual condition) upon impression formation was examined.

METHOD

1. Subjects

118 undergraduate students participated in this experiment, 56 were male and 62 were female. Subjects were assigned at random to one of four rating conditions as shown in Table 5.1

TABLE 5.1

THE DISTRIBUTION OF SUBJECTS ACROSS RATING CONDITIONS

CONDITION OF INFORMATION AVAILABILITY	n
Audiovisual condition	31
Audio condition	22
Visual condition	28
Transcript condition	37
TOTAL	118

Ease of access to undergraduate students coupled with anticipated difficulties in securing the cooperation of a large number of professional employment interviewers determined the choice of the subject population. Further, as discussed in Chapter Four, it was likely that students' ratings would not differ significantly from those of professional interviewers in this experiment, and so undergraduate students were deemed most appropriate to act as subjects.

2. Materials

The stimulus videotape shown in this experiment was chosen at random from the interviews recorded as part of the pilot study described in detail in Appendix II.

The background information prepared for the pilot was also used in this experiment. To replicate information available to the graduate recruiter, subjects were provided with

(1) a company synopsis, and the job description and advertisement for the contrived position of Graduate Trainee with Jupiter Stationery and Equipment Ltd. (Appendices III, IV, and V).

(2) the candidate's standard university application form (Appendix VI). The name on the application was altered to conceal the candidate's identity during this experiment.

(3) instructions for this experiment (Appendices VII and VIII).

3. Criterion Personality Measure

An important consideration was the choice of the criterion personality measure. One key requirement was that the instrument must permit both self-assessment by the interviewee, and assessment of the interviewee by the interviewer who participated in the pilot study and by the subjects participating in this experiment. This effectively ruled out several popular personality tests (e.g. the '16PF': Cattell et al., 1950, and the 'Occupational Personality Questionnaire': Saville and Holdsworth, 1984).

Additionally, the focus of this experiment upon the assimilation of information under conditions of differentially limited source availability dictated the use of an instrument which involved

dichotomous rating of items as opposed to scalar rating. The requirement was that items comprising the inventory were checked only where sufficient information permitted subjects to choose trait descriptors as appropriate, rather than stipulating that subjects should rate all items on Likert-type scales.

As a result of these prerequisites, the Adjective Check List (ACL), (Gough, 1952) was chosen as the most suitable and well-validated instrument available. The ACL comprises of 300 personality trait adjectives listed in alphabetical order from item 1: Absent-minded to item 300: Zany. The original form was introduced in 1952, and the instrument has been extensively validated since then (e.g. Gough, 1960; Scarr, 1966; Williams and Bennett, 1975; Williams and Williams, 1980). Buros (1978) cites in excess of 700 research studies using the ACL, whilst the current edition of the accompanying manual (Gough and Heilbrun, 1983) quotes normative data based upon 9,402 subjects.

4. Procedure

During all rating sessions the Standard Operation Instructions shown in Appendix IX were followed. After allowing between five and ten minutes for subjects to familiarise themselves with the background information and to read the candidate's application form, subjects were asked if there were any questions. The recorded interview was then shown in the appropriate condition of information availability, or the transcript of the interview (see Appendix X) was distributed. The ACL was then administered. Once all completed assessments had been collected subjects were thanked for their participation and debriefed on the aims of the experiment.

1. Information Utilisation under Differential Conditions of Source Availability.

Although a response bias to the ACL, manifest as a decline in the frequency of adjectives checked in the later stages of the form, was identified, this bias was present in all four conditions and thus did not disrupt data analysis (see Appendix XI for a detailed analysis).

Table 5.2 indicates that subjects using both verbal and non-verbal cues to form an impression of personality did not make notably more trait attributions than those having access to either sound or vision alone.

From this table it is apparent that the range of the number of adjectives checked across the different rating conditions is narrow. The mean numbers of adjectives checked in the audiovisual condition is 42.1 and 36.3 in the transcript condition. One anomoly arises in the number of adjectives checked by the interviewer to describe the candidate which is less than even the mean number checked by subjects in the transcript condition, (26 and 36.3 respectively). The reasons for this are difficult to ascertain, but may relate to the stressful situation under which the interviewer completed her assessment of the candidate (see pilot study, Appendix II).

TABLE 5.2

THE NUMBER OF ADJECTIVES CHECKED TO
DESCRIBE THE CANDIDATE BY RATING CONDITION AND BY SEX

| | NUMBER OF ADJECTIVES CHECKED | | | | | |
| | ALL RATERS | | MALES | | FEMALES | |
RATING CONDITION	MEAN	SD	MEAN	SD	MEAN	SD
Self-assessment	137 (n=1)	–	–	–	–	–
Interviewer Assessment	28 (n=1)	–	–	–	–	–
Audiovisual	42.1 (n=31)	19.7	41.1 (n=17)	14.9	43.4 (n=14)	24.8
Audio	41.3 (n=22)	24.0	50.0 (n=8)	35.0	36.4 (n=14)	14.1
Visual	40.1 (n=28)	19.8	37.4 (n=9)	19.9	41.3 (n=19)	20.1
Transcript	36.3 (n=37)	16.6	37.6 (n=22)	17.1	34.5 (n=15)	16.1

In order to ascertain whether significant main effects existed between the dependent variable of number of adjectives checked and the factors of rater sex, presence of audio channel information, and presence of visual channel information, a 2 X 2 X 2 ANOVA was performed. The results of this analysis are reported in Table 5.3.

TABLE 5.3

EFFECTS OF RATER SEX, AUDIO INFORMATION AVAILABILITY, AND

VISUAL INFORMATION AVAILABILITY UPON THE NUMBER OF

ADJECTIVES CHECKED BY RATERS

Source of Variation	Mean Square	f-Values	p
Main Effects			
Sex	109.28	0.28	NS
Audio	125.94	0.32	NS
Visual	50.20	0.13	NS
Two-Way Interactions			
Sex X Audio	48.47	0.13	NS
Sex X Visual	39.02	0.10	NS
Audio X Visual	43.99	0.11	NS
Three-Way Interactions			
Sex X Audio X Visual	50.18	0.13	NS

No statistically significant main effects or interactions are apparent, indicating that neither rater sex, audio information availability, or visual information availability fundamentally influenced the numbers of adjectives checked by raters to describe the candidate. In addition, chi square and eta statistics were computed against the percentage distributions of adjectives checked by rating condition. The results are detailed in Table 5.4.

As this table shows, the association between multi-source availability and the number of adjectives checked is not significant on these two separate tests of co-relationship.

TABLE 5.4

THE PERCENTAGE DISTRIBUTION OF THE NUMBER OF ADJECTIVES
CHECKED BY RATING CONDITION

	NUMBER OF ADJECTIVES CHECKED					
	0-20	21-40	41-60	61-80	81-100	101-120
RATING CONDITION						
Audiovisual (n=31)	9.7	41.9	35.5	6.5	6.5	0
Audio (n=22)	9.1	45.5	27.3	13.6	0	4.5
Visual (n=28)	14.3	42.9	28.6	10.7	3.6	0
Transcript (n=37)	11.1	55.6	22.2	8.3	2.8	0

Chi Square = 10.21, p = .96, df = 20
Eta = 0.12 with percentage checked as dependent variable

Table 5.4 confirms the lack of any significant differences between the distributions. The non-significant chi square value indicates that any differences can only be attributed to chance, and as the value of eta is close to zero, only minor differences exist between the means of the four percentage distributions. These similarities are illustrated graphically in Figures 5.1 and 5.2 which show the near match in the percentage distributions of adjectives checked by male and female subjects, and the similar percentage distributions across the four rating conditions.

FIGURE 5.1

Percentage Distribution of Number of Adjectives Checked by Sex
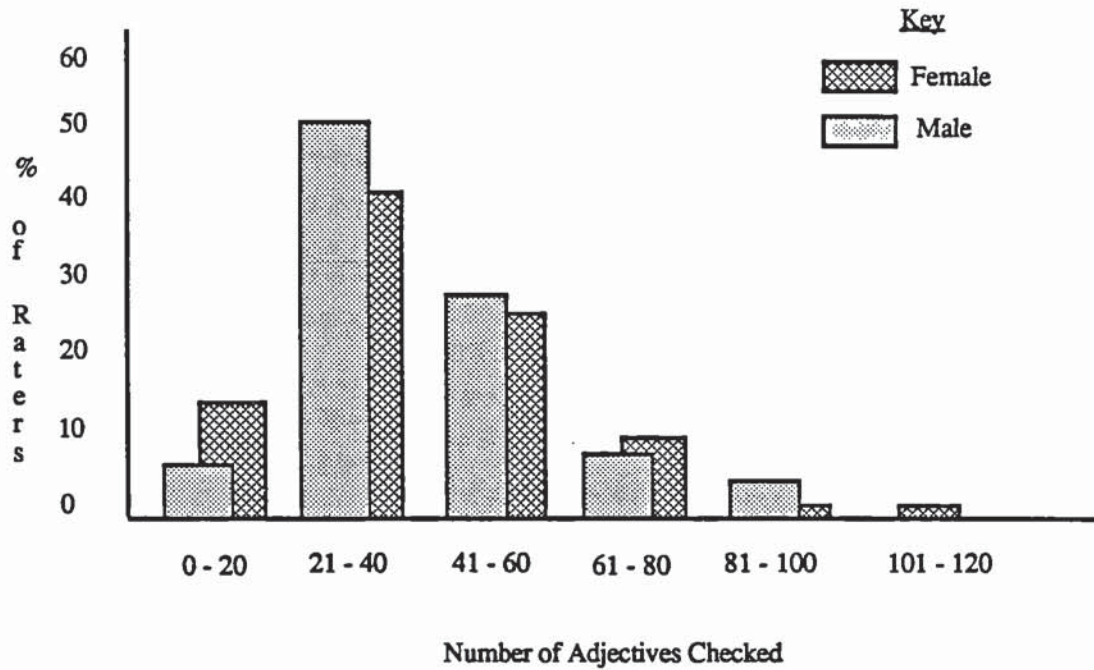
FIGURE 5.2

Percentage Distribution of Adjectives Checked by Rating Condition
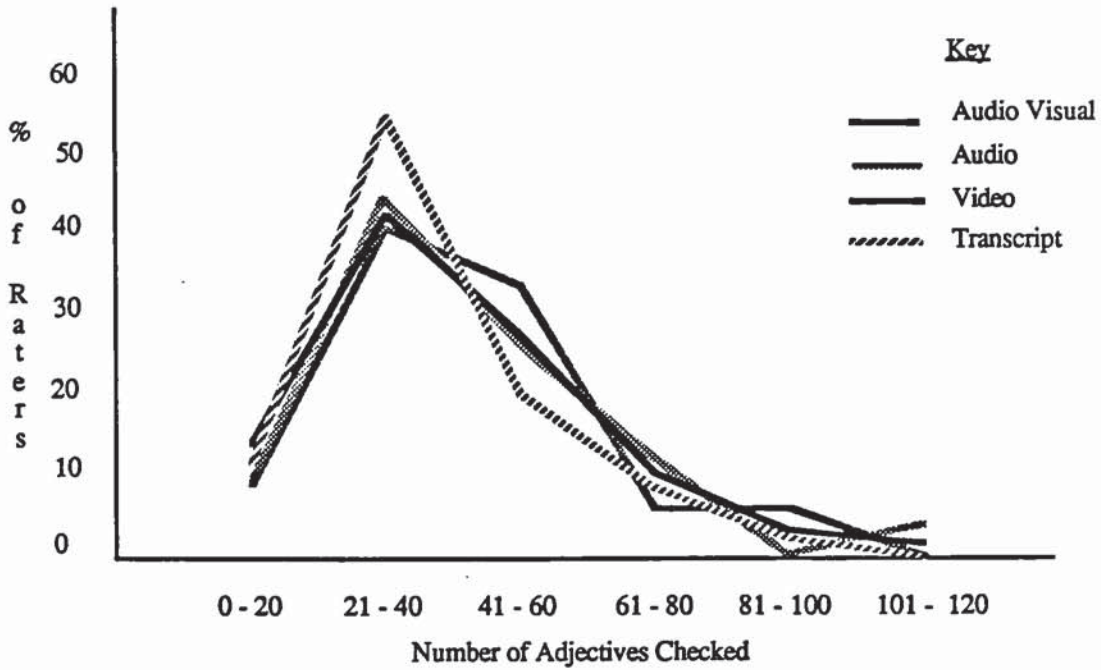
To summarise, no significant relationship exists between multi-source information availability and greater attributions to candidate personality traits. The implications of this finding are considered later in this chapter.

2. The Concordance of Rater Assessments with the Interviewee's Self-assessment

In order to measure the congruity between subjects' assessments and the candidate's self-assessment, the 'Ratio of Concordance' was developed. This ratio is the equivalent of agreement indices used in some ability tests. It expresses the number of 'correctly' checked adjectives (i.e. where both the interviewee and the rater have checked the adjective as a descriptor of personality) as a proportion of the total number of adjectives checked. The Ratio of Concordance is calculated by the following formula:

$$\text{Ratio of Concordance} = \frac{\underline{\text{Total number of correctly checked adjectives}}}{\text{Total number of adjectives checked}}$$

The ratio allows for variations in the number of adjectives checked by subjects since it expresses the concordant score as a proportion of this figure. It excludes items not checked by the subject and the interviewee as negative matches on the grounds that concordance refers solely to items checked by both parties. The range of the ratio is from zero (nil concordance) to unity (total concordance).

The Ratio of Concordance was calculated for all assessments of the candidate, and the results of this analysis are summarised in Table 5.5.

TABLE 5.5

RATIOS OF CONCORDANCE ATTAINED UNDER DIFFERENT RATING CONDITIONS

| | RATIOS OF CONCORDANCE | | |
	MEDIAN	INTER-QUARTILE RANGE	RANGE
Interviewer Assessment (n-1)	.731	–	–
Audiovisual (n-31)	.736	.674 – .809	.553 – .897
Audio (n-22)	.734	.680 – .796	.500 – .923
Visual (n-28)	.737	.679 – .767	.375 – .935
Transcript (n-37)	.697	.615 – .740	.286 – .839

This table displays only a negligible decline in median Ratios of
Concordance achieved by raters as less complete channel
information on the candidate was made available. An exception to
this trend is the Ratio of Concordance achieved by the interviewer
which is lower than that attained by raters subjected to an
audiovisual playback of the interview. The inter-quartile ranges
and the overall range of Ratios of Concordance indicate
considerable individual differences among subjects in ability to
interpret limited information correctly.

As the distributions of the ratios shown in this table are
positively skewed, Mann-Whitney tests were computed to establish
whether significant differences existed between the four
conditions. Non-significant differences were found between Ratios
of Concordance attained under multi-source information
availability and ratios attained under single-source availability,

(audiovisual-audio: U - 430, Z - 1.61, p - NS; audiovisual-visual: U - 549, Z - 1.75, p - NS). Thus, subjects having access to audiovisual information did not achieve significantly greater concordance than raters having only sound or vision available. Conversely, a highly significant difference emerged between Ratios of Concordance achieved by subjects in the audiovisual and transcript conditions, indicating that access to only a written transcript of the interview impaired accuracy of candidate assessments, (U - 879, Z - 3.76, p < .01).

To summarise, the differences between Ratios of Concordance across three of the four conditions of information availability were non-significant. Assessments in the audiovisual condition were significantly more concordant than ratings in the transcript condition only, so that subjects having both sound and vision available did not attain significantly greater levels of concordance than subjects assessing from only one of these sources. This finding is important in that greater information availability did not necessarily result in significantly greater concordance between subjects' assessments of the candidate and the candidate's self-assessment.

3. Sex Differences in Ratios of Concordance

As shown earlier in this chapter, only minor differences exist between patterns of male and female subjects in the number of adjectives checked to describe the candidate (see Table 5.2, and Figure 5.1). However, there is some evidence that female judges commonly achieve greater concordance with the target individual's self-assessment than male judges in experimental tasks of person perception (Maccoby and Jacklin, 1975). In order to examine this possibility, an analysis was carried out comparing the Ratios of Concordance attained by male and female subjects. The results are set out in Table 5.5.

TABLE 5.6

MEDIAN RATIOS OF CONCORDANCE ATTAINED BY MALE AND FEMALE
SUBJECTS UNDER DIFFERENT RATING CONDITIONS

| | MEDIAN RATIOS OF CONCORDANCE | |
| | MALE SUBJECTS | FEMALE SUBJECTS |
RATING CONDITION	n = 56	n = 62
Audiovisual	.730	.744
Audio	.659	.767
Visual	.718	.717
Transcript	.637	.688

This table shows substantive differences between female and male
median Ratios of Concordance in three of the four rating
conditions (with the visual condition being the exception).
Consequently, a Mann-Whitney test was computed between the female
and male ratios. This reveals a highly significant difference
between the two groups, with females achieving significantly
greater concordance than males, $(U = 2,347, Z = 3.29, p < .01)$.
Female subjects were therefore able to assess a female candidate
with greater concordance than males. Whilst it would be an over-
simplification to generalise this finding to all opposite-sex
dyadic interviews, more research is called for into levels of
accuracy achieved in differing interview sex combinations.

DISCUSSION

The results of Experiment I can be summarised as follows

1. Access to audiovisual information on the candidate did not affect significantly greater attributions to personality traits than access to either audio or visual information alone.

2. Access to audiovisual information was not associated with significantly greater mean Ratios of Concordance between subjects' assessments and the candidate's self-assessment than access to either audio or visual information alone.

3. Ratios of Concordance attained by female subjects were significantly greater than those achieved by male subjects.

Interviewer Impression Formation under Information Overload

These findings provide strong empirical support for Krauss' (1981) contention that the interviewer is operating under conditions of information overload. In relation to the cognitive social model of interviewer impression formation presented in Chapter Three, even though substantially more information was made available in the audiovisual condition, these items of information were either not recognised, translated, or assimilated into a more complete and concordant impression of the interviewee. It seems that the interviewer could be expected to perform just as extensive and concordant an assessment of the applicant without actually seeing the candidate face-to-face. Practicing interviewers may balk at this suggestion, but it is clear from these results that the face-to-face interview situation places the interviewer under unmanageable loads of documented-biographical, verbal, and non-verbal information. Moreover, in the actual graduate interview the interviewer is, without doubt, under considerably greater information overload than it was possible to simulate in the

116

audiovisual condition of source availabililty in this experiment. It follows that the interviewer, in trying to cope with an intolerable load of multi-source information, may recognise, translate, and assimilate only a small proportion of the items conveyed by each source. Kahn and Cannell's (1957) analogy of a stream of information passing by the interviewer seems particularly appropriate. Suspended in the stream are a myriad of 'discrete communicative acts' (p. 15). Experiment I rather suggests that the interviewer is being drowned by a torrent of information since the interviewer is participant in, not merely observer to, the sources comprising the stream.

Implications of Information Overload

The finding that there is simply too much information for the interviewer to cope with has extensive ramifications for popular practices of graduate interviewing. An obvious response to these results is to recommend that only panel interviews are used in the graduate selection process. Certainly, this would allow one interviewer to remain silent for much of the interaction, and to concentrate upon the information processing rather than the information gathering function of the interview.

An alternative possibility was pointed out earlier in this chapter. It may be that the one-to-one interview is not inherently invalid as a method of personality assessment, but, that the limitations of the interviewer to process multi-source information place a ceiling upon impression formation validity. As this experiment shows, it is probably the cognitive acts of the interviewer which are 'invalid' rather than the technique of the dyadic interview. On this premise, improvements in the accuracy of interviewer impression formation, and ultimately, in the predictive validity of the interview, rest upon two distinct assumptions. Firstly, that items of information which are predictors of candidate personality are present in one or more of the three sources. Secondly, that interviewers can be trained to search for, recognise, translate, and integrate these salient

117

items of information both correctly and reliably. Both suppositions remain under-researched and consequently unproven at the present time, and thus demand further investigation. Indeed, this avenue of research appears particularly fruitful in that it may result in empirically-grounded guidelines for practising interviewers on how to minimise information overload by selectively attending to those items of documented-biographical, verbal, and non-verbal information which are predictive of candidate personality.

The caveat that the interviewer's role is that of participant observer must be reiterated. The interview is, by definition, a dynamic, interactional, and behaviourally reflexive situation. This reality adds untold complications to the study of information processing and impression formation which were purposely omitted from the conceptual schema guiding this experiment. Future research should therefore attempt to take account of these complexities by entering additional variables into models of interviewer impression formation.

Regardless of this point, however, these findings compromise the view of interviewer impression formation as an objective and rational exercise in information processing propounded in the objectivist-psychometric texts. Rather, the results of Experiment I suggest that the interviewer attempts to form an impression of the candidate under an unmanageable volume of multi-source information, whereby it is impossible to recognise, translate, and assimilate all items of information available in the interaction.

CONCLUSION

In conclusion, the findings of Experiment I strongly support the view that the interviewer is under an intolerable load of documented-biographical, verbal, and non-verbal information. These results suggest that the interviewer, in a spurious attempt to cope with this situation, selectively attends to only a small proportion of the information available, and that additional information availability may not be associated with significantly more complete and concordant assessments of the candidate.

STUDY A

A STUDY OF MILKROUND INTERVIEWERS' PERSONALITY CONSTRUCT

SUB-SYSTEMS USING REPERTORY GRID TECHNIQUE

INTRODUCTION

PERSONAL CONSTRUCT PSYCHOLOGY: A CRITICAL OVERVIEW

A PSYCHOMETRIC APPRAISAL OF REPERTORY GRID TECHNIQUE

METHOD

RESULTS

DISCUSSION

CONCLUSION

'reality does not directly reveal itself to us, but rather
it is subject to as many alternative ways of construing
it as we ourselves can invent.'
(Adams-Webber, 1979: 1).

INTRODUCTION

The Criterion Problem Defined

The results of Experiment I cast doubt upon the validity of the
Adjective Check List as a criterion measure of personality in the
context of impression formation research. A response bias by
subjects was manifested as a gradual decline in the number of
adjectives checked in the latter stages of the instrument (see
Appendix XI). This bias was probably caused by the large number of
items comprising the ACL, which also made it difficult to identify
trends within the data. Comments made by subjects during the
debriefing sessions provided qualitative information on the face
validity of the instrument, and particular concerns were voiced
over the length of the form. Overall, the performance of the ACL
as a criterion personality measure was therefore disappointing.

As argued in Chapter Two, critical deficiencies exist in the
criterion measures of candidate personality used by the few
experimental studies into interviewer impression formation. The
norm has been the use of a set of trait adjectives for which no
justifications for inclusion, or acknowledgement of the source,
are offered. The traits are predetermined by the researchers and
imposed upon subjects with no rationale as to their applicability,
comprehensiveness, validity, or generality to real-life
interviewer impression formation. This type of research has
sacrificed the construct validity of a multi-faceted and
ideographic model of personality for a summarised, nomothetically-
driven list of traits which facilitates easy statistical analysis.
Such research can only be criticised for its unrepresentative
depiction of the personality criterion tantamount to an abject
failure to broach the complex issue of construct validity.

<u>Principal Aims of Study A</u>

As a consequence of this predominant style of research, there remains a paucity of studies founded upon the operational models and conceptions of personality actually being used day-to-day by recruitment interviewers. Study A takes an interpretive and ideographic stance to develop a criterion personality measure by adopting a personal construct psychology (PCP) perspective and by using its associated method, repertory grid technique, to sample the personality construct sub-systems of a group of milkround interviewers.

The purpose of this study was not to develop a psychometric test of personality based upon methods of test validation. Rather, the focus was to sample the personality construct sub-systems of a limited number of milkround interviewers through an interpretive approach, and thereby to elicit a representative set of personality constructs actually being applied by interviewers to perceive candidates. The aim was to combine these constructs into an interviewee personality assessment inventory for use in subsequent research. Complementary to this aim was an analysis of interviewers' modes of impression formation which this study also permitted. These objectives are discussed in the following sections which overview PCP and repertory grid technique, and also appraise the applicability of personal construct theory to the process of interviewer impression formation.

<u>PERSONAL CONSTRUCT PSYCHOLOGY: A CRITICAL OVERVIEW</u>

In his seminal works, Kelly (1955, 1963) laid the foundations for PCP as a theory of personality. His 'Fundamental Postulate' that

'A person's processes are psychologically channelized
by the ways in which he anticipates events' (1963: 46)

is elaborated by eleven corrolaries which form the corner-stones of the theory (see Kelly, 1955, chapter two; 1963, chapter two).

Although this brief review precludes an exhaustive account of Kelly's corrolaries, it is necessary to apply the tenets of PCP to impression formation in the interview. Kelly envisaged the individual as a scientist striving to cope with the environment by making sense of events, and through this sense-making activity, being able to predict and cope with future events. He claimed that sense-making occurs through the individual's personal construct system, where 'constructs are the channels in which one's mental processes run' (1963: 126). In simple terms, a construct can be perceived as a bipolar sorting mechanism which distinguishes between similarity and dissimilarity for a given event. That is to say, the individual establishes meaning by assigning information to either one pole of the construct or the other. The construct system is believed to be made up of inter-linked constructs forming a hierarchy through a pattern of superordinate and subordinate relationships. Various sub-systems comprising the hierarchy sort different types of incoming information, which normally, are integrated into the overarching system at a superordinate level (Bannister and Fransella, 1986).

Criticisms have been made of the standing of PCP as a psychological theory (e.g. Shotter, 1970, 1975). The theoretical precepts of PCP are, however, applicable to the process of interviewer impression formation. It may be argued that the interviewer's raison d'etre is the application of his personality construct sub-system to form an impression of the candidate, where the superordinate outcome decision is essentially dichotomous (i.e. accept or reject the applicant). Subordinate constructs of candidate personality may be perceived as criterion dimensions into which documented-biographical, verbal, and non-verbal information is translated. Thus, it is asserted that the interviewer's personality construct sub-system constitutes the inter-related structure of perceptual criteria underlying the translation and assimilation phases of impression formation. Assuming, then, that PCP offers an appropriate theoretical framework for investigating interviewer impression formation, its

associated method of repertory grid provides the means through
which to achieve this end.

A PSYCHOMETRIC APPRAISAL OF REPERTORY GRID TECHNIQUE

Kelly's original Role Construct Repertory Test (1955) has spawned
a multitude of repertory grid formats, mostly in clinical and
educational settings. Although personal construct psychologists
have dismissed psychometric methods of test validation as
irrelevant (Fransella and Bannister, 1977), it is patently logical
to claim that repertory grids should be subjected to the twin
pillars of psychometric appraisal of validity and reliability.

Validation procedures applied within PCP have lacked
methodological rigour, and tautological definitions of the ilk
that "a grid is valid if the researcher finds it useful" still
abound. For example, Fransella and Bannister (1977) state that

> 'Kelly was very prepared, in terms of a construct theory
> approach, to equate validity with usefulness and to see
> understanding as the most useful of enterprises.' (p.94).

More extreme is the authors' comment that

> 'while it is eminently reasonable to question the validity of
> a particular grid format ... it is not sensible to dispute
> the validity of the grid as such.' (p.93).

This rejection of the psychometric validation of repertory grid as
a method is unacceptable. Indeed, research conducted by Yorke
(1983a, 1983b, 1985) raises pertinent doubts over grid methodology
at a general level, and clearly, what is not sensible is to
disregard validating the repertory grid.

At the level of validating a particular grid format, several
points can be extracted from the PCP literature which appear to
combine to maximise validity. The first point concerns the choice
of the elements used in the elicitation process. There is general

agreement that the element set must represent the area of construal under investigation (Bannister and Mair, 1968; Fransella and Bannister, 1977; Stewart and Stewart, 1981), and should be homogeneous in type giving the participant a definite idea of the context of the grid (Mair, 1967; Yorke, 1978). Secondly, it is stressed by several authors that the researcher should not lead the participant in any way during the elicitation process, nor should the researcher impose a personal construal upon any reply (Adams-Webber, 1979; Stewart and Stewart, 1981). Thirdly, recent research has attacked the soundness of the statistical methods used in rated grid formats. The case against treating grid ratings as interval and linear scale measures through parametric statistical techniques has been voiced (Gaines and Shaw, 1982; Yorke, 1983a, 1983b).

Turning to the reliability of repertory grids, there are several studies which testify to its high test-retest reliability in terms of the constructs elicited from an element set. Hunt (1951) calculates a construct replication rate of around 70 per cent across separate elicitations one week apart. Fjeld and Landfield (1961) report a retest correlation of r = 0.80 between constructs elicited from the same elements with a two week interval between elicitations. One further study, Sperlinger (1976), details retest correlations in the magnitude of r = 0.95 for elicitations of constructs of perceived similarity between self and others. Although these studies refer to widely divergent types of grids, the unifying theme of their findings is that the test-retest reliability of repertory grid technique is impressive.

The preceeding discussion of the validity and reliability of repertory grids grounds the specific grid design used in Study A upon the core principles of psychometric test evaluation. Whilst the retest reliability of the grid was expected to be quite acceptable, validity considerations were more paramount and the three qualifying points noted above were adhered to. These measures, it was anticipated, would ensure acceptable levels of validity and reliability for the grid format developed for this

study. The principal objective of this study, to elicit dimensions of personality applied by interviewers in their task of impression formation, was therefore undertaken through a specifically-designed repertory grid. This method is detailed in the following sections.

METHOD

1. Procedure

A random sample of 38 organisations conducting milkround interviews at Aston University was contacted and a total of 11 interviewers from different organisations agreed to participate in the study. The characteristics of this sample are detailed in Appendix XII. All interviewers were informed of the principal aims of the research and assured that their identities would be kept confidential. Participants were told that they would be met at the end of their interviewing day for a discussion of their graduate selection methods.

The procedure employed for data collection was as follows. Initially, each interviewer completed a brief questionnaire which requested details of their employing organisation and posed a number of questions relating to personal details such as age, training, job title, and so forth, (see Appendix XIII). After this was done, the Interviewer Perceptions Repertory Grid (IPRG) was completed.

2. The Interviewer Perceptions Repertory Grid (IPRG)

The IPRG was derived from Kelly's original Role Construct Repertory Test (1955) and was designed to elicit the interviewer's personality construct sub-system. The elements used were the previous interviewees (usually six) seen by the interviewer during that day. Constructs of candidate personality were elicited by the sequential triadic method whereby the names of three of the

elements were presented to the interviewer on each occasion, and the interviewer was asked of each triad:

> "Can you give me one way, in terms of their personalities, that two are alike and that distinguishes them from the third?"

Following the interviewer's reply one element was replaced and the question repeated. This process continued until the interviewer found it impossible to distinguish further. The next stage of the IPRG was to obtain dichotomous ratings of all the elements against each construct. Finally, the interviewer was asked for permission to use the grid data as part of on-going research.

RESULTS

1. Personality Construct Sub-systems of Interviewers

The IPRGs were analysed on a microcomputer using the 'Flexigrid' suite of programmes (Tschudi, 1985). The results are shown in Figures 6.1 to 6.11 displaying dendograms, goodness of fit correlations, and the contribution of constructs to total variance, for each grid.

The dendogram is a two-dimensional representation of the multi-dimensional structure of construal. As such, it should be stressed that this statistical manipulation of the grid data may mis-shape multi-dimensional relationships between constructs. The process is akin to that of forcing the air from a ball in order to present a flat sphere on paper. If the sphere becomes an oval then it cannot be accepted as a two-dimensional representation of the original. The goodness of fit correlation quantifies the acceptability of the dendogram. Sneath and Sokal (1973) recommend that this correlation should exceed $r = 0.70$ if the dendogram is to be accepted. For the eleven dendograms calculated from the repertory grids, goodness of fit correlations range from $r = 0.721$ to $r = 1.000$, and therefore all can be used.

FIGURE 6.1

IPRG ONE

DENDOGRAM

PERCENTAGE MATCHING SCORE

GOODNESS OF
FIT CORRELATION:

r = 0.789

CONTRIBUTION TO VARIANCE	
CONSTRUCT	PERCENT
7	21.6
4	18.1
3	13.9
1	13.9
6	11.6
2	8.1
9	4.8
5	4.8
8	3.2

VERBATIM CONSTRUCTS

LIGHTWEIGHT -
GOOD SELF PRESENTATION
LESS CONVINCING -
POSITIVE/CONVINCING
LIGHTWEIGHT -
CONVINCING
LESS SELF RELIANT -
SELF RELIANT
RELAXED/LIGHTWEIGHT -
NOT RELAXED
LIVELY -
FLAT
EFFECTIVE SELF PRESENTATION
UNINTERESTING PRESENTATION
BRIGHT/ARTICULATE -
LACK OF WILLINGNESS
CONVINCING -
LIGHTWEIGHT/NOT CONVINCING

FIGURE 6.2

IPRG TWO

DENDOGRAM

PERCENTAGE MATCHING SCORE

100 90 80 70 60 50 40 30 20 10 0

GOODNESS OF
FIT CORRELATION:

r = 1.000

CONTRIBUTION TO
VARIANCE

CONSTRUCT	PERCENT
4	23.5
5	17.8
3	17.6
1	17.6
6	11.9
2	11.8

VERBATIM CONSTRUCTS

RELAXED/CONFIDENT – *
'DID NOT CRACK HIS FACE'
LACKED HUMOUR – *
RELAXED/CONFIDENT
RELAXED/CONFIDENT – *
SHY/DIFFICULT
PROFESSIONAL APPEARANCE –
UNPROFESSIONAL APPEARANCE
MODERATE 'A' LEVELS –
GOOD 'A' LEVELS
VARIED OUTSIDE INTERESTS –
MAINLY SPORT

* CONSTRUCT REVERSED

129

FIGURE 6.3

IPRG THREE

DENDOGRAM

FIGURE 6.4

IPRG FOUR

DENDOGRAM

FIGURE 6.5

IPRG FIVE

DENDOGRAM

FIGURE 6.6

IPRG SIX

PERCENTAGE MATCHING SCORES

	GOODNESS OF FIT CORRELATION	
	r = 0.752	

CONSTRUCT	PERCENT
10	12.9
1	11.5
2	10.7
4	10.3
3	9.9
9	9.9
8	9.1
7	9.0
5	9.0
6	7.7

CONTRIBUTION TO VARIANCE

VERBATIM CONSTRUCTS

POSITIVE - *
UNCERTAIN
MORE DEFINITE - *
UNDECIDED
UNDECIDED/RESERVED -
POSITIVE/OUTGOING
INTROVERT -
EXTROVERT
LESS SURE -
POSITIVE
UNSURE -
MORE IDEA
UNSURE -
POSITIVE
VERY UNDECIDED - *
OUTGOING
UNDECIDED -
POSITIVE
PLEASANT -
ARROGANT

* CONSTRUCT REVERSED

133

FIGURE 6.7

IPRG SEVEN

PERCENTAGE MATCHING SCORE

FIGURE 6.8

IPRG EIGHT

FIGURE 6.9

IPRG NINE

136

FIGURE 6.10

IPRG TEN

FIGURE 6.11

IPRG ELEVEN

PERCENTAGE MATCHING SCORE

GOODNESS OF
FIT CORRELATION

r = 0.891

CONTRIBUTION TO
VARIANCE:

ALL CONSTRUCTS

= 6.25%

* CONSTRUCT REVERSED

VERBATIM CONSTRUCTS

STRONG IMAGE —
IDEAL CANDIDATE
GOOD REASONING — *
'USELESS'
NOT INTERESTING — *
VERY INSPIRED
'WANTED CONSULTING' — *
GLAMOUROUS
BORING — *
COMPLETELY INSPIRED
'HATED DEGREE' — *
'DID NOT HATE OR LIKE'
SIMILAR DEGREE REASONS —
MORE RESTRICTED
'GETTING INTERVIEWS' —
'FAILED MISERABLY'
ABLE TO COMMUNICATE —
NOT SO CONFIDENT
INTERPERSONAL SKILLS —
'DID NOT COMMUNICATE WELL'
ACADEMIC —
NOT MADE USE OF OPPORTUNITIES
'REVEALED THEMSELVES' —
'FOLLOWER'
'DID NOT COMMUNICATE' — *
'EASY TO TALK TO'
COMPUTING 'O' LEVEL — *
'DID NOT DO'
CONFIDENT — *
BACKWARD
IDEAL CANDIDATE —
NOT IDEAL

138

The dendograms illustrate distinctly different patterns of construing the personalities of the interviewees in two ways. Firstly, the construct labels elicited have virtually no overlap from one grid to another. Only ten construct labels are common to two or more of the grids. These are, Articulate, Common-sense, Confident, Convincing, Extroverted, Introverted, Mature, Practical, Relaxed, and Shy.

Secondly, there are considerable individual differences in terms of Kelly's (1955) notion of 'tight-loose' construing. This refers to the variability of information processing where a tight system of construal leads to unvarying outcomes, whereas a loose system results in varying outcomes. An extremely loose system of construal is, in fact, operating haphazardly, and has been linked to thought-disordered schizophrenics (Bannister, 1960).

For the present sample, tightness-looseness was estimated by the extent and levels at which constructs within a grid carried percentage matching scores. Hence, where the dendogram shows several clusters of constructs matching at the 100 per cent level, this is symptomatic of tight construing (e.g. IPRGs Three and Five). Dendograms displaying lower percentage matching scores (e.g. IPRG Six) are indicative of looser construing.

Overall, the dendograms show considerable inter-interviewer differences in patterns of construing the personalities of candidates in relation to the constructs used and the ways in which these have been used.

2. Cognitive Complexity of Interviewers

Associated with Kelly's notion of tight-loose construing is the concept of 'cognitive complexity-simplicity' (Bieri, 1955). This is defined as

> 'the capacity to construe social behaviour in a multidimensional way. A more cognitively complex person has available a more differentiated system of dimensions for perceiving others' behaviour than does a less cognitively complex individual.'
>
> (Bieri et al., 1966: 185)

Although controversy exists over whether cognitive complexity is a measure of integration or differentiation (Bieri, 1955; Bonarius, 1965; Adams-Webber, 1981), Crockett's (1965) interpretation seems most appropriate for this study. Crockett's views on cognitive complexity centre upon the key measure of the number of constructs forming a particular sub-system. Table 6.1 summarises the elicited grids by size of grid, rank ordered by number of constructs (largest to smallest), against the variables of interviewer sex, job function, age, length of service, and average number of graduates interviewed per annum.

A number of salient relationships emerge. The first, and most striking of which, is between grid size and sex of interviewer. The six largest grids originated from the six female interviewers in the sample. For the sample as a whole, 149 separate constructs were elicited, the mean being 13.54 constructs per grid. However, there is a significant difference between the average number of constructs elicited from female and male interviewers as confirmed by Student's t-test, (female mean = 17.67, male mean = 8.6, t = 7.50; p < .001; df = 9). Although the female interviewers show indications of significantly greater cognitive complexity than their male counterparts, it would be unwise to generalise this finding to infer wider differences between male and female interviewers in view of the sample size.

TABLE 6.1

SIZE OF GRIDS ELICITED IN RELATION TO INTERVIEWER CHARACTERISTICS:

RANK ORDERED BY NUMBER OF CONSTRUCTS

IPRG NUMBER	SIZE OF GRID ELICITED C: CONSTRUCTS E: ELEMENTS	SEX OF INTERVIEWER	AGE OF INTERVIEWER	INTERVIEWER'S JOB FUNCTION PM: PERSONNEL MANAGEMENT LM: LINE MANAGEMENT	LENGTH OF SERVICE WITHIN ORGANISATION	LENGTH OF SERVICE WITHIN POSITION	AVERAGE NUMBER OF GRADUATES INTERVIEWED PER ANNUM
5	23C x 6E	FEMALE	26 – 30	PM	2Y, 6M	2Y, 6M	120
4	19C x 6E	FEMALE	21 – 25	PM	2Y, 3M	2Y, 3M	30
8	19C x 6E	FEMALE	41 – 50	PM	6Y, 0M	2Y, 6M	40
9	16C x 6E	FEMALE	21 – 25	PM	1Y, 6M	1Y, 6M	100
11	16C x 6E	FEMALE	26 – 30	PM	1Y, 3M	1Y, 3M	100
3	13C x 6E	FEMALE	26 – 30	PM	2Y, 0M	1Y, 1M	200
7	11C x 6E	MALE	OVER 50	PM	35Y, 0M	6Y, 0M	280
6	10C x 6E	MALE	41 – 50	PM	25Y, 0M	5Y, 0M	150
1	9C x 6E	MALE	OVER 50	PM	33Y, 0M	5Y, 0M	50
10	7C x 5E	MALE	31 – 35	PM	0Y, 7M	5Y, 0M	130
2	6C x 4E	MALE	36 – 40	LM	15Y, 0M	7Y, 0M	100

The second set of relationships were evaluated through Spearman's rank order correlations between grid size and interviewer age, number of graduates interviewed per annum, length of service within the organisation, and length of service within the present position (see Anderson, 1987c for a detailed account). A statistically significant correlation exists between grid size and age ($r = -0.54$, $p < .05$), where larger grid sizes are associated with lower interviewer ages. Statistically non-significant correlations exist between grid size and the number of graduates interviewed annually ($r = -0.28$, $p = NS$), between grid size and length of service within the organisation ($r = -0.32$, $p = NS$), and between grid size and length of service within the present position ($r = -0.28$, $p = NS$). However, this lack of statistical significance is almost certainly attributable to the small sample size as the correlation coefficients are moderately strong, showing that

(a) larger grid sizes are associated with fewer graduates interviewed per annum,

(b) larger grid sizes are associated with shorter length of service within the organisation,

(c) larger grid sizes are associated with shorter length of service within the present position.

To summarise, the more cognitively complex interviewers are characterised as being female, younger, interviewing relatively fewer graduates each year, and possessing shorter service records both within the organisation and within the present position.

3. Content Analysis of Constructs

It was stated earlier that the main purpose of this study was to generate a criterion measure of candidate personality from the constructs elicited. In total, 149 constructs were elicited and one difficulty, therefore, was to summarise this mass into a more succinct and manageable inventory of personality trait adjectives. This was achieved by content analysing the list of constructs to identify personality adjectives, since, as no set of elements or constructs was common across grids, no statistically valid grounds existed for summarising by quantitative methods.

Appendix XIV shows the resulting Interviewee Assessment Form (IAF) which comprises 73 adjectives superimposed onto nine-point unipolar rating scales. The nine-point scale was decided on in preference to a graphic rating scale or a behaviourally anchored rating scale on the basis of ease of data processing (Kerlinger, 1973; Rosenthal, 1982), the reliability and differentiation of ratings (Guilford, 1954; Rosenthal, 1976; Nunnally, 1978), and that interviewers are probably accustomed to assessing candidates using interval scale measures. A unipolar scale was determined by the output from the content analysis, whilst the value of this type of scale is evidenced by Bem (1974), Spence and Helmreich (1978), and DePaulo and Rosenthal (1979a, 1979b). An ascending scale from left to right was deemed most appropriate as this layout has been found to reduce errors of rating reliability (Guilford, 1954). Some areas of semantic overlap appeared within the inventory (e.g. extroverted-outgoing, quiet-shy, noisy-voluble), but these were intentionally not suppressed as it was thought that these adjectives may hold different connotative meanings for raters completing the form.

In this respect, therefore, the study achieved its central aim of developing a criterion personality measure founded upon personality dimensions actually used by graduate interviewers in forming impressions of candidates.

143

DISCUSSION

The Standardisation Fallacy

Overall, the results of Study A demonstrate marked individual differences between the personality construct sub-systems of milkround interviewers in terms of constructs used to differentiate between interviewees, and in the ways in which these are applied.

In relation to the model of interviewer impression formation advanced in Chapter Three, the dendograms highlight idiosyncratic differences between interviewers' structures of construal. The divergent personality construct sub-systems are indicative of major differences between interviewers in terms of the dimensions into which multi-source information is translated and assimilated. Importantly, these differences in modes of impression formation appear so prevalent as to undermine the validity of ubiquitously applied candidate assessment typologies such as Rodger's Seven-Point Plan (1952) and Munro Fraser's Five-Fold Framework (1978). This finding militates against the goal of standardisation strived for by the nomothetic approaches to the development of candidate assessment typologies and interview techniques founded upon the objectivist-psychometric perspective. Indeed, these results challenge the assumption inherent in standardised assessment typologies that the personality criteria can be applied by all interviewers to all candidates for all jobs (Anderson, 1987c).

Paradoxically, these findings create something of a dilemma for future interview research, but in particular, for the objective of this study to generate a standard assessment inventory as a criterion personality measure! The study, it should be acknowledged, was not intended to elicit a representative sample of all personality constructs used by interviewers to perceive candidates. Indeed, such a piece of research would seem impractical given the size of the sample required to ensure generality of findings and this labour-intensive method of

ideographic data collection. Despite these inconvenient findings, however, it was decided to retain the inventory in order to attempt to uncover underlying dimensions of candidate personality by factor analytic methods.

Moreover, an alternative explanation may account for these findings. The inter-interviewer differences may have occurred because of the elements chosen to elicit constructs. As each interviewer used different candidates as elements, it was to be expected that a variety of constructs would emerge. Future research could usefully concentrate upon eliciting constructs from interviewers where the same elements are used for the elicitation process, thereby highlighting divergent personality construct subsystems using identical elements. This explanation can only be put forward as conjecture at this stage, though, and the point that the constructs elicited in this study cannot be treated as an exhaustive item pool needs to be reiterated.

Reconstruing Interviewer Impression Formation

The results of Study A also confirm the impact of implicit theories of personality upon interviewer impression formation. The dendograms presented in Figures 6.1 to 6.11 illustrate perceived co-occurrence between constructs of candidate personality as percentage matching scores. Thus, where the match is 100 per cent, the interviewer construes all elements (i.e. all interviewees) as being both X and Y. For example, in IPRG Two, constructs four and five match at the 100 per cent level indicating that the interviewer perceives complete co-occurrence between interviewees who lacked humour and interviewees who were shy and difficult. This level of matching score suggests that a perception of the former may trigger an implied perception of the latter (Harris and Hampson, 1980). Not only do the findings of this study testify to the influence of interviewers' implicit theories of candidate personality, but the IPRG method is not susceptible to the criticisms of limited generality levelled against experimental methods of impression formation research in Chapter Three.

Another set of implications arise from the findings of marked individual differences between the cognitive complexity of the interviewers participating in this study. Schneider et al. (1979) point out that cognitively complex individuals may be able to cope more easily with contradictory information about others, whilst cognitively simple individuals may be

> '...inclined to form simple and evaluatively unambiguous impressions of other people' (p.189).

Interviewer Selection

The ramifications of this argument touch upon the selection and training of recruitment interviewers. Bayne and Fletcher (1983) correctly propose that the selectors themselves should be appointed on criteria relevant to the tasks of the job. Perhaps, therefore, the cognitive complexity of the interviewer's personality construct sub-system in association with some measure of tightness-looseness of construing of others should be considered as criterion measures. Without doubt, valid and reliable techniques of assessing this criterion need to be developed. It is unknown, for example, which combination of cognitive complexity-simplicity and tight-loose construing results in greater predictive validity of interviewer judgements, and future research should address this question.

Interviewer Training

Following on from this, the training of employment interviewers using personal construct psychology and repertory grid methods may enhance levels of the complexity of construing candidates. For instance, Runkel and Damrin (1961) found a U-shaped relationship over time between teacher training and the cognitive complexity of teachers' appreciation of students' problems. It seems feasible then that the development of interviewers' complexity of construing candidates could be undertaken as a training initiative.

Cognitive Complexity and Impression Formation

That cognitive complexity was found to be related to a number of other variables in Study A is itself a perplexing outcome. Some tentative hypotheses may be put forward though to account for these findings. The relationships between grid size and sex, and between grid size and age are not easily explained. It was noted previously that sex differences could have arisen from sampling errors. As the interviewer ages and becomes more experienced in the task of perceiving applicants, it is likely that he or she learns to apply just a few relatively powerful constructs to simplify the complex task of impression formation. Certainly, the conclusion of Experiment I that the interviewer is attempting to operate under an intolerable load of multi-source information supports the contention that the interviewer needs to develop coping mechanisms to simplify impression formation.

The negative correlations between grid size and number of graduates interviewed per annum, and between grid size and length of service can be explained away as practice effects. In other words, the effect of conducting many milkround interviews over a period of years is that over-simplified (or what Kelly describes as 'pre-emptive' or 'constellatory') construing of others becomes not only possible through practice, but essential to cope with large numbers of candidates. Practice effects could allow the interviewer to learn associations between categories of constructs, and so facilitate the assignment of information to pre-defined stereotypical categories.

These findings do not bode well for the argument that experience of interviewing improves interviewer performance. Indeed, quite the opposite appears to be the case. It seems that considerable experience is likely to restrict the interviewer's personality construct sub-system to a few, but relatively powerful, stereotypical dimensions. In the case of the milkround interviewer who performs the task of impression formation several times each day over a period of several months per annum, it seems probable

147

that stereotypical construing of interviewees is a notable characteristic of the impression formation process.

CONCLUSION

To conclude, these results suggest that the interviewer's personality construct sub-system operates as a cognitive coping mechanism which simplifies and categorises the volume of multi-source information into a psychologically coherent impression of the candidate. Further, the ideographic method of repertory grid used in this study highlights extensive differences between the personality construct sub-systems of graduate interviewers. These differences point to the likelihood that interviewers translate and assimilate information quite differently from one another.

CHAPTER SEVEN

EXPERIMENT II

PRIMACY - RECENCY EFFECT IN INTERVIEWER IMPRESSION

FORMATION: AN EXPERIMENTAL INVESTIGATION

INTRODUCTION

EXPERIMENTAL DESIGN

METHOD

RESULTS

DISCUSSION

CONCLUSION

'A bias is established early in the interview and this
tends to be followed either by a favourable or by an
unfavourable decision.'

(Webster, 1964: 86).

INTRODUCTION

The results of the two empirical investigations preceeding this experiment illustrate key aspects of interviewer impression formation in the context of actual or simulated graduate selection interviews. Experiment I suggests that interviewers form impressions of candidate personality under conditions of intolerable information loads, whilst Study A indicates that interviewers perceive candidates through idiosyncratic structures of personality construal. The process of impression formation therefore seems to rest, not upon some model of objective information processing, but rather upon an attempt by the interviewer to cope with a plethora of information through a highly personalised structure of construing others.

It was postulated in Chapter Six that the interviewer's personality construct sub-system functions as a coping mechanism which sorts incoming documented-biographical, verbal, and non-verbal information. The construct sub-system thus operationalises the translation and assimilation phases of impression formation by imposing personality criteria onto incoming items of information. This hypothesis only partially explains the impression formation process modelled in Chapter Three, though. As previously mentioned, it is probable that the interviewer, being unable to attend to all source information, recognises only certain items as salient (Kahn and Cannell, 1957; Bayne, 1977). The question that arises, then, is on what grounds are items either recognised or disregarded as superfluous?

Primacy Effect: Written Stimulus Experiments

One popular belief is that the interviewer attends to initial information more carefully than to details emerging later in the interaction in order to establish a framework to categorise subsequent information. Indeed, the adage that 'first impressions

are most important' is almost universally subscribed to by both interviewers and interviewees alike.

Social psychological research into person perception seems, prima facie, to back this opinion. As discussed in Chapter Three, Asch (1946) presented subjects with written traits describing an individual. Traits held either positive or negative connotations, and the order of presentation was varied so that subjects received either three positive, or three negative traits first. It was found that traits given to subjects earlier in the sequence exerted greater influence upon overall impressions of the target individual than traits presented later in the sequence. This phenomenon Asch referred to as 'primacy-recency effect', whereby primacy effect referred to earlier information carrying greater weight, and recency effect described instances where later, or more recent information was more influential. Asch argued that initial traits established a 'directional tendency' into which subsequent information was assimilated, so that negatively connotated traits presented early on tended to affect a negative overall negative impression and vice versa.

Although other person perception research findings ally with those of Asch (Luchins, 1957; Blakeney and MacNaughton, 1971; Farr, 1973), the commonly used method of written stimulus materials is far removed from dynamic interpersonal impression formation. Hence, the generality of these findings to the graduate selection interview is highly dubious.

Primacy Effect in Interviewer Outcome Decision Making

Research into the influence of primacy effect upon interviewer outcome decision making is sparse. As argued in Chapter Two, the widespread view that interviewers decide the suitability of candidates within the first few minutes of the interview originates from one of the early McGill Studies reported by Webster (1964). In Springbett's (1954) study, eight professional recruiters interviewed twenty candidates after reviewing their

application form details in advance. Interviewers used concealed stop-watches to record the length of time after which they felt that they had reached an irrevocable suitability decision. Springbett calculated that the average decision time of the interviewers was just under four minutes.

This finding has become an integral part of interview folklore despite fundamental methodological flaws in the study. The minute sample size of eight subjects was only achieved by the unsound method of combining the results of one experimental investigation with those of an entirely separate field study (Wareing and Stockdale, 1987). Cultural differences between Canada, where Springbett's research was conducted, and the UK limit generality still further, and over the intervening period of more than thirty years since this research, other variables such as interviewer training and employment legislation have become pervasive factors.

Dissenting findings to those of Springbett are presented by Huegli and Tschirgi (1975). In this study, the sixteen participating interviewers reported that they had reached outcome decisions during the first half of the interview in only one third of all interviews conducted as part of the study.

In view of these limited and contradictory research findings, it can only be concluded that the opinion that interviewers reach outcome decisions in the first few minutes remains unsubstantiated by the research evidence.

Primacy Effect in Interviewer Impression Formation

The single published study into the effects of primacy effect upon interviewer impression formation was conducted in the USA by McGovern (1976). McGovern obtained five sets of ratings on ten personality scales from fifty-two professional recruiters. The first was taken after subjects had scanned application form details and thereafter assessments were made at four minute intervals throughout videotaped recordings of simulated interviews

each lasting exactly sixteen minutes. His findings, that ratings of candidate personality made after only four minutes correlated significantly with all subsequent ratings, exemplify the possible influence of primacy effect upon interviewer impression formation.

Critical weaknesses in his experimental method need to be acknowledged, however, and the extent to which the findings can be generalised must be tempered with caution. Apart from the fact that all fifty-two of McGovern's subjects were male, there is distinct evidence of experimenter effects upon initial assessments. Confederates displaying positive non-verbal behaviour were rated more favourably on first assessments than those avoiding eye contact and positive facial expressions even though this rating was completed solely on the basis of application form details. Furthermore, across a ten item criterion measure administered every four minutes, it is feasible that initial ratings could have contaminated later ratings, thereby increasing the apparent significance of correlations between assessments. Again, cross-national differences limit the generality of these findings to interviews in this country, and the transcript of the interview used by McGovern illustrates the inappropriateness of the verbal content to graduate selection in the U.K.

One has to conclude that the widespread beliefs that

    (a) interviewers make decisions early on, and,

    (b) interviewers form impressions of candidates
       in the opening few minutes,

are not vindicated by research evidence. The couple of research studies which do testify to the influence of primacy effect suffer from serious methodological flaws, and thus the susceptibility of interviewers to primacy effect remains an important issue for interview research. In the light of this disparity between popular belief and the available research evidence, Experiment II examines

the impact of primacy-recency effect upon graduate interviewer impression formation.

EXPERIMENTAL DESIGN

The objectives of the experiment were three-fold:

(a) To ascertain the influence of primacy effect upon interviewer impression formation,

(b) To compare the rating strategies of trained, experienced interviewers against those of undergraduate students,

(c) To develop a summarised version of the Interviewee Assessment Form (IAF) through factor analytic methods.

The second objective related this experiment to the ongoing controversy discussed in Chapter Four over whether students are appropriate surrogates for trained interviewers. The third objective stemmed from anticipated difficulties in handling the 73 item IAF as a criterion measure in more complex experimental designs. It was intended that the data generated in this experiment could be used to reduce the number of items to underlying dimensions of personality by factor analytic methods.

METHOD

1. Subjects

A total of 54 subjects participated in this experiment. Subjects were divided into two experimental groups: professional selection interviewers, and undergraduate students. The first group comprised of 21 (16 males, 5 females) selectors attending interviewer training courses, and the second group of 33 (16

males, 17 females) students. Details of the interviewer group are provided in Appendix XV.

One important point is that the interviewers were sensitised to the possible influence of primacy effect upon impression formation at the time the experiment was run. Discussions with the training officers of the host courses revealed that delegates had already been instructed on this bias, and could thus have been expected to make allowances for primacy effects.

2. Materials

Background information given to subjects was identical to that used in Experiment I and comprised

> Company synopsis (Appendix III)
> Job advertisement (Appendix IV)
> Job description (Appendix V)
> The candidate's application form (Appendix VI)

The only written instructions given were those used in Experiment I (Appendix VII) which provided no indication of the objectives of this experiment.

The stimulus videotape used in Experiment I was also used in this experiment. Details of the recording are given in Chapter Five and in the pilot study written up in Appendix II.

The Interviewee Assessment Form (IAF) developed in Study A was used as the criterion measure of personality, (Appendix XIV).

The interviewer questionnaire designed to collect information relating to the organisational and personal characteristics of the participants in Study A was again used with the professional interviewers participating in this experiment (Appendix XIII).

3. Procedure

For all rating sessions the experimental procedure followed the
Standard Operation Instructions given in Appendix XVI. Initially,
a brief introduction to the experiment was given, although no
specific comments on the actual objectives were made. For the
professional interviewer groups, the interviewer questionnaire was
handed out and completed by subjects. Copies of the background
information were then distributed, and subjects allowed sufficient
time to familiarise themselves with this material. Any questions
were answered at this stage, and the videotaped recording was
introduced as if the candidate had just arrived for interview. As
the recording commenced, a hand-held stopwatch was activated. The
recording was allowed to run for precisely four minutes when it
was paused and subjects instructed to complete the IAF. As soon as
all subjects had finished, the IAFs were collected in. The
remainder of the recording (18 minutes, 43 seconds) was then
played-back, and when it had finished, subjects were again
instructed to assess the candidate using the IAF. After all
documentation had been collected, subjects were debriefed on the
aims and objectives of the experiment.

RESULTS

1. Content Analysis of the Stimulus Graduate Selection Interview

The recording of the simulated graduate selection interview used
in this experiment was content analysed to establish the
composition of interviewee verbal and non-verbal behaviour in the
first four minutes compared to the remainder of the interview.

The analysis of the verbal source revealed that in the opening
four minutes the candidate made no self-referent personality
statements of the type made in the remainder of the interview.
Eight such statements were made by the candidate in this latter

158

period which would be likely to cause attributions to personality by an interviewer, including, for example:

"I like to keep busy, I don't like to be seen to be lazy."

"I've got quite a lot of initiative. I've got imagination, and when I'm interested in something I go for it one hundred per cent."

This finding is logical in that during the first few minutes of most interviews the subject matter of the conversation is of an introductory nature, with replies such as those quoted above only emerging in response to more probing questions asked later on in the interview.

Parallel to this finding is the distribution of total time between interviewer and interviewee speaking times and uncoded time where neither was speaking. This distribution is set out in Table 7.1.

Table 7.1 illustrates that the interviewee talked for just under half of the total time for the whole of the interview. The main differences between the opening four minutes and the remainder of the interview occurred in interviewer speaking time, which declined from 42.5 per cent to 35.5 per cent of total time, and in the amount of uncoded time where neither party was speaking, which increased from 10.4 per cent to 16.8 per cent. It seems that as the interview progressed the interviewer did not fill any pauses in the conversation with utterances. This could have been due to both parties becoming more settled, with the interviewer holding control over whether silent pauses were filled or not.

TABLE 7.1

THE DISTRIBUTION OF TOTAL TIME BETWEEN INTERVIEWER

AND INTERVIEWEE SPEAKING TIMES AND UNCODED TIME

	ANALYSIS PERIOD	
	OPENING FOUR MINUTES OF THE INTERVIEW	REMAINDER OF THE INTERVIEW
Interviewer Speaking Time	1m, 42s (42.5%)	6m, 39s (35.5%)
Interviewee Speaking Time	1m, 53s (47.1%)	8m, 56s (47.7%)
Uncoded Time: Neither Speaking	25s (10.4%)	3m, 8s (16.8%)
Totals	4m, 0s (100%)	18m, 43s (100%)
	Interview duration - 22mins, 43secs	

The interview was also analysed to establish differences in interviewee non-verbal behaviour between the opening four minutes and the remainder of the interview. Table 7.2 summarises the results of this analysis.

TABLE 7.2

INTERVIEWEE NON-VERBAL BEHAVIOUR IN THE OPENING

FOUR MINUTES COMPARED WITH THE REMAINDER OF THE INTERVIEW

	ANALYSIS PERIOD	
	OPENING FOUR MINUTES OF THE INTERVIEW	REMAINDER OF THE INTERVIEW
Gaze: Percentage of Total Time Interviewee Looked at Interviewer	72.6%	62.0%
Frequency of Head Nods per Minute	2.0	1.1
Frequency of Hand Gestures per Minute	1.5	0
Frequency of Smiles per Minute	2.5	3.2

It can be seen from Table 7.2 that substantive differences existed between the candidate's non-verbal behaviour in the initial four minutes and the remainder of the interview. The proportion of total time that the interviewee looked at the interviewer decreased from 72.6 per cent to 62.0 per cent, whilst the frequency of head nods and gestures per minute both decreased notably. In fact, only the frequency of smiles increased from 2.5 per minute to 3.2 per minute across the two periods analysed.

To recapitulate, then, both verbal and non-verbal interviewee behaviour differed considerably between the first four minutes of the interaction and the remaining period. In the opening four minutes the interviewee made fewer self-referent personality statements, looked at the interviewer for a greater proportion of the time, nodded and gesticulated more frequently, and smiled less often than in the rest of the interview.

2. Primacy Effect in Impression Formation

Subjects' assessments of the candidate are summarised in Appendix XVII which illustrates the mean ratings and standard deviations for each item on the IAF.

However, the principal aim of Experiment II was to evaluate the influence of primacy effect upon impression formation, and to this end, Pearson's product moment correlation coefficients were computed between ratings made after four minutes (Rating I) and ratings made at the end of the interview (Rating II). The results are displayed in Table 7.3 which presents a grouped distribution analysis of correlation coefficients between subjects' first and second rating profiles on the IAF.

TABLE 7.3

PEARSON'S CORRELATION COEFFICIENTS BETWEEN RATING I AND RATING II

r	FREQUENCY
-.20 to .20	4
.20 to .40	5
.40 to .60	23
.60 to .80	20
Over .80	2
	54

All but 4 of the 54 correlations are significant at the .05 level and, of these, 45 are significant at the .01 level. The meaning of these findings is clear. Initial impressions of the candidate remained remarkably stable from first to second ratings, and that this result confirms primacy effect as a potent influence upon impression formation. After just four minutes subjects had formed

an extremely detailed impression of the candidate which was highly predictive of final assessments.

Furthermore, the content analysis of the interview revealed marked differences in candidate verbal and non-verbal behaviour between the opening four minutes and the remainder of the interview. Conversely, subjects' impressions were not modified in any fundamental way, and hence, were quite impermeable to information emerging later on in the interaction. It appears that first impressions were most influential even though later verbal and non-verbal interviewee behaviour differed considerably from early behaviour.

The analysis of this finding was taken one stage further to evaluate differences in susceptibility to primacy effect between undergraduate students and professional interviewers, and also, between male and female subjects.

Firstly, a t-test was computed against the professional interviewer and student groups for correlations between Rating I and Rating II. No significant differences existed between the two groups (t = 0.94, p = N.S., df = 52). Therefore, the experienced interviewers were no less vulnerable to the influence of primacy effect even though they had been instructed very recently upon the influence of this bias as part of an interviewer training course. Overall, these results show that initial impressions largely determined final assessments of the candidate for both the student and interviewer subjects.

Secondly, a t-test was calculated against male and female subjects on correlations between first and final ratings. This indicated no significant differences between males and females (t = 0.012, p = N.S., df = 52). Consequently, neither sex was less prone to primacy effect in this task of impression formation.

Finally, a 2 (type of rater) X 2 (sex of rater) X 2 (time of rating) repeated measure design MANOVA was computed with

assessments on the 73 IAF items as multiple dependent variables. All significant main and interaction effects are reported in Table 7.4.

Despite these significant effects for individual dependent variables, univariate F-values indicate that overall main effects for rater type (Pillais F - 1.30, d.f. - 1,930, p - N.S.), rater sex (F - 0.78, d.f. - 1,930, p - N.S.) and rating time (F - 0.97, d.f. - 1,930, p - N.S.) are non-significant. Similarly, overall two-way and three-way interaction effects are non-significant, indicating that these factors did not fundamentally affect interviewer assessments of candidate personality (Type X Sex F - 1.05, p - N.S.; Type X Time F - 0.61, p - N.S.; Sex X Time F - 0.52, p - N.S.; Type X Sex X Time F - 0.49, p - N.S., d.f. - 1,930 in all cases).

To summarise, these results demonstrate the marked influence of primacy effect upon impression formation which was not mitigated by changes in interviewee behaviour, interviewer experience or training, or by the sex of the subject. First impressions, or at least those formed after just four minutes of the interview, were substantially resistant to change and largely determined final assessments of the candidate.

TABLE 7.4

EFFECTS OF RATER TYPE, RATER SEX, AND RATING TIME

UPON ASSESSMENTS OF CANDIDATE PERSONALITY

SOURCE OF VARIANCE	DEPENDENT VARIABLE	MEAN SQUARE	F-VALUES
Main Effects			
Rater Type	Ambitious	22.04	6.62*
	Confident	14.55	4.04*
	Dominant	11.87	3.94*
	Energetic	20.63	5.94*
	Enthusiastic	17.34	4.78*
	Extroverted	14.21	4.94*
	Impulsive	14.84	4.29*
	Inspired	30.75	9.50**
	Intellectually-agile	11.11	4.89*
	Mature	15.13	5.34*
	Outgoing	15.05	5.05*
	Ponderous	13.94	3.98*
	Self-assured	29.92	8.68**
Rater Sex	Demonstrative	14.25	4.82*
	Practical	27.52	7.23**
	Self-reliant	27.19	6.32*
	Sly	15.68	5.27*
	Suspicious	15.77	5.37*
Rating Time	Confident	14.55	4.04*
	Emotional	15.27	4.28*
	Loner	73.04	14.10***
	Ponderous	16.22	4.63*
	Quiet	23.87	7.51**
	Reserved	25.12	8.35**
	Sensitive	14.85	4.59*
	Shy	23.14	5.54*
	Verbally-fluent	21.38	6.63*

$* \ p < .05, \ ** \ p < .01, \ *** \ p < .001$

TABLE 7.4 (CONTINUED)

EFFECTS OF RATER TYPE, RATER SEX, AND RATING TIME

UPON ASSESSMENTS OF CANDIDATE PERSONALITY

SOURCE OF VARIANCE	DEPENDENT VARIABLE	MEAN SQUARE	F-VALUES
Two-Way Interactions			
Type X Sex	Bright	13.78	5.72*
	Impulsive	14.84	4.29*
	Intellectual	17.78	7.56*
	Intellectually-agile	13.78	6.07*
Type X Time	Conventional	22.74	6.49*
	Loner	28.36	5.48*
	Quiet	22.40	7.67**
	Serious	11.73	4.19*
Sex X Time	Nervous	30.44	7.44**
	Sly	17.85	6.00*
Three-Way Interactions			
Type X Sex X Time	Emotional	15.64	4.39*

$* \ p < .05, \ ** \ p < .01, \ *** \ p < .001$

164

3. Factor Analysis of the Interviewee Assessment Form

The aim of this analysis was to uncover dimensions of candidate personality underlying the IAF using the multivariate technique of factor analysis. Even though the ratio of n-cases to n-variables in this experiment (108:73 or 1.48:1) was not as highly geared as one would have wished, it exceeded the absolute minimum ratio of 1:1 recommended by Youngman (1979) and Kline (1987). The first stage of extracting the factor analytical solution was to obtain a correlation matrix for the 73 variables. A high proportion of significant relationships ($p < .01$) supported the utility of this technique, and as no single correlation was close to unity, the prerequisite condition of linear independence between variables was fulfilled.

In the second stage of the analysis, an exploratory principal component solution without iteration was extracted. Using the criterion of eigenvalues equal to or greater than unity (Kim and Mueller, 1978b), eighteen factors were significant and the first factor accounted for 21.4 per cent of total variance. The Scree Test (Cattell, 1966, 1978) indicated that a maximum of eleven factors should be extracted, and a second principal component analysis with iteration and varimax (i.e. orthogonal) rotation was computed for the final solution. A trial eleven factor oblique rotation was also obtained but low inter-factor correlations indicated that the orthogonal solution should be utilised.

Youngman (1979) lays down three essential criteria for accepting the factor matrix: firstly, the matrix should comprise of few factors; secondly, it should account for a major proportion of the total variance; and thirdly, it should have at least three high loadings per factor in conjunction with a large number of near-zero loadings.

In conjunction with these criteria, Table 7.5 lays out the extracted eleven factors, variable loadings in descending order of variance accounted for, and tentative labels for each factor.

TABLE 7.5

PROVISIONAL FACTOR ANALYTICAL SOLUTION:

FACTOR LABELS AND FACTOR LOADINGS

FACTOR I: GENERALLY SUCCESSFUL IN LIFE – GENERALLY UNSUCCESSFUL IN LIFE

Keen	0.7134	Able to cope	0.6116
Convincing	0.7156	Mature	0.5829
Ambitious	0.7117	Analytical	0.5685
Forward thinking	0.6959	Energetic	0.5630
Common sense	0.6722	Willing	0.5389
Enthusiastic	0.6398	Lively	0.5188
		Intellectually agile	0.5136

FACTOR II: SUBMISSIVE – DOMINANT

Quiet	0.7283	Loner	0.5550
Reserved	0.7213	Introverted	0.5073
Ordinary	0.6661	Dominant	-0.5417
Shy	0.6402		

FACTOR III: ENTHUSIASTIC – UNENTHUSIASTIC

Extroverted	0.6575	Energetic	0.6058
Outgoing	0.6475	Voluble	0.5802
Impulsive	0.6317	Enthusiastic	0.5481

FACTOR IV: HONEST – DISHONEST

Truthful	0.8592	Trustworthy	0.5269
Sincere	0.6689	Open	0.5216
Honest	0.5982		

(continued..)

TABLE 7.5 (CONTINUED)

PROVISIONAL FACTOR ANALYTICAL SOLUTION:

FACTOR LABELS AND FACTOR LOADINGS

FACTOR V: PLEASANT – UNPLEASANT

Pleasant	0.5626	Suspicious	-0.6707
Likable	0.5249	Sly	-0.6087

FACTOR VI: RELAXED – NERVOUS

Relaxed	0.6110	Hesitant	-0.5408
Nervous	-0.6276		

FACTOR VII: INTERESTING – BORING

Interesting	0.6021	Articulate	0.5305
Verbal	0.5756	Boring	-0.5712
Vocal	0.5455		

FACTOR VIII: SENSITIVE – INSENSITIVE

Diplomatic	0.7152	Tactful	0.5491
Sensitive	0.5897		

FACTOR IX: STRONG – WEAK

Forthright	0.6121	Arrogant	0.5011
Self-assured	0.5464	Insecure	-0.5796

FACTOR X: MATURE – IMMATURE

Mature	0.5150

FACTOR XI: ACTIVE – PASSIVE

Emotional	0.6424	Passive	-0.5109
Intellectually agile	-0.5224		

This eleven factor solution accounts for 62.7 per cent of total variance. All factors have variables with negligible loadings (see Table 7.6 below), whilst only one factor (FACTOR X: Mature - Immature) has less than three variables loading at the minimum of r - 0.50 recommended by Kim and Mueller (1978b). This factor was retained, however, on the grounds that it holds distinct psychological meaning from other factors, and one which is used by interviewers as a criterion dimension of perception.

The choice of factor titles follows Lemke and Wiersma's (1976) method whereby factor labels originate from highly loading variables. This method, it should be acknowledged, requires the researcher to interpret the factor labels by taking into account both positive and negative loading variables to determine the factor title. On this basis, most factor titles are self-explanatory but two in particular require further elucidation.

FACTOR I: Generally Successful in Life - Generally Unsuccessful in Life, has loadings on two types of variables, abilities (e.g. Able to cope, Convincing, Common sense, Forward thinking), and motivation (e.g. Ambitious, Energetic, Keen, Willing). The rationale for the factor title stems from the notion that these two types of variables in conjunction with one another are likely to be perceived by interviewers as predictive of success in general. It should be noted that the second set of variables also loads onto FACTOR III: Enthusiastic - Unenthusiastic.

Variables loading positively onto FACTOR IX: Strong - Weak, (i.e. Forthright, Self-assured, and Arrogant) can be construed as being a combination of dispositional and behavioural strength. On the other hand, the only negatively loading variable, Insecure, may well be perceived by interviewers as a sign of personality weakness. Thus, the factor label Strong - Weak was assigned.

Table 7.6 sets out the eleven factors against the number of variables with near-zero loadings on each and the percentages of total and common variance accounted for by factors.

TABLE 7.6

NEAR-ZERO LOADING VARIABLES AND VARIANCE BREAKDOWN FOR

THE FACTOR ANALYTICAL SOLUTION

FACTOR LABELS	NUMBER OF VARIABLES LOADING AT -.10 TO .10	PERCENTAGE OF TOTAL VARIANCE	PERCENTAGE OF COMMON VARIANCE
FACTOR I: Generally Successful In Life – Generally Unsuccessful In Life	21	21.4	37.2
FACTOR II: Submissive – Dominant	29	9.5	15.8
FACTOR III: Enthusiastic – Unenthusiastic	25	6.6	10.7
FACTOR IV: Honest – Dishonest	34	4.2	6.4
FACTOR V: Pleasant – Unpleasant	37	3.8	5.8
FACTOR VI: Relaxed – Nervous	37	3.6	5.4
FACTOR VII: Interesting – Boring	34	3.2	4.7
FACTOR VIII: Sensitive – Insensitive	40	3.0	4.2
FACTOR IX: Strong – Weak	43	2.9	4.0
FACTOR X: Mature – Immature	36	2.3	3.0
FACTOR XI: Active – Passive	38	2.2	2.9
		62.7	100.0

169

This factor analytical solution therefore reduces the 73 item IAF to 11 underlying dimensions of personality. These dimensions or factors represent superordinate scales carrying greater conceptual power in relation to impression formation, all of which have distinct psychological meaning in relation to interviewer decision making. The caveat that the factor labels are necessarily personal interpretations of the results needs to be re-stated. Further, the internal reliability of these factors also has to be ratified before being accepted as personality scales for subsequent research applications. Thus, the standard internal scale reliability coefficient, Cronbach's alpha (Cronbach, 1951), was computed for factors as shown in Table 7.7.

TABLE 7.7

RELIABILITY COEFFICIENTS FOR THE FACTOR ANALYTICAL SOLUTION

FACTOR	CRONBACH'S ALPHA
I	0.9179
II	0.7255
III	0.8712
IV	0.7804
V	0.6452
VI	0.5700
VII	0.5820
VIII	0.6391
IX	0.6970
XI	0.6632

As only the variable Mature loads onto FACTOR X, Cronbach's alpha could not be computed for this factor. Reliability coefficients of this order, in association with the imposed cut-off of factor loadings at $r = 0.50$, confirm that the factor analytical solution is acceptable on statistical grounds (Kim and Mueller, 1978b). The solution is also acceptable psychologically in terms of meaningfulness. In other words, it is reasonable to assume that all of these factors may be relevant to graduate interviewer

impression formation, and hence, are representative of salient underlying dimensions of personality construal.

The outcome of this factor analytical solution is a summarised successor to the IAF, the Interviewee Personality Assessment (IPA) form which is illustrated in Appendix XVIII.

DISCUSSION

The critical finding of Experiment II is that the process of impression formation was fundamentally affected by the bias of primacy effect. After only four minutes, subjects had formed an intricate perception of the candidate on over 70 dimensions of personality which was highly resistant to change even though candidate verbal and non-verbal behaviour later in the interview differed considerably to that in the opening few minutes.

All but 4 of the 54 correlations between ratings of the candidate made after four minutes and at the end of the interview were statistically significant at the .05 level. It is clear that initial impressions were, in fact, most important. This finding reiterates the overwhelming importance of expectancy effect (Anderson, 1960, 1961; Webster, 1964, 1982) coupled with initial interviewer perceptions of either impression ratification or repudiation. In other words, it appears that documented-biographical source information, in association with very early verbal and non-verbal information, are the major causal factors of the interviewer's detailed and intricate impression of candidate personality.

Anticipated Criticisms

Two types of criticisms of these findings and the above interpretation of the results can be anticipated. The first relates to methodological issues, and the second to the generality of these experimental findings to real-life interviewer impression formation.

Methodological criticisms will probably centre upon the rating process itself. It is readily conceded that the experimental requirement to rate the candidate after four minutes could conceivably have affected the second rating in some way. The very action of rating the candidate could possibly have caused feedback to solidify impressions, thus enhancing directional tendency and rendering later information impermeable to initial perceptions. Such a 'cognitive feedback effect' could have inflated the significance of correlations between first and second ratings. This thesis is implausible, though, as it is highly improbable that subjects could have committed ratings of 73 items to memory for recall some twenty minutes later. However, it is conceded in retrospect that the use of an experimental control group, shown the video recording for its entire duration and performing only one assessment of the candidate, would have provided valuable comparative data on this issue. Future research into primacy effect in interviewer impression formation could usefully adopt this methodological approach in order to investigate the salience of information received by the interviewer at different stages of the interview.

The second type of criticism expected relates to the generality of assessments of a videotaped interview to actual interviewer impression formation. As will be noted, all practicable steps were taken to make this experimental task representative of real-life interviewer impression formation. The only major difference is that subjects were exposed to a videotaped recording of the interview as opposed to being involved personally, so that subjects were only required to process information rather than

also having to actively obtain it as the interviewer does.
Although an experimental investigation was unavoidable due to the
requirement of pausing the recording after four minutes, it should
be re-stated that the professional interviewers were just as
vulnerable to primacy effect as were the undergraduate students.

It is asserted, then, that these findings are generalisable to
real-life interviewer impression formation, and that anticipated
criticisms of the method used and the inferences drawn from these
results can be discounted.

Discrimination and Prejudice

It is significant that initial impressions of the candidate were
found to be both detailed and impermeable, and were not just broad
stereotypical categorisations. Subjects had formed differentiated
impressions of the candidate at the microscopic level of
individual traits, not merely impressions of a simplified global
personality-type. As McGovern (1976) notes, many interviewers
would refute the claim that they reach outcome decisions in the
first few minutes. The findings of Experiment II indicate,
however, that detailed attributions to personality traits
certainly do occur very early on.

One implication of this point concerns the impact of personal bias
and prejudice upon interviewer impressions of coloured, female, or
disabled candidates. Herriot (1986a) points out that the initial
reactions of the interviewer are most likely to be corrupted by
prejudice. Certainly, the results of this experiment reinforce the
argument that such perceptual biases affect interviewer decisions,
but also suggest that it may not only be the bias of stereotyping
which causes discriminatory perceptions. In other words, these
results suggest that initial reactions to the candidate are
decoded into a detailed and impermeable perception of personality.

Training Interviewers against Primacy Effect: Essential or Sham?

It is concerning that neither experience of interviewing nor interviewer training reduced susceptibility to primacy effect in this experiment. This is especially the case for training since the interviewers who acted as subjects were aware of the possible effects of this bias yet performed no better in this respect than did untrained university students.

Many interviewer training programmes include the prescription that the interviewer should not make snap decisions, but should weigh the evidence on the candidate carefully and make decisions after the end of the interview. These findings repudiate the validity of this decretal approach, and instead, hint at a general tendency for interviewers to attempt to classify and perceive the candidate in the opening few minutes of the interaction even though trained not to do so. Whilst this rebuttal of the effectiveness of interviewer training is sounded more as a warning signal than as an unequivocal implication of the results of this experiment, these findings nonetheless give rise to concerns over the impact of prescriptive interviewer training on primacy effect in impression formation.

Directions for Future Research

The findings of this experiment generate several directions for future research, all of which would delineate further the extent of the influence of primacy effect upon interviewer impression formation. Additional micro-analytical research is needed to establish the exact composition of interviewee and interviewer behaviour at different stages in the interview. Particular attention should be devoted to the analysis of behaviour in the first few minutes of the interaction, of course, as this is likely to determine ultimate impressions. Following on from this point, one would query whether initial impressions are, in actual fact, being formed in under the four minute period used in this experiment. Another problem requiring further study is to

determine exactly how resistant to change interviewers'
perceptions are, especially where information emerging later on
directly contradicts earlier information. Undoubtedly, though, the
pre-eminent research question is that of causality: exactly how
does interviewee behaviour in the opening few minutes of the
interview affect impressions of personality by the interviewer? It
is this question of causality which forms the focus for the
following investigation, Experiment III.

CONCLUSION

In conclusion, the results of Experiment II indicate that primacy effect is a powerful coping mechanism sustaining graduate interviewer impression formation. This finding undermines further the objectivist-psychometric view of the interview is an objective and rational information processing exercise. Rather, it ratifies the opinion that interviewers' initial impressions are probably most important. Finally, it should be noted that popular methods of interviewer training seem unlikely to mitigate the effects of this bias in any significant manner.

EXPERIMENT III

AN EXAMINATION OF PERCEPTUAL LINKS

BETWEEN CANDIDATE NON-VERBAL BEHAVIOUR AND

INTERVIEWER IMPRESSIONS OF PERSONALITY

'It's not _just_ what you say, it's how you say it'
(Washburn and Hakel, 1973: 140).

'It's not _what_ you say, but how you say it'
(Imada and Hakel, 1977: 299).
[Present author's emphasis]

Recapitulation

To recapitulate, the two experimental investigations and the one
field study preceding Experiment III illuminate the process of
graduate interviewer impression formation, and suggest that the
interview should be re-construed as a situation which

(a) subjects the interviewer to unmanageable loads of
documented-biographical, verbal, and non-verbal
information, where,

(b) the candidate is perceived through the highly
personalised structure of construal of the personality
construct sub-system, where impression formation is

(c) simplified by the bias of primacy effect, whereby
information emerging in the opening few minutes
is attended to closely in order to establish
a framework to codify later information.

The need for research attention to concentrate upon the opening
few minutes of the interaction has been demonstrated, as has the
crucial requirement for research to establish the causes of
attributions from candidate behaviour to personality by
interviewers. It is likely that in many interviews, the
interviewer is verbally active during the initial stages as
introductions are made and the scene is set for the exchange.
Consequently, the interviewee is reactive rather than proactive at
this juncture, and furthermore, is predominantly non-verbally
reactive as shown in the content analysis of the stimulus
interview reported in Experiment II. Whilst the interviewer is
speaking, the interviewee is responding primarily through non-
verbal reinforcers such as eye contact, smiles, and head nods. As

found in Experiment II, these early responses are being monitored closely by the interviewer and are being translated and assimilated into a relatively permanent impression of candidate personality. This premise, that it is predominantly the interaction of documented-biographical and non-verbal information on the candidate which determines interviewer impressions of personality is evidenced by the findings of several other studies.

Indicative Research Evidence

Herriot and Rothwell (1983) used an introspective method to examine the attributions of graduate interviewers to candidate ability and personality at different stages in the selection process. Interviewers recorded more impressions of personality after the interview had taken place, whereas before the interview the more frequent types of attribution were to the intelligence and interests of the candidate. Thus, face-to-face exposure to the interviewee affected more attributions to personality, indicating that it was the interviewee's behaviour which was decoded as evidence of personality by the interviewers.

As discussed in Chapter Two, most studies into the impact of non-verbal behaviour at interview have used only outcome decisions as the dependent variable (e.g. Young and Beier, 1977; Forbes and Jackson, 1980; Sigelman et al., 1980; Parsons and Liden, 1984; Rasmussen, 1984). Two recent studies have incorporated personality traits into their criterion measures, (Imada and Hakel, 1977; McGovern and Tinsley, 1978), but both can be criticised for using unrealistic manipulations of candidate non-verbal behaviour and ill-conceived personality scales which restrict the external validity of their findings. Nevertheless, these studies reveal that candidate non-verbal behaviour, especially eye contact, hand gestures, head movements, facial expressions, posture, and postural changes, are linked to interviewer outcome decisions and impressions of candidate personality. Furthermore, the social psychological research into impression formation cited in Chapter

Three also illustrates the existence of links between the non-verbal behaviour of target individuals and rater impressions of personality.

The Concept of 'Perceptual Links' Between Candidate Non-verbal Behaviour and Interviewer Impressions of Personality

It seems likely, then, that the non-verbal behaviour of the candidate in the opening few minutes of the interview is at least associated with, possibly even causal of, interviewer impressions of personality. Certainly, the concept of perceptual links between interviewee non-verbal behaviour and interviewer impressions of personality is supported by both interview research and social psychological studies into person perception.

Relating this concept to the model of impression formation propounded in Chapter Three, it is asserted that perceptual links specify the functioning of the translation phase of the model. That is, perceptual links operate as decoding mechanisms which translate incoming source information (i.e. interviewee behaviour) into psychological meaning (i.e. impressions of personality based upon the interviewer's personality construct sub-system). For instance, a single perceptual link between candidate non-verbal behaviour and interviewer construal takes the form:

$$X_b \longrightarrow Y_i$$

Here, X behaviour is translated into Y impression of personality by the application of a cognitive rule or translation specification underlying the perceptual link. This example is clearly a gross over-simplification of interviewer impression formation, however. Indeed, it is only sensible to conceive of perceptual links between candidate non-verbal behaviour and interviewer impressions as multi-dimensional and inter-related. This complex matrix of translation specifications may be illustrated as shown in Figure 8.1.

FIGURE 8.1

SCHEMATA OF PERCEPTUAL LINKS BETWEEN CANDIDATE NON-VERBAL BEHAVIOUR AND INTERVIEWER IMPRESSIONS OF PERSONALITY
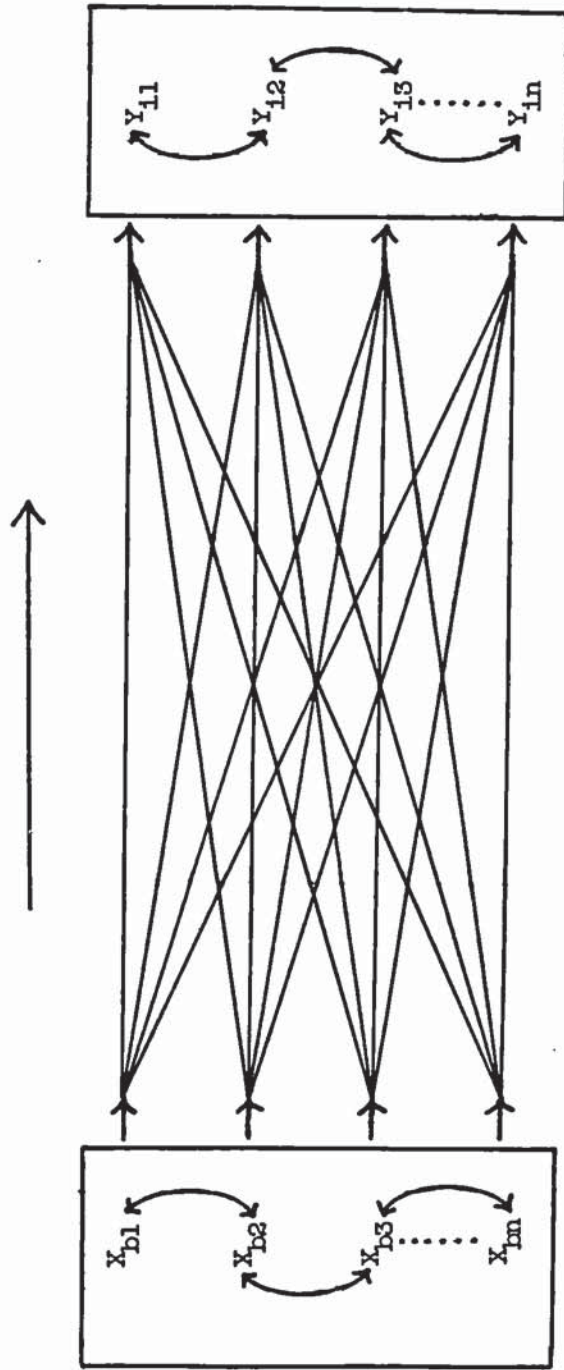
where:

$X_{b1} \cdots X_{bm}$ = co-occurring candidate non-verbal behaviours

↑ = perceptual link translation specifications

$Y_{11} \cdots Y_{1n}$ = inter-related interviewer impressions of personality

This figure portrays the translation of multiple and co-occurring interviewee non-verbal behaviours into a multi-faceted impression of personality by the interviewer. As such, this diagrammatic illustration of perceptual links represents the 'point of departure' for Experiment III which specifically addresses the translation phase of interviewer impression formation. In this experiment, interviewer perceptual links are quantified as co-relationships between non-verbal behaviour and ratings of personality, and as multiple regression analysis models using candidate non-verbal behaviour ratings as independent variables and interviewer assessments as dependent variables.

EXPERIMENTAL DESIGN

Experiment III aimed:

1. To investigate the causal relationships between candidate non-verbal behaviour in the opening four minutes of the interview and subject ratings of candidate personality.

2. To ascertain whether subjects were able to recognise experimental changes in candidate non-verbal behaviour.

3. To evaluate differences between personnel specialists' and line managers' ratings of candidate non-verbal behaviour and personality.

The second aim was derived from existing research into dyadic social interaction which casts doubt upon the ability of individuals to recognise even quite pronounced differences in the non-verbal behaviour of another person (e.g. Le Compte and Rosenfeld, 1971; Cook and Smith, 1975; Argyle, 1983). The third aim related to earlier research by Keenan (1976b) which highlights

differences between personnel specialists and line managers in impression formation strategies.

Non-verbal behaviour was manipulated using a 2 x 2 factorial design as illustrated in Figure 8.2.

<u>FIGURE 8.2</u>

<u>2 x 2 FACTORIAL DESIGN</u>

EYE CONTACT

H = High Condition
L = Low Condition
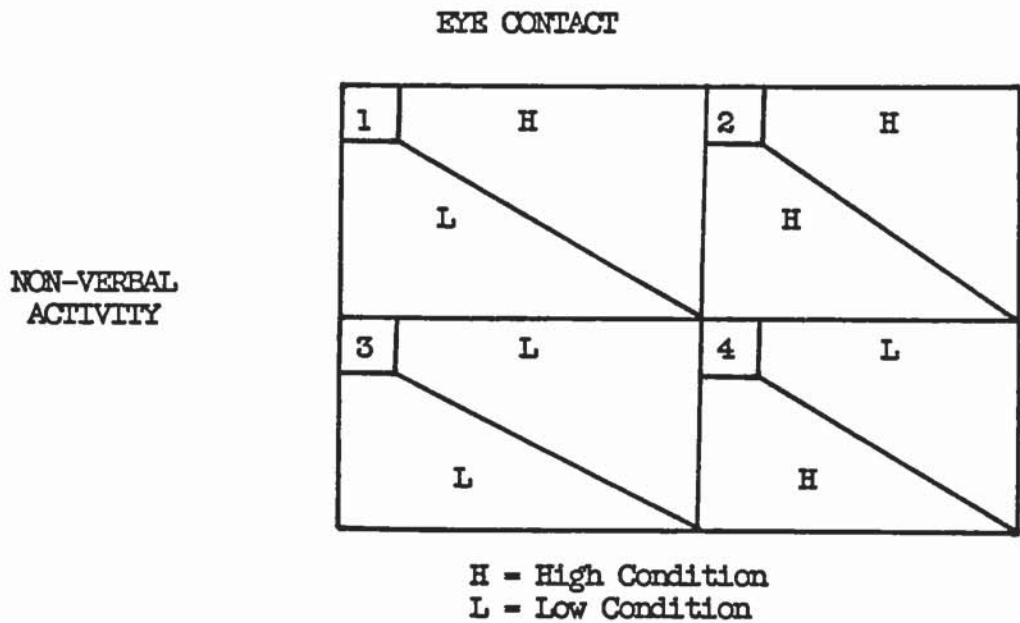
The category of 'non-verbal activity' comprised the cues: hand gestures, head movements, postural changes, and changes in facial expression. The rationale underlying this categorisation was founded upon Wiener and Mehrabian's (1968) 'channel' approach, where it is assumed that certain non-verbal behaviours can be studied independently of other simultaneously occurring behaviours. Research findings demonstrate that patterns of gaze are relatively independent from other non-verbal behaviours, and thus, can be treated as a distinct channel (Staneski and Kleinke, 1978; Kleinke, 1986).

A videotape recording of four vignettes of the initial stages of a simulated graduate selection interview was produced with different styles of candidate non-verbal behaviour:

(1) EC-H, NVA-L (Eye Contact-High, Non-verbal Activity-Low)
(2) EC-H, NVA-H (Eye Contact-High, Non-verbal Activity-High)
(3) EC-L, NVA-L (Eye Contact-Low, Non-verbal Activity-Low)
(4) EC-L, NVA-H (Eye Contact-Low, Non-verbal Activity-High)

Considerable care was taken to ensure that the non-verbal and verbal contents of the vignettes were representative of the opening four minutes of a typical graduate selection interview. The parameters for acceptable behaviour in the high and low non-verbal conditions originated from Argyle and Ingham (1972), Gifford et al. (1985), and from the content analyses carried out in the pilot study (Appendix II). These parameters were introduced to ensure that extremes of candidate non-verbal behaviour were not used in the vignettes, but that normally occurring patterns of interview behaviour were recorded. Verbal content was held constant by means of an interview script, details of which are given in the following section.

METHOD

1. Materials

The stimulus videotape used in this experiment was prepared in a television studio with the assistance of an experienced interviewer and a confederate interviewee who was an undergraduate management student. Both participants were female. The studio layout replicated a typical office arrangement and is illustrated in Figure 8.3. Camera 1 was focussed to a general view of the room and was recording up until the candidate sat down. The recording then cut to camera 2 which was positioned in such a way as to 'look over the interviewer's shoulder'. This gave an 'interviewer's eye-view' of the interviewee, with the candidate

visible on the recording from the waist upwards. Both parties received the interview script in advance and committed its contents to memory. The flip chart positioned just out of camera field was used by the interviewee as a prompting aid with summaries of her replies noted down, although she only looked occasionally to remind herself of particular replies. The interviewee was briefed in detail over the self-presentational style required for each non-verbal condition, and several attempts were needed to produce each vignette.

FIGURE 8.3

CLOSED CIRCUIT TELEVISION STUDIO LAYOUT

Camera 2

Flip Chart

Interviewer

Interviewee

Studio Lights

Camera 1
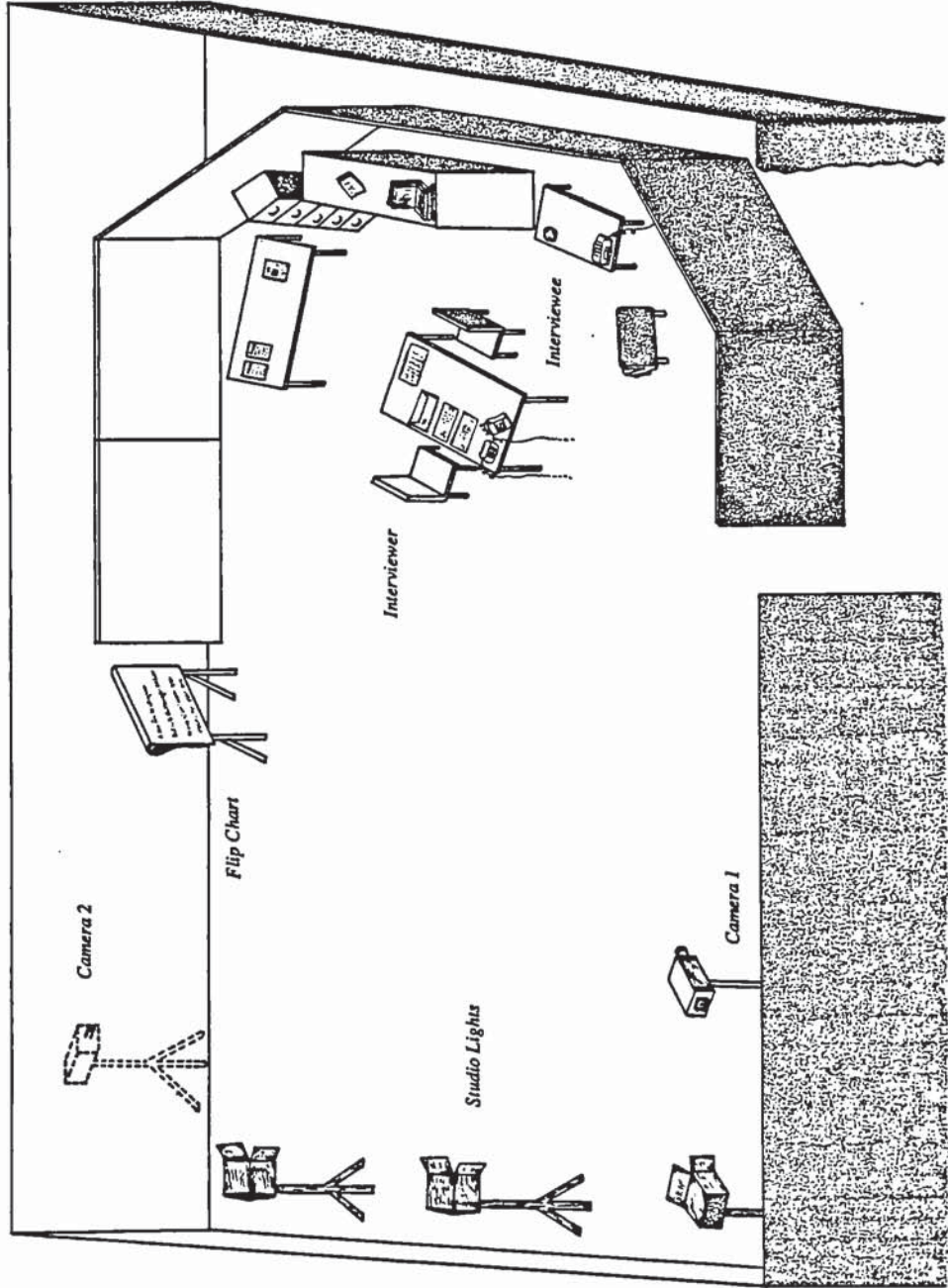
Detailed content analysis of the recordings was undertaken
subsequently, the results of which are shown in Table 8.1 as
frequency counts for the relevant types of non-verbal behaviour.
The notable similarities across high and low conditions for both
eye contact and non-verbal activity, (see, for example, hand
gestures in vignettes 1 and 3, and, 2 and 4), arose partly through
the experimental control afforded by this laboratory situation and
partly through chance.

TABLE 8.1

DETAILED BREAKDOWN OF THE CONFEDERATE INTERVIEWEE'S

NON-VERBAL BEHAVIOUR ACROSS THE FOUR VIGNETTES

	VIGNETTE			
	1	2	3	4
	EC-H NVA-L	EC-H NVA-H	EC-L NVA-L	EC-L NVA-H
Duration	4m,08s	4m,01s	4m,11s	4m,05s
Eye contact while listening	2m,02s	1m,49s	1m,14s	1m,04s
Eye contact while talking	2m,16s	2m,06s	56s	49s
Hand Gestures	1[a]	27	1[a]	28
Head Nods	7	12	8	16
Smiles	1	10	2	11
Postural Changes	0	4	0	2

FOOTNOTE [a] : Hands clasped for much of the vignette

The interview script used to standardise verbal content was based upon the recordings of the selection interviews conducted in the pilot study and is quoted in full in Appendix XIX.

Background information given to subjects consisted of

  (a) instructions for the experiment (Appendix XX)

  (b) the company synopsis, job description and advertisement for the contrived position of Graduate Trainee (Appendices III, IV, and V)

  (c) the candidate's standard university application form (Appendix XXI). The name given on the application was altered to preserve the candidate's anonymity during the rating sessions.

An interviewer questionnaire was again used to collect information on the characteristics of subjects participating in the experiment (Appendix XIII).

Subjects evaluated the candidate using a two-part assessment form. The first part comprised of six non-verbal behaviour scales (Appendix XXII), and the second part of the form was the 11 factor Interviewee Personality Assessment (IPA) resulting from Experiment II (Appendix XVIII).

2. Subjects

68 subjects participated in this experiment, 38 personnel specialists and 30 line managers. Details of the characteristics of the subject groups are presented in Appendix XXIII. The two groups were treated as separate experimental groups, although both underwent identical procedures during the rating sessions.

3. Procedure

The Standard Operation Instructions used in this experiment are detailed in Appendix XXIV. Initially, a brief introduction to the research was given, after which the experimental instructions and background information were distributed. Subjects then completed the interviewer questionnaire. Prior to showing the first vignette, any questions were answered by the experimenter. Subjects completed the two-part assessment form after viewing the first vignette, and these assessments were collected in. Subjects were then instructed to turn their attention to the next recorded interview opening, and it was emphasised that impressions of the previous vignette should not affect reactions to the next. This procedure continued for the remaining three vignettes, whereupon the experiment was declared closed. A debriefing presentation followed.

RESULTS

1. Recognition of Differences in Candidate Non-verbal Behaviour

As the non-verbal behaviour of the candidate was manipulated in this experiment, the question arises as to whether or not raters were able to identify the differences installed across the four conditions. Table 8.2 sets out the means and standard deviations of ratings of candidate non-verbal behaviour across the four vignettes.

TABLE 8.2

MEAN RATINGS OF CANDIDATE NON-VERBAL BEHAVIOUR AND
STANDARD DEVIATIONS ACROSS THE FOUR VIGNETTES

	VIGNETTE							
	1		2		3		4	
	EC-H NVA-L		EC-H NVA-H		EC-L NVA-L		EC-L NVA-H	
	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD
EC	7.13	1.80	6.56	1.53	2.29	0.93	3.16	1.46
HG	1.38	0.79	7.16	1.28	2.12	1.11	6.53	1.77
HM	3.60	1.59	6.78	1.36	3.96	1.92	6.43	1.73
P	4.51	2.43	6.54	1.51	3.16	1.87	5.51	1.93
PC	1.72	1.02	7.41	1.27	2.43	1.39	6.60	1.73
FE	3.18	1.42	7.21	1.09	3.09	1.46	4.96	1.81

EC - Eye Contact, HG - Hand Gestures, HM - Head Movements
P - Posture, PC - Postural Changes, FE - Facial Expressions

This table shows marked differences in mean ratings between the four conditions. These differences are broadly in line with experimental manipulations, whereby high and low conditions of eye contact and non-verbal activity are rated as such in terms of overall means. Comparing standard deviations for the first and the fourth vignettes against those for the second and third vignettes, there is some evidence of greater divergence between ratings of the former, possibly indicative of the confusion caused by non-congruent channel information. In general, however, Table 8.2 illustrates the ability of subjects to distinguish differences in candidate non-verbal behaviour across the four conditions.

Further analysis of this finding was undertaken in order to establish the rating patterns of the personnel specialist group in comparison to those of the line manager group. Table 8.3 summarises the results of this analysis.

Two trends are displayed in this table. Firstly, the line managers' ratings are on average more extreme (i.e. further away from the mid-point rating of 5) for all four conditions than those of the personnel specialists. Student's t-tests were computed against all mean ratings, but none were statistically significant. Secondly, there is greater dissension amongst the personnel specialists as indicated by the generally higher standard deviation values. So, whilst the line managers were influenced slightly more than personnel specialists by different candidate non-verbal behaviour, the personnel specialists differed considerably from one another in their evaluations of candidate behaviour.

To check the significance of differences between the two subject groups, a 2 (Type of Rater) X 2 (Condition of Eye Contact) X 2 (Condition of Non-verbal Activity) repeated measures design MANOVA was calculated against ratings of candidate non-verbal behaviour as multiple dependent variables. Table 8.4 sets out individual main, two-way, and three-way effects significant at the .05 level.

TABLE 8.3

MEAN RATINGS AND STANDARD DEVIATIONS FOR THE PERSONNEL
SPECIALIST AND THE LINE MANAGER SUBJECTS

					VIGNETTE			
	1		2		3		4	
	EC-H NVA-L		EC-H NVA-H		EC-L NVA-L		EC-L NVA-H	
	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD
Personnel Specialists (n = 38)								
EC	6.66	2.08	6.81	1.64	2.53	1.13	3.32	1.34
HG	1.60	0.97	7.05	1.37	2.34	1.30	6.29	1.83
HM	3.42	1.62	6.84	1.50	3.58	1.84	6.08	2.06
P	4.05	2.36	6.79	1.28	3.03	1.90	5.74	1.93
PC	1.97	1.08	7.42	1.78	2.71	1.59	6.39	1.88
FE	3.26	1.37	7.26	1.08	3.53	1.64	4.74	1.67
Line Managers (n = 30)								
EC	7.73	1.14	6.23	1.33	2.00	0.45	2.97	1.61
HG	1.10	0.30	7.30	1.15	1.83	0.75	6.83	1.68
HM	3.83	1.55	6.70	1.18	4.43	1.94	6.87	1.07
P	5.10	2.43	6.23	1.74	3.33	1.84	5.23	1.94
PC	1.40	0.85	7.40	1.40	2.07	0.98	6.87	1.50
FE	3.07	1.51	7.13	1.11	2.53	0.97	5.23	1.96

EC = Eye Contact, HG = Hand Gestures, HM = Head Movements
P = Posture, PC = Postural Changes, FE = Facial Expressions

TABLE 8.4

EFFECTS OF RATER TYPE, CONDITION OF EYE CONTACT, AND

CONDITION OF NON-VERBAL ACTIVITY UPON RATINGS

OF CANDIDATE NON-VERBAL BEHAVIOUR

SOURCE OF VARIANCE	DEPENDENT VARIABLE	MEAN SQUARE	F-VALUES
Main Effects			
Rater Type	HM	15.33	4.28*
Condition of Eye Contact	EC	541.67	136.72***
	HM	16.82	4.70*
	P	26.82	5.50*
	FE	30.47	10.01**
Condition of Non-verbal Activity	HG	978.41	235.29***
	HM	297.96	83.28***
	P	105.07	21.51***
	PC	882.47	205.60***
	FE	357.86	117.57***
Two-Way Interactions			
Rater Type X Eye Contact	EC	184.32	46.52***
	P	37.81	7.75**
	FE	19.74	6.48*
Rater Type X Non-verbal Activity	HG	212.53	51.11***
	HM	19.71	5.51*
	PC	210.65	49.08***
	FE	77.24	25.38***
Eye Contact X Non-verbal Activity	EC	35.31	7.55**
	HG	31.80	6.48*
	PC	39.00	7.71**
	FE	79.44	23.35***
Three-Way Interactions			
Rater Type X Eye Contact X Non-verbal Activity	FE	15.53	5.10*

* $p < .05$, ** $p < .01$, *** $p < .001$

Although the overall main effects of Rater Type are non-significant (Pillais F = 1.07, d.f. = 1,264, p = N.S.), overall two-way interactions proved to be significant. The Rater Type X Condition of Eye Contact interaction is significant at the .001 level (F = 8.33, d.f. = 1,264, p < .001), as is the interaction between Rater Type and Condition of Non-verbal Activity (F = 13.89, d.f. = 1,264, p < .001). The two-way interaction between Condition of Eye Contact and Condition of Non-verbal Activity is also significant (F = 8.98, d.f. = 1,264, p < .001), indicating that these two channels of candidate non-verbal behaviour were related in terms of interviewer impression formation. The three-way interaction is non-significant, however, suggesting that the factor of Rater Type was less influential upon interviewer assessment strategies (F = 0.99, d.f. = 1,264, p = N.S.).

As noted earlier, Keenan (1976b) concludes that personnel managers tended to place greater emphasis upon 'achievement motivation' than their line manager colleagues. The results of Experiment III suggest marked differences between individual personnel specialists in rating the behavioural indicators of such personality criteria, but no significant differences between the ratings of personnel specialists and line managers.

2. Order Effects on Ratings

Limited access to interviewers prevented the execution of a fully counterbalanced experimental design. It is therefore possible that the order in which the vignettes were presented could have affected ratings and that confounding of the results could have occurred.

In order to estimate the presence of order effects, one group of personnel specialist subjects was chosen at random and shown the vignettes in reverse order. Table 8.5 compares the mean ratings of the normal order personnel subjects against those of the reverse order group. Whilst this table reveals some differences between

mean ratings for each group, no marked order effects are apparent across the four conditions. The mean ratings of the reverse order group are slightly more extreme, however, indicating differential use of the nine-point scale itself rather than any prominent order effects. Other orders of vignette presentation could have affected ratings, and on the basis of this analysis alone it is impossible to state categorically whether or not order effects are apparent. Nonetheless, it is clear that for the reverse order group, the order of vignette presentation did not fundamentally affect ratings of the candidate's non-verbal behaviour or personality.

TABLE 8.4

MEAN RATINGS OF CANDIDATE NON-VERBAL BEHAVIOUR AND PERSONALITY:

NORMAL ORDER AND REVERSE ORDER PERSONNEL SPECIALIST RATING GROUPS

	VIGNETTE							
	1 EC-H NVA-L		2 EC-H NVA-H		3 EC-L NVA-L		4 EC-L NVA-H	
	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)
Eye Contact	6.76	6.46	6.80	6.85	2.32	2.92	3.64	2.69
Hand Gestures	1.44	1.92	7.48	6.23	2.80	1.46	7.00	4.92
Head Movements	3.40	3.46	7.28	6.00	4.08	2.61	7.08	4.15
Posture	4.32	3.54	7.04	6.31	3.52	2.08	6.44	4.38
Postural Changes	1.84	2.23	7.76	6.77	3.32	1.54	7.16	4.92
Facial Expressions	3.44	2.94	7.40	7.00	3.52	3.54	5.40	3.46
Boring – Interesting	3.64	2.69	5.76	6.23	3.32	3.00	4.44	3.08
Relaxed – Nervous	4.20	4.23	4.56	3.23	6.72	6.23	5.40	6.46
Weak – Strong	5.28	5.00	5.68	5.31	3.68	3.00	4.88	3.23
Unsuccessful – Successful	6.16	4.54	6.12	5.85	4.48	4.69	5.36	5.00
Active – Passive	5.40	6.15	4.28	4.00	6.52	6.77	5.20	5.92
Immature – Mature	5.96	4.69	4.88	5.69	4.04	3.54	4.44	3.85
Enthusiastic–Unenthusiastic	5.88	6.54	3.56	3.54	6.76	7.23	5.32	7.31
Insensitive – Sensitive	4.48	4.31	5.48	5.46	5.32	5.23	4.88	4.15
Pleasant – Unpleasant	4.52	5.31	3.56	3.54	4.96	5.23	4.36	5.23
Honest – Dishonest	4.08	4.15	4.00	4.23	4.32	4.31	4.64	4.15
Dominant – Submissive	5.12	5.31	4.60	4.38	6.72	7.38	5.20	6.38

(a) Normal order rating group means (n = 25)
(b) Reverse order rating group means (n = 13)

3. Relationships Between Ratings of Candidate Non-verbal Behaviour and Ratings of Candidate Personality

Table 8.2 supports the contention that subjects were, in fact, able to distinguish between different styles of candidate non-verbal behaviour, whilst Table 8.3 indicates differential attributions to personality resulting from the four vignettes. The relationships between ratings of non-verbal behaviour and ratings of personality are examined more fully in Table 8.6 which displays the mean ratings and standard deviations for the eleven personality scales across the four behavioural conditions.

This table shows discriminant patterns of personality rating across the four behavioural conditions. For instance, in the two vignettes where eye contact was high, the candidate was rated on average as more successful, mature, honest, dominant, and nervous than in the two low eye contact conditions. Mean ratings for the two vignettes where non-verbal activity was high indicate that the candidate was perceived as stronger and more active than in the two vignettes where non-verbal activity was low.

Importantly, these relationships between candidate non-verbal behaviour and perceptions of personality are causal since all other variables were held constant. Changes in personality ratings are therefore only attributable to manipulations of non-verbal behaviour or to nuisance variables such as random fluctuations. Again, the standard deviation values for the first and fourth vignettes are greater than those for the second and third vignettes. This supports the earlier interpretation that non-congruent channel information caused more divergent ratings.

TABLE 8.6

MEAN RATINGS OF PERSONALITY AND STANDARD DEVIATIONS

ACROSS THE FOUR BEHAVIOURAL CONDITIONS

	VIGNETTE							
	1		2		3		4	
	EC-H NVA-L		EC-H NVA-H		EC-L NVA-L		EC-L NVA-H	
	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD
Boring	3.68	1.77	5.93	1.52	3.07	1.67	3.87	1.80
Relaxed	3.78	1.56	4.16	2.00	6.50	1.62	5.50	1.82
Weak	5.44	1.53	5.75	1.27	3.26	1.42	4.44	1.58
Unsuccessful	6.04	1.51	6.15	1.26	4.59	1.43	5.10	1.49
Active	5.31	1.87	3.98	1.32	6.59	1.35	5.23	1.57
Immature	6.09	1.65	5.60	1.37	3.94	1.54	4.28	1.44
Enthusiastic	5.63	2.20	3.66	1.40	6.82	1.63	5.97	1.97
Insensitive	4.81	1.50	5.53	1.26	5.35	1.81	4.66	1.60
Pleasant	4.54	1.49	3.26	1.15	5.03	1.22	4.53	1.38
Honest	3.65	1.73	3.85	1.45	4.56	1.47	4.47	1.47
Dominant	5.09	1.62	4.43	1.15	6.94	1.18	5.47	1.54

Two 2 X 2 X 2 repeated measures MANOVAs with the factors Order of Vignette Presentation (normal or reverse), Condition of Eye Contact (high or low), and Condition of Non-verbal Activity (high or low) were computed. Dependent variables for the first MANOVA were ratings of candidate non-verbal behaviour, with ratings of candidate personality constituting the 11 dependent variables in the second. The results of these MANOVAs are summarised in Tables 8.7 and 8.8, respectively.

Overall main effects for Order of Vignette Presentation are statistically significant in the first MANOVA only (Pillais $F = 7.81$, d.f. $= 1,264$, $p < .05$), but are non-significant with personality ratings as the dependent variables ($F = 1.69$, d.f. $= 1,264$, $p = $ N.S.). This suggests that the order in which vignettes were viewed by subjects critically affected only non-verbal behaviour ratings and not assessments of candidate personality. However, overall two-way and three-way interactions in the initial MANOVA are all significant (Order X Condition of Eye Contact $F = 53.96$, $p < .001$; Order X Condition of Non-verbal Behaviour $F = 127.47$, $p < .001$, Condition of Eye Contact X Condition of Non-verbal Behaviour $F = 15.68$, $p < .001$; Order X Condition of Eye Contact X Condition of Non-verbal Behaviour $F = 7.65$, $p < .001$; d.f. $= 1,264$ in all cases). All two-way interactions in the second MANOVA are also significant (Order X Condition of Eye Contact $F = 12.72$, $p < .001$; Order X Condition of Non-verbal Activity $F = 7.58$, $p < .001$; Condition of Eye Contact X Condition of Non-verbal Activity $F = 4.56$, $p < .001$), whilst the three-way interaction is non-significant ($F = 1.62$, $p = $ N.S., d.f. $= 1,264$ in all cases).

These results indicate that whilst the order of vignette presentation was a significant factor affecting ratings of candidate non-verbal behaviour, it was not influential upon assessments of candidate personality.

TABLE 8.7

EFFECTS OF ORDER OF VIGNETTE PRESENTATION, CONDITION

OF EYE CONTACT, AND CONDITION OF NON-VERBAL ACTIVITY

UPON RATINGS OF CANDIDATE NON-VERBAL BEHAVIOUR

SOURCE OF VARIANCE	DEPENDENT VARIABLE	MEAN SQUARE	F-VALUES
Main Effects			
Vignette Order	HG	28.28	19.73***
	HM	82.60	35.20***
	P	47.21	12.76***
	PC	29.30	17.65***
	FE	9.08	4.47*
Condition of	HG	14.08	9.83**
Eye Contact	HM	29.13	12.41***
	PC	23.83	14.36***
Condition of	HG	23.57	16.45***
Non-verbal Activity	HM	9.91	4.22*
	PC	15.19	9.15**
	FE	14.46	7.12**
Two-Way Interactions			
Order X	EC	677.66	320.93***
Eye Contact	HM	11.11	4.73*
	P	80.39	21.74***
	PC	11.22	6.76**
	FE	68.99	33.99***
Order X	HG	902.86	630.14***
Non-verbal Activity	HM	267.89	114.16***
	P	227.11	61.41***
	PC	875.55	527.46***
	FE	281.34	138.45***
Eye Contact X	EC	35.31	16.72***
Non-verbal Activity	HG	31.80	22.19***
	PC	39.00	23.50***
	FE	79.44	39.09***
Three-Way Interactions			
Rater Type X	EC	47.78	22.63***
Eye Contact X	HG	18.53	12.93***
Non-verbal Activity	PC	19.59	11.80***

* p < .05, ** p < .01, *** p < .001

TABLE 8.8

EFFECTS OF ORDER OF VIGNETTE PRESENTATION, CONDITION

OF EYE CONTACT, AND CONDITION OF NON-VERBAL ACTIVITY

UPON RATINGS OF CANDIDATE PERSONALITY

SOURCE OF VARIANCE	DEPENDENT VARIABLE	MEAN SQUARE	F-VALUES
Main Effects			
Vignette Order	Weak	22.35	11.00***
	Unsuccessful	13.10	6.83**
	Active	12.00	5.11*
	Immature	18.44	8.54**
	Enthusiastic	25.66	7.99**
	Pleasant	15.12	8.95**
	Dominant	9.47	5.00*
Condition of Eye Contact	Unsuccessful	13.13	6.85**
Condition of Non-verbal Activity	Immature	8.50	3.94*
Two-Way Interactions			
Order X Eye Contact	Boring	78.49	27.97***
	Relaxed	213.52	70.84***
	Weak	144.82	71.25***
	Unsuccessful	34.44	17.97***
	Active	67.46	28.70***
	Immature	113.87	52.73***
	Enthusiastic	157.24	48.95***
	Pleasant	30.34	17.96***
	Honest	9.99	4.25*
	Dominant	117.83	62.29***
Order X Non-verbal Activity	Boring	111.90	39.88***
	Weak	13.28	6.53*
	Unsuccessful	10.48	5.47*
	Active	82.43	34.07***
	Enthusiastic	86.10	26.80***
	Pleasant	33.15	19.63***
	Dominant	44.29	23.41***

TABLE 8.8 (CONTINUED)

EFFECTS OF ORDER OF VIGNETTE PRESENTATION, CONDITION

OF EYE CONTACT, AND CONDITION OF NON-VERBAL ACTIVITY

UPON RATINGS OF CANDIDATE PERSONALITY

SOURCE OF VARIANCE	DEPENDENT VARIABLE	MEAN SQUARE	F-VALUES
Two-Way Interactions			
Eye Contact X	Boring	51.90	18.50***
Non-verbal Activity	Enthusiastic	36.60	11.39***
	Immature	31.27	12.90***
	Pleasant	14.08	8.34**
Three-Way Interactions			
Order X	Boring	16.16	5.76*
Eye Contact X	Relaxed	27.44	9.10**
Non-verbal Activity	Unsuccessful	8.01	4.18*
	Immature	9.23	4.27*
	Enthusiastic	15.42	4.80*

* p < .05, ** p < .01, *** p < .001

The causal relationship between changes in candidate non-verbal behaviour and ratings of personality is examined further in Table 8.9 which sets out the Pearson's correlation matrix between these two sets of variables.

TABLE 8.9

PEARSON'S CORRELATION MATRIX BETWEEN

RATINGS OF CANDIDATE NON-VERBAL BEHAVIOUR AND PERSONALITY

| | NON-VERBAL BEHAVIOUR VARIABLES | | | | | |
	EC	HG	HM	P	PC	FE
Boring	.40**	.38**	.34**	.41**	.40**	.65**
Relaxed	-.48**	-.03	-.01	-.21	-.02	-.19
Weak	.57**	.17**	.15*	.34**	.20**	.44**
Unsuccessful	.44**	.07	.08	.28**	.08	.30**
Active	-.38**	-.37**	-.28**	-.37**	-.38**	-.50**
Immature	.50**	-.06	-.05	.18**	-.03	.21**
Enthusiastic	-.38**	-.31**	-.25**	-.40**	-.36**	-.53**
Insensitive	.12*	.06	.17**	.17**	.08	.22**
Pleasant	-.30**	-.32**	-.29**	-.41**	-.34**	-.52**
Honest	-.21**	-.00	.00	-.09	-.01	-.10
Dominant	-.48**	-.30**	-.23**	-.41**	-.28**	-.49**

EC - Eye Contact, HG - Hand Gestures, HM - Head Movements
P - Posture, PC - Postural Changes, FE - Facial Expressions
* Significant at $p < .05$; ** Significant at $p < .01$; df - 272

The existence of perceptual links utilised by subjects to infer candidate personality from non-verbal behaviour is evidenced by the proportion of highly significant correlations in this table. This analysis was therefore taken one stage further through the use of multiple regression analyses.

4. Multiple Regression Analyses

Scatterplots for non-verbal behaviour ratings against ratings of candidate personality revealed no extreme curvilinear distributions. Therefore, in order to establish the linear dependence of interviewers' impressions of personality upon candidate non-verbal behaviour, a set of hierarchical multiple regression analyses (MRAs) with stepwise introduction of variables was computed. The results of these MRAs are set out in Table 8.10. Only statistically significant (p < .05) independent variables are included for the sake of brevity. The MRAs computed upon the dependent variables of Insensitive and Honest are excluded, as in both cases the proportion of variance accounted for by all dependent variables was less than 10 per cent of the total variance.

It is apparent from Table 8.10 that two independent variables account for the majority of the variance in all nine MRAs. Ratings of the degree of eye contact and positiveness of facial expressions account for the greatest proportions of the variance in ratings of candidate personality. In four of the MRAs the independent variables of posture and postural changes exert minor influence, but in all cases this represents less than 10 per cent of the total variance. The MRAs demonstrate the relative importance of the six non-verbal behaviours in terms of their influence upon impressions of personality, and indicate that candidate facial expressions and eye contact are paramount.

TABLE 8.10

MULTIPLE STEPWISE REGRESSION ANALYSES

WITH PERSONALITY RATINGS AS DEPENDENT VARIABLES

AND NON-VERBAL BEHAVIOUR RATINGS AS INDEPENDENT VARIABLES

DEPENDENT VARIABLE	INDEPENDENT VARIABLES	MR	R^2	F^*	BETA
Boring	FE	0.65	0.42	152.38	0.58
	EC	0.68	0.47	22.66	0.22
Relaxed	EC	0.48	0.23	79.15	-0.48
Weak	EC	0.57	0.33	94.01	0.48
	FE	0.64	0.40	35.14	0.29
Unsuccessful	EC	0.44	0.19	46.40	0.38
	FE	0.47	0.23	10.64	0.18
Active	FE	0.50	0.25	14.04	-0.29
	EC	0.55	0.31	27.61	-0.29
	PC	0.57	0.32	5.52	-0.17
Immature	EC	0.50	0.25	91.88	0.50
Enthusiastic	FE	0.53	0.28	46.70	-0.40
	EC	0.58	0.33	16.21	-0.21
	P	0.59	0.35	5.58	-0.14
Pleasant	FE	0.52	0.27	43.05	-0.39
	P	0.55	0.30	8.77	-0.18
	EC	0.56	0.31	5.39	-0.12
Dominant	FE	0.49	0.24	28.33	-0.30
	EC	0.59	0.35	41.23	-0.33
	P	0.61	0.37	7.51	-0.16

$*$ F-Ratios significant at $p < .05$
FE = Facial Expressions, EC = Eye Contact,
PC = Postural Changes, P = Posture

In view of the experimental design, the proportions of the total variance in personality ratings accounted for by the non-verbal behaviour ratings are disappointing. Using R-squared as a measure of this percentage, in only two of the MRAs does this figure exceed 40 per cent, and in three of the regressions this falls to below 30 per cent. Given that non-verbal behaviour was the only manipulated variable, it was anticipated that these percentages would be considerably higher.

The standard check for multicollinearity (Nie et al., 1975) of examining the correlation matrix of the independent variables indicates that correlation levels could not have given rise to this effect. However, as illustrated in Table 8.11, there is considerable evidence to suggest that correlations between the 11 personality factors imply some underlying simple structure. This is especially the case since these 11 factors emerged as orthogonal (i.e. uncorrelated) dimensions in Experiment II. However, only 3 of the coefficients in the matrix are not statistically significant, whilst 5 are in excess of $r = 0.60$ and 2 are above $r = 0.70$. This matrix therefore indicates marked halo effects in subjects' ratings and suggests the distinct possibility that underscoring these eleven personality factors is a more simplistic set of second-order factors.

TABLE 8.II

CORRELATION MATRIX FOR RATINGS OF CANDIDATE PERSONALITY

	BO	RE	WE	UN	AC	IM	EN	IN	PL	HO	DO
Boring		-.32**	.61**	.46**	-.57**	.49**	-.70**	.36**	-.55**	-.24**	-.53**
Relaxed			-.50**	-.31**	.33**	-.43**	.27**	.14*	.10	.18*	.43**
Weak				.57**	-.59**	.64**	-.55**	.16**	-.45**	-.26**	-.72**
Unsuccessful					-.53**	.59**	-.49**	.30**	-.44**	-.46**	-.47**
Active						-.48**	.81**	-.26**	.53**	.26**	.66**
Immature							-.51**	.25**	-.40**	-.39**	-.51**
Enthusiastic								-.39**	.60**	.23**	.55**
Insensitive									-.43**	-.27**	-.10
Pleasant										.28**	.41**
Honest											.11

* Significant at $p < .05$; ** Significant at $p < .01$; df = 272

BO: Boring, RE: Relaxed, WE: Weak, UN: Unsuccessful, AC: Active, IM: Immature, EN: Enthusiastic, IN: Insensitive, PL: Pleasant, HO: Honest, DO: Dominant

207

5. Multiple Regression Analyses on Second-Order Factors

An exploratory factor analysis was computed to ascertain whether these 11 factors could be summarised into a second-order solution. Initially, a trial factor analysis without iteration was obtained. The first factor extracted accounted for 48.6 per cent of the variance and only 3 factors were elicited in total, all holding eigenvalues of greater than unity. A second solution with iteration and varimax (orthogonal) rotation was computed limiting the number of factors to a maximum of three. This solution extracted 71.2 per cent of total variance. The pattern of loadings and the amounts of extracted variance accounted for by the three factors are shown in Table 8.9.

Factor 1, which accounts for 76.1 per cent of the extracted variance, loads positively onto the variables Dominant, Relaxed, and Active, and negatively onto Weak and Immature in excess of the 0.50 cut-off specified by Kim and Mueller (1978b). This factor seems to be something of a combination of strength of character traits coupled with notions of activity and the ability to appear relaxed in the stressful situation of the selection interview. Factor 1 is therefore tentatively labelled Strong/Competent.

Factor 2 accounts for a further 14.8 per cent of the extracted variance. Pleasant and Enthusiastic load positively, whereas Boring and Insensitive load negatively. This pattern of loading is indicative of interviewer liking for the candidate, together with attributions of being keen and motivated to work. Therefore, this factor is provisionally titled Liking/Motivated.

Factor 3 accounts for the remaining 9.1 per cent of variance, and loads positively onto Unsuccessful and negatively onto Honest. This implies some perception of a relationship between successful and honest individuals. As only two variables load onto this factor, its title is simply derived from combining these labels, giving, Honest/Successful, in accord with the strength of the loadings displayed in Table 8.12.

TABLE 8.12

FACTOR LOADINGS AND VARIANCE

ACCOUNTED FOR BY THE SECOND-ORDER SOLUTION

	FACTOR 1	FACTOR 2	FACTOR 3
Boring	-0.48	-0.61	0.13
Relaxed	0.64	-0.10	-0.18
Weak	-0.77	-0.31	0.23
Unsuccessful	-0.44	-0.34	0.53
Active	0.57	0.50	-0.15
Immature	-0.55	-0.27	0.48
Enthusiastic	0.45	0.68	-0.13
Insensitive	0.15	-0.63	0.29
Pleasant	0.24	0.68	-0.20
Honest	0.09	0.17	-0.66
Dominant	0.77	0.34	0.00
PERCENTAGE OF VARIANCE	76.1	14.8	9.1

Using these three second-order factors as composite scales, a further set of MRAs was computed using each scale as the dependent variable and ratings of the six types of non-verbal behaviour as the independent variables. Table 8.13 sets out the results of these MRAs.

TABLE 8.13

MULTIPLE STEPWISE REGRESSION ANALYSES

WITH SECOND-ORDER PERSONALITY FACTORS AS DEPENDENT VARIABLES

AND NON-VERBAL BEHAVIOUR RATINGS AS INDEPENDENT VARIABLES

DEPENDENT VARIABLE	INDEPENDENT VARIABLES	MR	R^2	F*	BETA
FACTOR 1: Strong/Competent	EC	0.61	0.38	110.26	0.50
	FE	0.67	0.45	21.63	0.25
	P	0.68	0.46	4.00	0.11
FACTOR 2: Liking/Motivated	FE	0.62	0.38	79.86	0.48
	EC	0.65	0.42	16.07	0.20
	P	0.66	0.44	7.11	0.14
FACTOR 3: Honest/Successful	EC	0.22	0.05	8.56	0.18
	FE	0.26	0.07	5.01	0.14

* F-Ratios significant at p<.05

The proportions of total variance accounted for in the analyses upon Factor 1: Strong/Competent and Factor 2: Liking/Motivated, are quite acceptable at 46 per cent and 44 per cent respectively. In the case of Factor 3: Honest/Successful, however, the proportion of variance attributable to the six non-verbal behaviour variables is only 7 per cent of the total, implying that ratings of this scale were influenced primarily by extraneous

factors. There are marked differences between the relative importance of the non-verbal behaviours in the first two MRAs as indicated by the R-squared and beta weight values. Eye contact accounts for 38 per cent of the total variance on Strong/Competent, whilst ratings of facial expressions add a further 7 per cent and posture adds a negligible 1 per cent. Conversely, ratings of candidate facial expressions account for 38 per cent of the variance on the Liking/Motivated scale, with eye contact supplementing an additional 4 per cent and posture just 2 per cent.

These findings are conceptually vital. Impressions of strength of character and competence were caused principally by candidate eye contact, whereas perceptions of liking and motivation were influenced mostly by the positiveness of facial expressions.

DISCUSSION

The results of this experiment clarify an important facet of impression formation in the graduate selection interview. The critical finding is that the degree of candidate eye contact primarily affected impressions of strength of character and competence, whilst positiveness of facial expressions fundamentally influenced assessments of liking and motivation. The dependence of personality impressions upon these two facial non-verbal behaviours far outweighed the impact of bodily cues such as major changes in posture and hand gestures.

These results both re-emphasise the inter-related character of interviewers' trait structures (see also Study A: Chapter Six), pointing to marked halo effects in subjects responses, as well as identify perceptual links between candidate non-verbal behaviour and impressions of personality. The findings illustrate the weight allocated to candidate facial behaviour by both line and personnel managers, whilst this experimental design permits the claim of causality as candidate non-verbal behaviour was the sole variable

manipulated across conditions. This strength in the experimental method unfortunately leads to unavoidable restrictions on the external validity of these findings.

Limitations of the Experimental Method

Several limitations in this laboratory experimental method need to be acknowledged as these may restrict the generality of these findings. In addition to the methodological limitations of Experiment II discussed in Chapter Seven, three further caveats need to be stressed in relation to this experiment. Firstly, the recorded interview openings involved females as interviewer and interviewee. Findings of sex differences in non-verbal behaviour (see Hall, 1984) may limit the applicability of these results to other sex combinations at interview. Secondly, there is the possibility that undetected order effects could have affected ratings. Even though the reverse order rater group displayed no indications of this confounding bias, it is conceivable that other orders of presentation could have affected ratings. Finally, this experimental design was intentionally confined to the perceptual links between candidate non-verbal behaviour and interviewer impressions of personality. It was not intended to deal with the effects of these variables upon outcome decisions, nor was it intended to study the impact of candidate verbal behaviour upon the impression formation process.

These limitations in method merely restrict generality, however, and do not undermine the principle that the findings are representative of the process of interviewer impression formation. It is therefore argued that the results entail important ramifications for interview practices and the direction of future research efforts.

Ingratiation and Impression Management

The findings of research into ingratiation behaviour, that is, behaviour directly intended to influence another individual to give a favour, are directly relevant the results of Experiment III. As discussed in Chapter Three, individuals attempting to ingratiate themselves to another have been found to disagree less, flatter the other person, and to look and smile more (Jones, 1964; Lefebvre, 1975; see also Chapter Three). This experiment shows that candidate facial behaviour carries the greatest weight amongst all non-verbal behaviours and is likely to be most influential during ingratiation attempts at interview.

An important implication of this point concerns the possibility of interviewee training in impression management. Dittmann (1972) advances the concept of 'channel capacity' as a measure of the volume of information conveyed by any distinguishable set of non-verbal behaviours at any moment in time. Experiment III demonstrates that the facial behaviour channel has greatest channel capacity in relation to interviewer impression formation. Recent advances in social skills training (Goldstein, 1979; Argyle, 1984), should be considered in addition to the research findings into non-verbal leakage during deception attempts reviewed in Chapter Three, particularly the finding that facial behaviour is the most easily controlled of all non-verbal behaviours (Ekman and Friesen, 1974). These two areas of literature strongly support the feasibility of conducting micro-skills training for interviewees.

Developing this assertion, Ekman and Friesen's study (1974) into the ability of nurses to use facial deception to display positive reactions whilst viewing unpleasant film scenes has interesting ramifications for selection interview practices. The nurses' ability to deceive correlated positively and significantly with supervisors' ratings of performance over the following year. It appears, then, that facial deception abilities were a behavioural skill necessary to perform this job function. These abilities may

also be relevant for other types of jobs involving considerable interpersonal communication, and perhaps, abilities for which the interview may be an appropriate predictor. This assertion is considered further in Chapter Ten.

Ekman and Friesen's secondary finding, that observers viewing just the face of the deceiver could not judge deception attempts accurately, is somewhat ironic in the light of the results of Experiment III. Since it is precisely this area which carries greatest weight in interviewer impression formation, interviewers may therefore fail to recognise cues to deception in the interviewee's behaviour.

The confederate interviewee in this experiment displayed remarkable ability to bias her self-presentation, despite the fact that she had had no previous acting training. It would therefore seem a reasonable expectation that many candidates could be trained to exhibit appropriate facial behaviours during the opening few minutes of the interview in order to affect a more favourable first impression. This experiment shows that interviewees would be well advised to maintain eye contact with the interviewer and to display positive facial expressions, particularly during the opening stages of the interview. Argyle et al. (1974), however, found a trade-off between ratings of 'liking/evaluation' and 'activity/potency' as a function of changes in interviewee gaze. It was pointed out in Chapter Three that continuous gaze resulted in lower ratings than spontaneous gaze on the former but higher ratings on the latter. Additional research is therefore needed to establish the impact of different levels of candidate gaze and positiveness of facial expressions, and the interaction between these non-verbal behaviours in relation to interviewer ratings of personality.

Non-verbal Behaviour and Discrimination

Another important implication of these findings concerns the influence of cultural and racial differences upon non-verbal behaviour. LaFrance and Mayo (1976) found that during social conversations whites looked more while listening and blacks looked more while speaking. This finding is supported by research in the context of the selection interview conducted by Fugita et al. (1974). In this study black interviewees looked significantly less at the interviewer than whites, and with glances of shorter durations. Experiment III suggests that if such non-verbal behaviour is replicated in the interview, then blacks are likely to be perceived as more dominant, strong, and mature, but less attentive whilst the interviewer is speaking. Such behaviour is likely to undermine the ingratiation attempts of black interviewees, and these cultural differences in non-verbal behaviour may therefore compound problems of discrimination against blacks in the interview. Clearly, research is called for to examine this possibility.

Validating Interviewers' Perceptual Links

The prospect of interviewee micro-skills training is both ethically and professionally controversial, but it highlights the susceptibility of interviewers' perceptual links to faking by the candidate skilled in techniques of impression management. In relation to Wernimont's and Campbell's (1968) classic distinction between signs and samples of behaviour, it is clear from this experiment that interviewer impression formation is more a function of the former than the latter. Perhaps, if faced with homogeneity of interviewee performance, interviewers may be forced to examine the validity of perceptual links used to translate behavioural cues, and ultimately, to cross-validate interview impressions with samples of behaviour obtained from other assessment techniques. Without doubt, the validity and reliability of impressions of personality formed by interviewers on the basis of interviewee facial behaviour requires further research.

Although it is self-evident that in actual graduate selection interviews verbal behaviour also affects interviewer perceptions, Experiment II (Chapter Seven) indicates that impressions are probably being formed very early on at the stage when the interviewee is primarily non-verbally reactive. Research into the encoding of non-verbal behaviour by interviewees is particularly sparse, but the single study available (Gifford et al., 1985) concludes low correlations between self-assessed personality and non-verbal behaviour at interview. Paradoxically, Experiment III shows that candidate non-verbal behaviour, especially the facial channel, is actively decoded by interviewers as a sign of personality. In terms of attribution theory, interviewers' translations of candidate behaviour appear prone to 'fundamental attribution error' (Jones and Harris, 1967; Ross, 1977). That is, the interviewer may infer underlying dispositional characteristics from interviewee behaviour, whereas, in actual fact, it is probably the stressful nature of the interaction itself which affects candidate behaviour more than the interviewee's personality. The implication is that interviewers' perceptual links may be ill-founded and may operate as a source of bias reducing the predictive validity of their overall assessments.

More research is needed into the relationships between interviewee personality and encoded facial behaviour, individual differences in the effects of the interview upon patterns of facial behaviour, and in turn, the validity of interviewer impressions formed through perceptual links between candidate behaviour and personality perceptions.

Perceptual Links and Interviewer Training

One further set of implications arising from the findings of this experiment relates to the flexibility of interviewers' perceptual links. Research needs to address the question that certain types of interviewer training programme may be capable of modifying the operation of perceptual links. This is without doubt one means towards improving the validity of interviewer assessments, but first, more research is required to uncover the exact modus operandi of perceptual links between candidate non-verbal behaviour and impressions of personality in the selection interview.

Fundamental Dimensions of Person Perception?

Finally, the composition of the three-factor second-order solution which emerges from this experiment closely resembles the factor solutions reported in the social psychological studies summarised in Chapter Three, Figure 3.1. It is possible, therefore, that the three dimensions of potency, evaluation, and activity are fundamental to impression formation, not just in a social context but also in the selection interview situation. Future research should examine this contention and attempt to relate these dimensions to the process of interviewer outcome decision making.

In conclusion, Experiment III illustrates the existence and operation of perceptual links used by interviewers to translate behavioural cues into perceptions of candidate personality. The multiple regression analyses specify the functioning of translation specifications underlying these perceptual links, and most importantly, conclude that interviewer impressions of personality are primarily dependent upon assessments of candidate facial behaviour. It was found that these impressions factor analyse down to a simple three factor structure of (i) Strong/Competent, (ii) Liking/Motivation, and, (iii) Honest/Successful, and that these dimensions ally with the findings of existing social psychological research into person perception. Importantly, greater eye contact was positively associated with perceptions of strength and competence, whilst positive facial expressions were predictive of impressions of liking and motivation. Only on the third factor does facial behaviour not account for significant proportions of the variance in ratings. The implications of these findings concern both future interview practices and research, but the key ramification concerns the susceptibility of interviewers' perceptual links to faking through skilful impression management by the interviewee.

CHAPTER NINE

STUDY B

THE INFLUENCE OF CANDIDATE NON-VERBAL BEHAVIOUR UPON INTERVIEWER

IMPRESSIONS OF PERSONALITY AND PERCEPTIONS OF SUITABILITY

FOR DIFFERENT OCCUPATIONAL GROUPS: A FIELD STUDY

INTRODUCTION
STUDY DESIGN
METHOD
RESULTS
DISCUSSION
CONCLUSION

'There is general agreement among interview
practitioners that certain jobs require specific
traits of personality, motivation and character;
and these traits can only be measured by the
employment interview.'
                    (Rothstein and Jackson, 1984: 171).

Rationale for Study B

The perceptual links between interviewer impressions of candidate personality and non-verbal behaviour detailed in Experiment III elucidate further the process of interviewer impression formation. As previously argued, the experimental method used permits the claim of causality between the independent variables (i.e. interviewee non-verbal behaviour) and the dependent variables (i.e. interviewer impressions of personality) since only nuisance variables could have confounded this cause-effect relationship (Myers, 1962; Miller, 1984).

Obviously, though, graduate interviewers do not operate under such rarefied conditions where changes in only one particular set of variables have to be coped with. Indeed, Experiment I suggests that the interviewer is most probably deluged with documented-biographical, verbal, and non-verbal information. It was asserted that the results of Experiment III should, in principle, be generalisable to real-life interviews. However, it is impossible to state categorically whether this is the case. It is conceded that the need to maximise the internal validity of the experiment probably diminished aspects of its external validity.

Given the valuable contribution that clarifying the operation of interviewer perceptual links offers to the body of interview research, there is a strong case in favour of extending this experimental design to actual graduate interviews. Moreover, although the multiple regression analyses computed in Experiment III highlight the linear dependence of interviewer impressions of personality upon candidate facial behaviour, it is necessary to develop these analyses to actual interview situations in order to ensure external validity and to create an acceptable model of interviewer impression formation based upon the concept of perceptual links.

Study B therefore follows on from Experiment III by directly transposing elements of the experimental design into a major field study of graduate interviewer perceptual links. The study examines the effects of two potent biases in interpersonal perception, that of the perceived similarity of the target individual to the perceiver, and that of the perceiver's personal liking for the other individual. Further, Study B diversifies the analysis of perceptual links undertaken in Experiment III to include relationships between interviewer impressions of candidate personality and perceptions of suitability for different occupational groups.

Initially, however, it is necessary to justify the incorporation of these additional research objectives into this study by grounding these points upon an overview of the relevant literature, and in particular, a summary of the pertinent research evidence.

Similar-to-Me Effect

As argued in Chapter Two, one recurrent finding of interview research is that interviewers evaluate candidates with similar biographical backgrounds, attitudes, and personalities to their own more favourably than those who differ in these respects. Rand and Wexley (1975) term this bias 'similar-to-me' effect, and on the weight of the accumulated research evidence there seems a definite tendency for interviewers to recruit in their own image. In the context of British graduate recruitment, there is a marked absence of studies into similar-to-me effect, even though it is at graduate level that recruiters may well be searching for organisational prodigies in their own image. It was therefore decided to assess the impact of this bias in interviewer impression formation in Study B.

Personal Liking as a Confounding Bias

A more pervasive bias, it appears, is the influence of the interviewer's personal liking for the candidate upon the impression formation process and the outcome decision. Research shows that liking is positively and significantly associated with more favourable overall evaluations (Frank and Hackman, 1975; Keenan, 1977). For instance, Keenan (1977) reports mean correlations of $r = 0.51$ for personal liking and $r = 0.54$ for liking as a potential work colleague with overall evaluations of 490 graduate interviewees. Herriot (1987a) interprets these findings as indicative of an all-encompassing bias which disrupts interviewer impression formation causing marked halo effects in assessments. Certainly, in the case of graduate selection where biographical information is comparatively limited, it is possible that the interviewer's liking or disliking of the candidate affects not just overall evaluations, but also, all other ratings of candidate personality. On the other hand, since Keenan's research was published it is conceivable that the fair employment legislation of the mid-1970's (e.g. Sex Discrimination Act, 1975; Race Relations Act, 1976; Employment Protection (Consolidation) Act, 1978) and changes in the graduate labour market, have extenuated the influence of this bias upon interviewer impression formation. Personal liking was thus included as a moderator variable in Study B to investigate its present day impact upon both interviewer impression formation and upon outcome decision making.

Perceived Personality and Occupational Group Suitability

Adjunct to the concept of perceptual links between candidate non-verbal behaviour and interviewer impressions of personality is the relationship between perceived personality and inferred suitability for different occupational groups. Controversy exists over whether interviewers possess distinct notions of occupation-specific stereotypes of suitable personalities for particular job functions, or whether interviewers merely utilise a general

'prototype' (Cantor and Mischel, 1977) of the 'suitable candidate' regardless of occupational group. This debate is fuelled by research conducted by Jackson and colleagues on the one hand, (Seiss and Jackson, 1970; Rothstein and Jackson, 1980; Peacock and Jackson, 1981; Jackson et al., 1982), and by the recent developments of validity generalisation methods and research into assessment centre procedures on the other (e.g. Hunter and Hunter, 1984; Schmitt et al., 1984; Sackett and Dreher, 1982; Robertson et al., 1986).

In the Jackson et al. study (1982), 132 recruitment interviewers were surveyed and asked to imagine a typical employee in 15 diverse occupational groups. Respondents then rated the applicability of a series of personality traits to these imaginary individuals. Marked differences were found between the perceived personalities for each occupational group. Jackson et al. argue that these findings support the view that interviewers possess occupation-specific stereotypes of suitable personality. Their research can be criticised, however, for the inclusion of extreme job titles, which it seems most unlikely that many of the participating interviewers would ever actually recruit for (e.g. orchestral librarian, coach, and carpenter). More cynically, it is perhaps not surprising to find, having given free rein to interviewers' imaginations and having requested typical personality types for diverse occupational groups, that participants provided highly differentiated stereotypes in response to the questionnaire. Without doubt, the criticisms made in Chapter Three of the research into impression formation using written stimulus materials can be levelled against much of the work conducted by Jackson and his colleagues. Methodological criticisms aside, however, Jackson's research hints at the real possibility that interviewers may assess candidates for different positions against criterion perceptions of suitable personality stereotypes.

Diametrically opposed to this perspective is the viewpoint that, since selection methods such as cognitive ability tests and

assessment centres predict managerial potential in various types of organisations, then it follows that the skills and dispositional qualities required are universally appropriate (Hakel and Schuh, 1971; Herriot, 1986b). This argument is supported by considerable research into managerial activities which shows that broadly comparable tasks comprise managerial work in many different types of organisation (e.g. Mintzberg, 1973). Consequently, it may be inferred that interviewers select against perceptions of a suitable personality prototype regardless of the occupational group in question. Even though graduate recruitment is widely used to select for management training positions, no empirical research into the occupation-specific versus the universal prototype debate can be found. It was therefore decided to focus upon this issue as part of Study B.

Personality Perceptions and Outcome Decisions

Finally, it was considered necessary to examine the relative importance of personality factors in graduate interviewer decision making in this study. Amongst the personnel management literature there is a consensus that the interview is first and foremost a personality assessment technique (e.g. Black, 1970; Fear, 1978; Thomason, 1981), although Herriot (1985) advocates precisely the opposite arguing that the interview should not be used as a 'quasi-personality test'. The relative absence of career history information in graduate selection may place personality considerations at a premium in the interview, and Study B therefore attempted to evaluate the influence of interviewer impressions of personality and perceptions of occupational group suitability upon outcome decisions.

In brief the purpose of Study B was to examine interviewers'
perceptual links between

    (a) candidate non-verbal behaviour and impressions of
        personality,

    (b) impressions of personality and perceptions of suitability
        for different occupational groups.

Interviewer liking for the candidate and perceived personality
similarity were treated as moderator variables affecting both
personality impressions and suitability ratings. The influence of
occupational group suitability ratings upon outcome decisions was
also investigated to ascertain the relative importance of
personality factors in interviewer decision making.

A modified Brunswik lens model (Brunswik, 1956) was used to
operationalise the study design as shown in Figure 9.1. The model
consists of four sets of variables

    (a) Candidate non-verbal behaviour,

    (b) Interviewer impressions of candidate personality,

    (c) Interviewer perceptions of occupational group
        suitability,

    (d) Interviewer outcome decision making.

FIGURE 9.1: MODIFIED BRUNSWIK LENS MODEL OF INTERVIEWER IMPRESSION FORMATION AND SUITABILITY DECISION MAKING

CANDIDATE
NON-VERBAL BEHAVIOUR

INTERVIEWER IMPRESSIONS
OF CANDIDATE PERSONALITY

SUITABILITY
DECISION MAKING

OUTCOME DECISION

STAGE 1:
IMPRESSION FORMATION
PERCEPTUAL LINKS

STAGE 2:
OCCUPATIONAL GROUP SUITABILITY
PERCEPTUAL LINKS

Eye Contact
Hand Gestures
Head Movements
Posture
Postural Changes
Facial Expressions

Boring
Relaxed
Weak
Unsuccessful
Active
Immature
Enthusiastic
Insensitive
Pleasant
Honest
Dominant

Similar-to-Me
Liked

Suitability for
Occupational Group

Accept/Reject
Candidate

Stage 1 of the lens model, 'impression formation perceptual links', represents relationships between candidate non-verbal behaviour and interviewer impressions of personality. Stage 2, 'occupational group suitability perceptual links' models the relationships between personality impressions and perceived suitability for different occupations. The final part of the model depicts the relationship between perceived suitability and outcome decision making, although it is of course acknowledged that factors other than impressions of personality affect outcome decisions. The moderator variables of perceived personality similarity and interviewer liking for the candidate stand in relation to all other personality factors and to occupational group suitability ratings. Stage 1 impression formation perceptual links and Stage 2 occupational group suitability perceptual links were measured by Pearson's correlation coefficients and also by multiple regression analyses (MRAs) as in Experiment III.

METHOD

A sample of 69 organisations conducting graduate interviews during the Spring Term of 1987 was contacted at random through the Aston University Careers Service, and a total of 38 recruiters from 26 organisations agreed to participate in the study. All participants were conducting initial graduate interviews with final year students either at the university or on their own premises. Details of the characteristics of this sample are given in Appendix XXV.

Interviewers were given a folder containing all necessary documentation for the study including instructions which requested that participants:

(a) complete an interviewer questionnaire (Appendix XIII).

(b) complete an Ideal Personality Profile (IPP) for each job
    being recruited for. This profile comprised of the 11
    personality scales forming the Interviewee Personality
    Assessment (IPA) form used in Experiment III (see
    Appendix XVIII).

(c) complete an assessment of each candidate using the
    two-part assessment form also used in Experiment III.
    The first part consisted of six scales relating to
    candidate non-verbal behaviour (Appendix XXII), whilst
    the second part was the 11 factor Interviewee Personality
    Assessment. This assessment form was supplemented with
    a third part comprising scales relating to liking,
    similarity, suitability for the occupational group in
    question, and a bipolar rating of the outcome decision.
    The third part of this Interviewee Assessment Form (IAF)
    is shown in Appendix XXVI.

Participants were reassured that their identities and assessments
of candidates would be kept confidential, and that in return for
their co-operation they would be provided with a feedback report
on the study findings (Anderson, 1987b).

The results of the study are presented in seven sections:

1. Response Rates and Treatment of Data

2. Differences Between Accepted and Rejected Candidates

3. Analysis of Acceptance Ratios, Accepted Candidate Personality Profiles, and Ideal Personality Profiles by Occupational Group

4. Analysis of Stage 1 Impression Formation Perceptual Links

5. Analysis of Stage 2 Occupational Group Suitability Perceptual Links

6. A Specification Model of the Linear Dependence of Interviewer Impression Formation and Outcome Decision Making

7. Multiple Regression Analyses on Second-Order Factors and Development of a Summary Specification Model

1. Response Rates and Treatment of Data

A total of 358 usable Interviewee Assessment Forms (IAFs) and 60 Ideal Personality Profiles (IPPs) were returned. These responses were analysed, and categorised into 14 occupational groups as shown in Table 9.1. The occupational group titles were derived from the job titles given by participants. Several IAFs and IPPs were discarded as being unsuitable for these 14 occupational groups, thereby limiting the number of IAFs to 330 and IPPs to 52. It will be noted from the table that the occupational groups are indeed diverse, including army officer, optician, industrial chemist and accountant.

TABLE 9.1

RESPONSE RATES BY OCCUPATIONAL GROUPS

OCCUPATIONAL GROUP	IAFs INCLUDED	IPPs INCLUDED
Royal Air Force Officer	25	5
Royal Navy Officer	27	3
Army Officer	20	1
Police Officer	80	7
Mechanical Engineer	19	5
Electronics Engineer	27	6
Industrial Chemist	19	4
Pharmacist	11	2
Optician	21	2
Marketing Trainee	19	7
Retail Sales Trainee	15	3
Banker	12	1
Accountant	14	3
Computer Programmer	21	2
TOTALS	330	52

2. Differences Between Accepted and Rejected Candidates

Initial analysis of the IAFs was undertaken to establish whether any significant differences existed between interviewer ratings of accepted and rejected candidates in assessments of non-verbal behaviour, personality, liking, similarity, and occupational group suitability. Interviewers' ratings were quite normally distributed across the nine-point scales, and so, t-tests were computed between the accepted and rejected groups. The results are set out in Table 9.2.

Amongst interviewer ratings of candidate non-verbal behaviour, ratings of greater eye contact (t = 4.29, p < .001) and more positive facial expressions (t = 5.94, p <.001) differ most significantly between the accepted and rejected groups, whilst ratings of more frequent postural changes differentiate less significantly (t = 2.44, p < .05). These findings ally with the results of Experiment III, and confirm the critical importance of candidate facial behaviour upon interviewer decision making.

Table 9.2 also displays highly significant differences between mean ratings of accepted and rejected candidate personalities, whereby successful candidates are rated as more interesting, relaxed, strong, successful, active, mature, enthusiastic, pleasant, and dominant (p < .001), and more sensitive, and honest (p < .05). Candidates accepted for second interview are liked significantly more than those rejected (t = -9.92, p < .001), suggesting that personal liking may be a potent determinant of interviewer outcome decisions. Accepted candidates are also perceived as more similar to the interviewer's own personality (t = -7.80, p < .001), suggesting that interviewers may well have been prone to similar-to-me effect.

TABLE 9.2

DIFFERENCES IN INTERVIEWER RATINGS OF ACCEPTED
AND REJECTED CANDIDATES

	ACCEPTED GROUP (n = 203)		REJECTED GROUP (n = 127)			
	MEAN	SD	MEAN	SD	t	p
Eye Contact	6.52	1.57	5.61	2.07	4.29	.001
Hand Gestures	4.67	1.82	4.68	2.18	-0.01	NS
Head Movements	5.00	1.65	4.73	1.93	1.32	NS
Posture	5.66	1.85	5.59	2.12	0.30	NS
Postural Changes	4.57	1.77	4.02	2.08	2.44	.05
Facial Expressions	6.26	1.52	5.13	1.79	5.94	.001
Boring	6.44	1.52	4.36	2.05	9.87	.001
Relaxed	4.01	1.81	5.16	2.23	-4.90	.001
Weak	6.09	1.53	4.31	1.78	9.26	.001
Unsuccessful	6.52	1.42	4.85	1.65	9.42	.001
Active	3.35	1.50	5.09	1.96	-8.52	.001
Immature	6.60	1.56	5.13	1.73	7.77	.001
Enthusiastic	3.26	1.55	5.12	2.03	-8.82	.001
Insensitive	6.03	1.36	5.61	1.59	2.49	.05
Pleasant	2.85	1.20	3.91	1.28	-7.54	.001
Honest	2.51	1.27	2.91	1.62	-2.40	.05
Dominant	4.21	1.45	5.42	1.70	-6.68	.001
Liked	2.93	1.31	4.72	1.75	-9.92	.001
Similar-to-me	5.23	1.85	6.78	1.69	-7.80	.001
Suitable	3.32	1.59	6.80	1.69	-18.61	.001

Further analysis was undertaken to establish whether any differences existed between the proportions of male and female candidates accepted for second interviews. Table 9.3 summarises the overall acceptance statistics in the form of a contingency table.

TABLE 9.3

BREAKDOWN OF ACCEPTED AND REJECTED CANDIDATE TOTALS

BY SEX OF CANDIDATE

SEX

	MALE	FEMALE	
ACCEPTED	143	60	203
REJECTED	101	26	127
	244	86	330

Chi square = 2.89. p < .05

In total, 143 of the 244 male candidates were accepted for second interview (i.e. 58.6%), whereas 60 of the 86 female candidates (i.e. 69.8%) were accepted. Chi square indicates a significant difference between these proportions, such that female interviewees were more likely to obtain second interviews than their male colleagues.

Although this finding contradicts the trend of the research into sex discrimination in employment practices (Arvey, 1979; Cann et al., 1981), it should be stressed that this result relates only to

first interview decisions, and not to ultimate hiring decisions. Also, the type of some of the organisations involved in this study needs to be acknowledged (see Appendix XXV). It is likely that females applying for posts in the uniformed services or as engineers would have self-selected for such male-dominated preserves very much more so than male applicants, and may thus have been more suitable on this basis. It seems unwise to generalise from this finding to wider graduate recruitment practices, and indeed, an alternative explanation may account for this result. As shown in Table 9.4, t-tests were calculated on mean ratings of non-verbal behaviour for male and female applicants, in order to ascertain whether significant differences existed between the two groups.

TABLE 9.4

DIFFERENCES IN INTERVIEWER RATINGS OF MALE AND

FEMALE CANDIDATE NON-VERBAL BEHAVIOUR

	FEMALES (n = 86)		MALES (n = 244)			
	MEAN	SD	MEAN	SD	t	p
Eye Contact	6.45	1.75	6.07	1.85	1.70	NS
Hand Gestures	4.52	1.98	4.73	1.96	-0.83	NS
Head Movements	5.00	1.72	4.87	1.78	0.55	NS
Posture	4.64	1.71	5.98	1.92	-6.08	.001
Postural Changes	4.00	1.76	4.48	1.95	-2.13	.05
Facial Expressions	6.51	1.44	5.58	1.75	4.87	.001

Female interviewees were rated as displaying significantly more closed postures (t = -6.08, p < .001) and less frequent changes in posture (t = -2.13, p < .05) than male candidates. More importantly, females were evaluated as showing significantly more positive facial expressions than males (t = 4.87, p < .001), and it seems likely that this difference explains the variations in the proportions of female and male candidates accepted for second interview.

In summary, female candidates in this sample were significantly more likely to be accepted for second interviews than their male counterparts, an outcome which is probably attributable to the more positive facial expressions displayed by females..

Overall, these results show highly significant differences between accepted and rejected candidates in interviewer ratings of candidate non-verbal behaviour, personality, personal liking, and personality similarity. The differences confirm that these variables are important determinants of outcome decisions not just in the setting of a laboratory experiment, but also in actual graduate selection interviews.

3. Analysis of Acceptance Ratios, Accepted Candidate Personality Profiles, and Ideal Personality Profiles by Occupational Group

3.1 Acceptance Ratios

Considerable differences emerged between the acceptance ratios for different occupational groups as shown in Table 9.5. The percentage of candidates accepted for second interview ranges from 40 per cent for police officers to 95 per cent for army officers with an overall mean acceptance ratio of 61 per cent. These ratios reflect the divergent purposes for which different recruiters used the initial graduate interview. Discussions with recruiters revealed that some used the interview as a stringent screening

device, whilst others used it more as a medium to provide the candidate with information and to offer counselling advice.

TABLE 9.5

ACCEPTANCE RATIOS FOR DIFFERENT OCCUPATIONAL GROUPS

OCCUPATIONAL GROUP	TOTAL n OF INTERVIEWEES	n ACCEPTED	PERCENTAGE ACCEPTED
Royal Air Force Officer	25	22	88%
Royal Navy Officer	27	22	81%
Army Officer	20	19	95%
Police Officer	80	32	40%
Mechanical Engineer	19	11	58%
Electronics Engineer	27	20	74%
Industrial Chemist	19	10	53%
Pharmacist	11	6	54%
Optician	21	17	81%
Marketing Trainee	19	10	53%
Retail Sales Trainee	15	9	60%
Banker	12	7	58%
Accountant	14	8	57%
Computer Programmer	21	10	48%
TOTALS	330	203	61%

3.2 Accepted Candidate Personality Profiles

These differences in acceptance ratios noted, it is apparent from Table 9.6 that the profiles of candidate personalities accepted by interviewers are broadly similar across all occupational groups. On almost all of the personality scales the direction of mean ratings away from the mid-point is the same for the 14 occupational groups. The greatest range of mean ratings is only 3.66 scale points, whereas most ranges are between just 2 and 3 scale points. Such a narrow range indicates that accepted candidates may have been perceived similarly regardless of the occupational group being recruited for.

To test this supposition, a set of Z-tests was calculated across the 14 occupational groups against interviewer ratings of accepted candidate personality. The results revealed only three significant differences between the groups. Accepted police officer trainees were rated more active than industrial chemists (Z = 2.14, p < .05), and also more honest than marketing trainees (F = 2.71, p < .05). Similarly, army officer trainees were rated higher on honesty than marketing trainees (Z = 2.56, p < .05). All other Z-tests, however, revealed non-significant differences, strongly suggesting that interviewers were recruiting for a prototypical graduate personality rather than for occupation-specific personality stereotypes.

TABLE 9.6

MEAN RATINGS OF ACCEPTED CANDIDATE PERSONALITY BY OCCUPATIONAL GROUP

	RAF n=22	RNO n=22	AO n=19	PO n=32	ME n=11	EE n=20	IC n=10	PH n=6	OP n=17	MT n=10	RST n=9	BA n=7	AC n=8	CP n=10	RANGE OF MEAN RATINGS
Boring	6.45	6.04	5.68	7.22	7.36	6.10	6.50	7.33	5.35	7.60	7.11	5.43	6.87	5.80	2.25
Relaxed	3.23	3.64	5.12	3.78	4.00	5.00	3.20	2.67	4.59	3.40	3.11	4.57	3.87	4.90	2.45
Weak	6.82	6.32	5.21	6.56	6.00	5.50	6.20	6.33	5.35	6.60	6.78	5.00a	6.87	5.40	1.87
Unsuccessful	6.86	6.73	5.63	6.94	6.81	6.65	6.60	6.17	5.35	7.00	7.33	5.43	7.50	6.00	2.15
Active	2.91	3.36	4.05	2.84	3.45	3.15	3.60	2.83	4.12	2.70	2.00	4.57	3.37	4.70	2.70
Immature	7.23	6.59	5.58	6.97	7.27	6.45	6.70	7.67	5.53	7.00	7.22	5.14	7.50	6.00	2.53
Enthusiastic	3.27	3.41	4.00	2.37	3.09	3.00	3.40	2.33	4.06	2.80	2.78	4.86	2.75	4.30	2.53
Insensitive	5.45	5.95	5.79	7.53	6.00	5.70	5.60	6.50	5.18	6.10	5.44	5.14	6.25	6.30	2.39
Pleasant	2.54	3.14	3.68	1.69	3.09	2.95	2.90	2.50	3.23	2.30	2.44	4.57	2.87	3.70	2.88
Honest	1.82	2.54	5.00a	1.34	3.00	2.15	2.00	1.83	2.41	2.70	2.56	5.00a	2.00	2.60	3.66
Dominant	3.41	3.91	5.21	3.81	4.64	4.95	5.30	3.67	4.35	3.40	3.33	4.86	3.25	4.90	2.05
Liked	2.96	2.91	3.74	1.78	3.00	2.80	3.20	2.50	3.35	2.50	2.44	5.00a	2.87	4.00	3.22
Similar-to-Me	5.18	4.50	6.16	4.84	5.36	5.10	5.10	4.33	6.47	4.90	5.00a	5.00a	4.75	6.20	2.14

Footnote: a =mid-point rated on all assessments.

Key: RAF = Royal Air Force Officer, RN = Royal Navy Officer, AO = Army Officer,
ME = Mechanical Engineer, EE = Electrical Engineer, IC = Industrial Chemist,
PH = Pharmacist, OP = Optician, MT = Marketing Trainee, RST = Retail Sales Trainee,
BA = Banker, AC = Accountant, CP = Computer Programmer.

3.3 Ideal Candidate Personality Profiles

The 52 Ideal Personality Profiles (IPPs) returned by the participating interviewers confirm this point and are illustrated in Figure 9.2 over the next four pages.

This figure demonstrates that interviewers' criterion dimensions of the 'ideal' graduate are notably similar across the diverse occupational groups, and that this ideal matches the assessments of accepted candidates detailed in the previous section. The profiles re-affirm the existence of a suitable graduate prototype, and hint at a core set of personality attributes sought by interviewers and used as criterion dimensions in outcome decision making regardless of the occupation in question. The ideal graduate was perceived as interesting, relaxed, strong, successful in life, active, mature, enthusiastic, sensitive, pleasant, honest, and dominant.

RAF OFFICER
(N = 5)

	1 2 3 4 5 6 7 8 9	
BORING		INTERESTING
RELAXED		NERVOUS
WEAK		STRONG
NSUCCESSFUL		SUCCESSFUL
ACTIVE		PASSIVE
IMMATURE		MATURE
ENTHUSIASTIC		UNENTHUSIASTIC
INSENSITIVE		SENSITIVE
PLEASANT		UNPLEASANT
HONEST		DISHONEST
DOMINANT		SUBMISSIVE

1 2 3 4 5 6 7 8 9

ROYAL NAVY OFFICER
(N = 3)

	1 2 3 4 5 6 7 8 9	
BORING		INTERESTING
RELAXED		NERVOUS
WEAK		STRONG
UNSUCCESSFUL		SUCCESSFUL
ACTIVE		PASSIVE
IMMATURE		MATURE
ENTHUSIASTIC		UNENTHUSIASTIC
INSENSITIVE		SENSITIVE
PLEASANT		UNPLEASANT
HONEST		DISHONEST
DOMINANT		SUBMISSIVE

1 2 3 4 5 6 7 8 9

ARMY OFFICER
(N = 1)

	1 2 3 4 5 6 7 8 9	
BORING		INTERESTING
RELAXED		NERVOUS
WEAK		STRONG
JNSUCCESSFUL		SUCCESSFUL
ACTIVE		PASSIVE
IMMATURE		MATURE
ENTHUSIASTIC		UNENTHUSIASTIC
INSENSITIVE		SENSITIVE
PLEASANT		UNPLEASANT
HONEST		DISHONEST
DOMINANT		SUBMISSIVE

1 2 3 4 5 6 7 8 9

POLICE OFFICER
(N = 7)

	1 2 3 4 5 6 7 8 9	
BORING		INTERESTING
RELAXED		NERVOUS
WEAK		STRONG
UNSUCCESSFUL		SUCCESSFUL
ACTIVE		PASSIVE
IMMATURE		MATURE
ENTHUSIASTIC		UNENTHUSIASTIC
INSENSITIVE		SENSITIVE
PLEASANT		UNPLEASANT
HONEST		DISHONEST
DOMINANT		SUBMISSIVE

1 2 3 4 5 6 7 8 9

FIGURE 9.2: IDEAL PERSONALITY PROFILES

MECHANICAL ENGINEER
(N = 5)
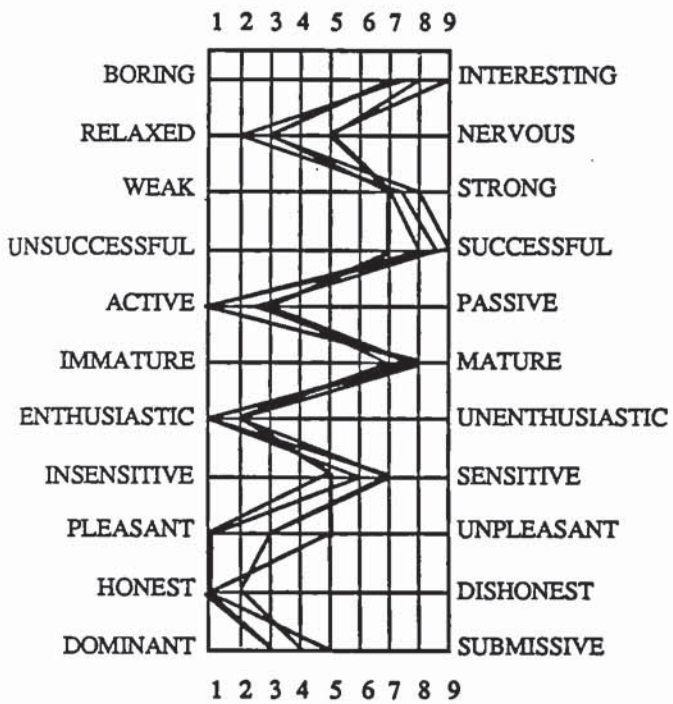
ELECTRONICS ENGINEER
(N = 6)
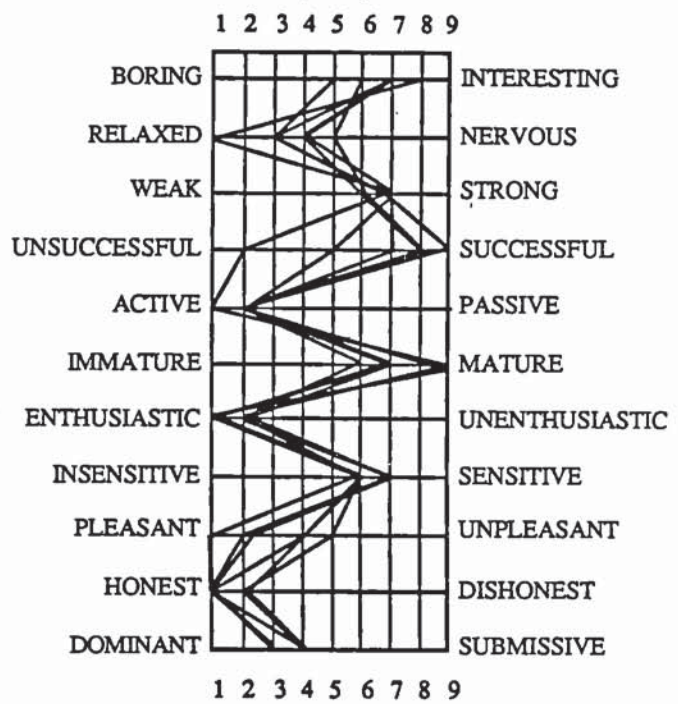
INDUSTRIAL CHEMIST
(N = 4)

FIGURE 9.2: IDEAL PERSONALITY PROFILES

PHARMACIST
(N = 2)

1 2 3 4 5 6 7 8 9

BORING	INTERESTING
RELAXED	NERVOUS
WEAK	STRONG
UNSUCCESSFUL	SUCCESSFUL
ACTIVE	PASSIVE
IMMATURE	MATURE
ENTHUSIASTIC	UNENTHUSIASTIC
INSENSITIVE	SENSITIVE
PLEASANT	UNPLEASANT
HONEST	DISHONEST
DOMINANT	SUBMISSIVE

1 2 3 4 5 6 7 8 9

OPTICIAN
(N = 3)

1 2 3 4 5 6 7 8 9

BORING	INTERESTING
RELAXED	NERVOUS
WEAK	STRONG
UNSUCCESSFUL	SUCCESSFUL
ACTIVE	PASSIVE
IMMATURE	MATURE
ENTHUSIASTIC	UNENTHUSIASTIC
INSENSITIVE	SENSITIVE
PLEASANT	UNPLEASANT
HONEST	DISHONEST
DOMINANT	SUBMISSIVE

1 2 3 4 5 6 7 8 9

MARKETING
(N = 7)

1 2 3 4 5 6 7 8 9

BORING	INTERESTING
RELAXED	NERVOUS
WEAK	STRONG
UNSUCCESSFUL	SUCCESSFUL
ACTIVE	PASSIVE
IMMATURE	MATURE
ENTHUSIASTIC	UNENTHUSIASTIC
INSENSITIVE	SENSITIVE
PLEASANT	UNPLEASANT
HONEST	DISHONEST
DOMINANT	SUBMISSIVE

1 2 3 4 5 6 7 8 9

RETAIL SALES
(N = 3)

1 2 3 4 5 6 7 8 9

BORING	INTERESTING
RELAXED	NERVOUS
WEAK	STRONG
UNSUCCESSFUL	SUCCESSFUL
ACTIVE	PASSIVE
IMMATURE	MATURE
ENTHUSIASTIC	UNENTHUSIASTIC
INSENSITIVE	SENSITIVE
PLEASANT	UNPLEASANT
HONEST	DISHONEST
DOMINANT	SUBMISSIVE

1 2 3 4 5 6 7 8 9

FIGURE 9.2: IDEAL PERSONALITY PROFILES

FIGURE 9.2: IDEAL PERSONALITY PROFILES

4. Analysis of Stage 1 Impression Formation Perceptual Links

Pearson's correlations between ratings of candidate non-verbal behaviour and candidate personality are shown in Table 9.7.

TABLE 9.7

PEARSON'S CORRELATIONS BETWEEN

RATINGS OF CANDIDATE NON-VERBAL BEHAVIOUR AND PERSONALITY

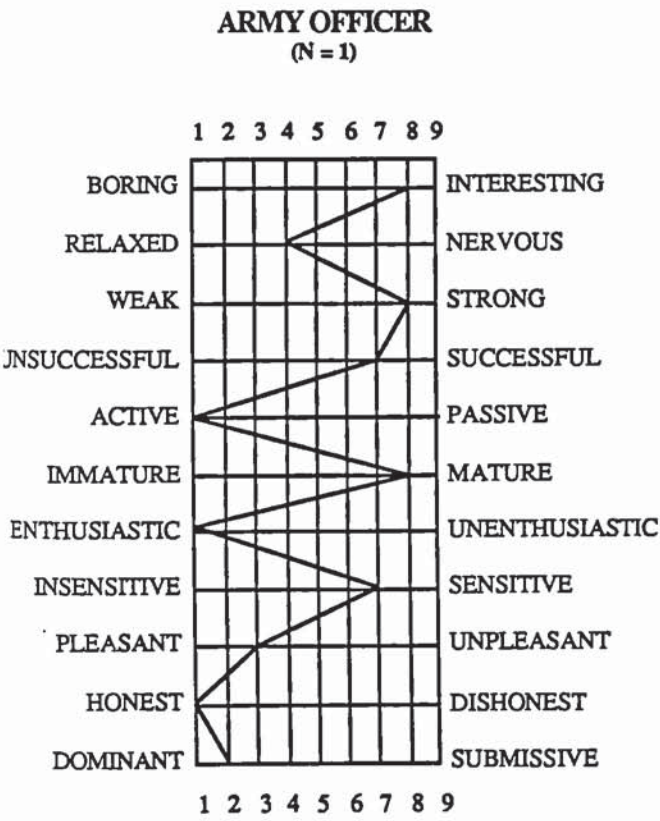|	NON-VERBAL BEHAVIOUR VARIABLES					
	EC	HG	HM	P	PC	FE
Boring	.44**	.24**	.25**	.08	.14**	.60**
Relaxed	-.36**	-.00	-.03	-.09	-.08	-.41**
Weak	.37**	.09*	.13*	-.00	.05	.42**
Unsuccessful	.35**	.07	.06	.06	.04	.39**
Active	-.39**	-.13*	-.19**	-.02	-.02	-.45**
Immature	.34**	-.01	.00	-.06	-.04	.30**
Enthusiastic	-.39**	-.14**	-.24**	.02	-.13*	-.47**
Insensitive	.17**	.06	.19**	-.07	.07	.27**
Pleasant	-.38**	-.07	-.12*	-.05	-.01	-.52**
Honest	-.22**	.10*	-.05	-.05	.05	-.30**
Dominant	-.27**	-.10*	-.18**	.02	-.06	-.36**
Liked	-.40**	-.08	-.15**	.01	-.07	-.52**
Similar-to-Me	-.29**	-.14**	-.20**	-.05	-.17**	-.43**

EC = Eye Contact, HG = Hand Gestures, HM = Head Movements
P = Posture, PC = Postural Changes, FE = Facial Expressions
* Significant at p<.05; ** Significant at p<.01; df = 330

This table displays greatest correlations between ratings of eye contact and personality, and between ratings of facial expressions and personality, where all coefficients are significant at the 1 per cent level. It is also apparent that these correlations do not differ radically from those reported in Experiment III (see Chapter Eight, Table 8.6), and as such, confirm the existence of interviewer perceptual links between candidate non-verbal behaviour, particularly facial behaviour, and impressions of personality.

Following on from this finding, scatterplots of non-verbal behaviour ratings against ratings of personality were obtained, and showed broadly linear distributions supporting the use of multiple regression analyses. As in Experiment III, to determine the linear dependence of personality impressions upon candidate non-verbal behaviour, a set of stepwise hierarchical MRAs was computed using personality ratings as dependent variables and ratings of non-verbal behaviours as independent variables.

Table 9.8 summarises the results of these MRAs.

TABLE 9.8

STEPWISE MULTIPLE REGRESSION ANALYSES
WITH PERSONALITY RATINGS AS DEPENDENT VARIABLES
AND NON-VERBAL BEHAVIOUR RATINGS AS INDEPENDENT VARIABLES

DEPENDENT VARIABLE	INDEPENDENT VARIABLES	MR	R^2	F*	BETA
Boring	FE	0.60	0.36	185.04	0.60
	EC	0.65	0.42	35.94	0.27
	HG	0.66	0.43	3.09	0.08
Relaxed	FE	0.41	0.17	65.54	−0.41
	EC	0.47	0.22	24.29	−0.26
	HM	0.49	0.24	8.72	0.15
	PC	0.50	0.25	2.47	0.09
Weak	FE	0.42	0.18	71.85	0.42
	EC	0.49	0.24	24.74	0.26
Unsuccessful	FE	0.39	0.15	58.14	0.39
	EC	0.45	0.20	21.36	0.24
	HM	0.46	0.21	4.09	−0.11
Active	FE	0.45	0.20	83.00	−0.45
	EC	0.51	0.26	27.27	−0.26
Immature	EC	0.34	0.12	42.83	0.34
	FE	0.39	0.15	15.37	0.21
	HM	0.41	0.17	6.36	−0.14
	P	0.43	0.18	4.45	−0.11
Enthusiastic	FE	0.47	0.22	93.22	−0.47
	EC	0.53	0.28	28.54	−0.26
	P	0.54	0.29	3.56	0.09
	PC	0.55	0.30	3.23	−0.09
Insensitive	FE	0.28	0.08	25.20	0.27
	P	0.30	0.09	3.28	−0.10
	HM	0.31	0.10	3.30	0.10
	EC	0.31	0.10	3.13	0.10
	HG	0.32	0.11	2.69	−0.11

* F-Ratios significant at $p < .05$
FE = Facial Expressions, EC = Eye Contact,
PC = Postural Changes, P = Posture,
HM = Head Movements, HG = Hand Gestures

TABLE 9.8 (CONTINUED)

STEPWISE MULTIPLE REGRESSION ANALYSES
WITH PERSONALITY RATINGS AS DEPENDENT VARIABLES
AND NON-VERBAL BEHAVIOUR RATINGS AS INDEPENDENT VARIABLES

DEPENDENT VARIABLE	INDEPENDENT VARIABLES	MR	R^2	F *	BETA
Pleasant	FE	0.52	0.27	118.44	-0.52
	EC	0.56	0.31	22.79	-0.23
	HM	0.57	0.32	3.72	0.10
Honest	FE	0.30	0.09	32.77	-0.30
	HG	0.35	0.13	13.08	0.19
	EC	0.38	0.14	6.05	-0.13
Dominant	FE	0.36	0.13	49.03	-0.36
	EC	0.39	0.16	10.05	-0.17
Liked	FE	0.52	0.27	120.94	-0.52
	EC	0.57	0.32	26.42	-0.25
	P	0.58	0.33	3.41	0.08
	HG	0.58	0.34	2.26	0.07
Similar-to-Me	FE	0.43	0.18	73.69	-0.43
	EC	0.46	0.21	9.83	-0.16
	PC	0.47	0.22	5.14	-0.11

* F-Ratios significant at $p < .05$
FE = Facial Expressions, EC = Eye Contact,
PC = Postural Changes, P = Posture,
HM = Head Movements, HG = Hand Gestures

These results support the earlier contention that interviewer impressions of personality are linearly dependent to a considerable extent upon candidate facial non-verbal behaviours. In most of the MRAs the positiveness of facial expressions and the degree of eye contact account for substantial proportions of the variance in ratings of candidate personality. Linear dependence ranges from R-squared = 0.08 up to R-squared = 0.42. Only on four dependent variables (Immature, Insensitive, Honest, and Dominant) does candidate facial behaviour account for less than 20 per cent of total variance, whilst on the dependent variables Pleasant and Liked these account for over 30 per cent of the variance, and on Boring for over 40 per cent of total variance.

It is significant that these proportions are so high given the nature of this investigation. Clearly, in a field study such as this, results are contaminated by changes in other uncontrollable variables such as the verbal content of interviews, application form details, and so forth. Under these circumstances, for candidate facial behaviour to predict interviewer impressions of personality up to 0.42 is indicative of the considerable linear dependence of the latter upon the former.

In contrast to the results of the MRAs computed in Experiment III, candidate eye contact, although accounting for some of the variance in all of the independent variables, is considerably less influential in this study. Referring to Table 9.8, eye contact accounts for a maximum of only 12 per cent of total variance once entered into the analyses. This may be a function of the factorial design used in Experiment III whereby manipulations of candidate eye contact may have inflated the importance of this variable in the MRAs. Alternatively, it may be a result of the inability of interviewers to recognise different levels of eye contact in real-life interviews given the condition of information overload.

Even though there are minor variations between the results of the MRAs in Experiment III and Study B, it is reasonable to attribute these to differences in the mode of inquiry rather than to any

fundamental conflict in the pattern of results. Indeed, in both investigations interviewer impressions of candidate personality are linearly dependent to a considerable extent upon candidate facial non-verbal behaviours. Both investigations delineate the functioning of perceptual links between candidate non-verbal behaviour and interviewer impressions of personality, although Study B indicates that it is the positiveness of facial expressions which is the primary determinant of impressions, with the degree of eye contact contributing to these perceptions.

5. Analysis of Stage 2 Occupational Group Suitability Perceptual Links

Table 9.9 sets out the correlation matrix between the 11 personality factors and the variables of Liking, Similarity, and Occupational Group Suitability.

The critical correlations are those between suitability and personality, all of which are highly significant ($p < .01$). The strength of these relationships again suggests the influence of a 'suitable graduate' prototype.

Interviewer liking for the candidate correlates $r = 0.64$ ($p < .01$) with suitability, indicating that the personal feelings of the interviewer toward the interviewee acted as a potent influence upon overall evaluations.

Perceived similarity of the interviewee's personality to the interviewer's own correlates significantly with suitability ($r = 0.50$, $p < .01$), confirming the impact of similar-to-me effect upon suitability ratings. It appears that interviewers were recruiting in their own image, which, as a self-assessment, also correlates highly with the suitable graduate prototype propounded earlier.

TABLE 9.9

CORRELATION MATRIX FOR RATINGS OF CANDIDATE PERSONALITY AND RATINGS OF LIKING, SIMILARITY, AND SUITABILITY

	BO	RE	WE	UN	AC	IM	EN	IN	PL	HO	DO	LIKED	SIMILAR-TO-ME
Relaxed	-.57**												
Weak	.73**	-.59**											
Unsuccessful	.63**	-.50**	.67**										
Active	-.68**	.54**	-.72**	-.61**									
Immature	.56**	-.52**	.63**	.57**	-.57**								
Enthusiastic	-.69**	.49**	-.64**	-.53**	.65**	-.56**							
Insensitive	.21**	-.04	.05	.10*	-.09	.15**	-.29**						
Pleasant	-.53**	.39**	-.40**	-.46**	.47**	-.41**	.53**	-.47**					
Honest	-.24**	.20**	-.19**	-.21**	.20**	-.21**	.36**	-.42**	.47**				
Dominant	-.58**	.52**	-.78**	-.54**	.64**	-.55**	.53**	.11*	.26**	.17**			
Liked	-.65**	.48**	-.55**	-.59**	.60**	-.59**	.64**	-.40**	.78**	.42**	.42**		
Similar-to-Me	-.56**	.40**	-.49**	-.45**	.51**	-.46**	.49**	-.16**	.45**	.20**	.43**	.55**	
Suitability	-.63**	.42**	-.63**	-.64**	.58**	-.59**	.61**	-.24**	.51**	.27**	.46**	.64**	.50**

* Significant at $p < .05$; ** Significant at $p < .01$; n = 330

BO: Boring, RE: Relaxed, WE: Weak, UN: Unsuccessful, AC: Active, IM: Immature.
EN: Enthusiastic, IN: Insensitive, PL: Pleasant, HO: Honest, DO: Dominant

In summary, correlations between the 11 personality factors and occupational group suitability confirm that the participant interviewers recruited in accordance with notions of a suitable graduate prototype, and that suitability was strongly related to the interviewer's personal liking for the candidate, and also to the interviewer's perceptions of interviewee personality similarity to a somewhat idealised self-perception.

In order to delineate interviewer perceptual links between impressions of personality and perceptions of occupational group suitability as illustrated in the second part of the lens model, a further set of stepwise hierarchical MRAs was computed using ratings on the 11 personality scales as the independent variables and suitability ratings as the sole dependent variable. The results are shown in Table 9.10.

TABLE 9.10

STEPWISE MULTIPLE REGRESSION ANALYSIS WITH OCCUPATIONAL

GROUP SUITABILITY RATINGS AS THE DEPENDENT VARIABLE AND

PERSONALITY FACTOR RATINGS AS INDEPENDENT VARIABLES

DEPENDENT VARIABLE	INDEPENDENT VARIABLES	MR	R^2	F^*	BETA
Suitability	Unsuccessful	0.64	0.41	224.52	-0.64
	Enthusiastic	0.71	0.51	168.04	0.37
	Immature	0.73	0.54	125.69	-0.22
	Pleasant	0.74	0.55	99.99	0.15
	Weak	0.75	0.56	83.86	-0.18

* F-Ratios significant at $p < .05$

251

Ratings of personality account for almost 60 per cent of the total
variance in occupational group suitability ratings (total
R-squared = 0.56), with interviewer perceptions of general success
or failure of the candidate in life emerging as the most
influential factor accounting for over 40 per cent of the variance
(R-squared = 0.41, F = 224.52, p < .001). The variable
Enthusiastic accounts for a further 10 per cent of total variance
when entered into the MRA. Immature, Pleasant, and Weak add a
further 5 per cent to total variance, but beyond these variables,
all other factors do not add significantly to total variance.
These results therefore highlight the extent of the linear
dependence of interviewer perceptions of occupational group
suitability upon personality factors.

In order to establish the influence of the two moderator
variables, Liked and Similar-to-Me, upon these 11 personality
scales, a furter series of MRAs was computed. In this case the
personality factors constituted the dependent variables, whilst
the moderator variables were entered into the stepwise equations
as independent variables. The results of these analyses are
displayed in Table 9.11.

TABLE 9.11

STEPWISE MULTIPLE REGRESSION ANALYSES WITH PERSONALITY

FACTORS AS THE DEPENDENT VARIABLES AND

MODERATOR VARIABLES AS INDEPENDENT VARIABLES

DEPENDENT VARIABLE	INDEPENDENT VARIABLES	MR	R^2	F*	BETA
Boring	Liked	0.65	0.42	237.59	-0.65
	Similar-to-Me	0.69	0.48	150.17	-0.29
Relaxed	Liked	0.48	0.23	97.02	0.48
	Similar-to-Me	0.51	0.26	56.62	0.20
Weak	Liked	0.55	0.30	143.64	-0.55
	Similar-to-Me	0.60	0.36	90.86	-0.27
Unsuccessful	Liked	0.59	0.35	174.13	-0.59
	Similar-to-Me	0.61	0.37	96.05	-0.18
Active	Liked	0.60	0.36	180.56	0.60
	Similar-to-Me	0.64	0.41	111.34	0.27
Immature	Liked	0.59	0.35	176.78	-0.59
	Similar-to-Me	0.61	0.38	99.09	-0.20
Enthusiastic	Liked	0.64	0.40	223.14	0.64
	Similar-to-Me	0.66	0.43	125.12	0.20
Insensitive	Liked	0.40	0.16	63.81	-0.45
Pleasant	Liked	0.78	0.61	517.76	0.78
Honest	Liked	0.42	0.18	69.86	0.42
Dominant	Similar-to-Me	0.44	0.19	76.56	0.44
	Liked	0.48	0.24	50.25	0.28

* F-Ratios significant at $p < .05$

As Table 9.11 shows, the moderator variable Liked accounts for significant proportions of the variance in all personality factors, ranging from R-squared - 0.05 on the dependent variable of Insensitive up to R-squared - 0.61 on Pleasant. Indeed, only on the former does the moderator of Similar-to-Me account for a greater proportion of variance than Liked. These MRAs illustrate the pervasive bias of personal liking and similar-to-me effect across interviewers' ratings on the 11 disparate personality factors, therefore justifying their treatment as moderator variables.

6. A Specification Model of the Linear Dependence of Interviewer Impression Formation and Outcome Decision Making

A single Pearson's product moment correlation coefficient was calculated between ratings of occupational group suitability and interview outcome decisions in order to examine the final part of the lens model.

These two variables correlate $r - 0.73$ ($p < .01$), indicating a strong association between interviewer impressions of occupational group suitability and the accept-reject decision. This correlation coefficient was squared, giving an R-squared value of 0.53. Thus, it may be stated that occupational group suitability predicts the outcome decision 0.53, and as such, reflects the weight of personality considerations in graduate interview decision making.

This finding and the results of the two sets of MRAs are displayed in relation to the lens model in Figure 9.3. This figure

FIGURE 9.3: THE LINEAR DEPENDENCE OF INTERVIEWER OUTCOME DECISIONS AND
SUITABILITY RATINGS UPON IMPRESSIONS OF CANDIDATE PERSONALITY AND NON-VERBAL BEHAVIOUR

CANDIDATE
NON-VERBAL BEHAVIOUR → INTERVIEWER IMPRESSIONS OF CANDIDATE PERSONALITY → SUITABILITY DECISION MAKING → OUTCOME DECISION

STAGE 1:
IMPRESSION FORMATION
PERCEPTUAL LINKS R^2

STAGE 2:
OCCUPATIONAL GROUP SUITABILITY
PERCEPTUAL LINKS R^2

R^2

Eye Contact
Facial Expressions

Boring
Relaxed
Weak
Unsuccessful
Active
Immature
Enthusiastic
Insensitive
Pleasant
Honest
Dominant
Similar-to-Me
Liked

Suitability for Occupational Group

Accept/Reject Candidate

.06 .08 .17 .18 .16 .08 .12 .05 .22 .001 .07 .27 .08 .09 .13 .03 .18 .27

.01 .41 .03 .10 .10

.53

FOOTNOTE

[a] Linear dependence between the moderator variables, Similar-to-Me and Liked, and the 11 personality factors is detailed in Table 9.11.

288

represents a specification model of interviewer impression formation and outcome decision making resulting from this study. The linear dependence of the four sets of variables (i.e. candidate non-verbal behaviours, interviewer impressions of personality, perceptions of occupational group suitability, and outcome decisions) is quantified by the inclusion of the relevant R-squared values. Only the most influential non-verbal behaviours of candidate facial expressions and eye contact are included to simplify the specification model.

This model clearly illustrates that outcome decisions are highly dependent upon perceptions of occupational group suitability (R-squared = 0.53, $p < .01$), which are significantly dependent upon impressions of personality (total R-squared = 0.56, $p < .01$) which in turn, are partly dependent upon candidate facial non-verbal behaviour (total R-squared ranges from 0.08 to 0.42).

The overall predictive power of this lens model was examined by a further MRA using the outcome decision as the sole dependent variable and both non-verbal behaviour ratings and ratings of personality as the independent variables. As Table 9.12 indicates, only three independent variables account for significant proportions of the variance in interviewer decisions. The variable Boring accounts for 28 per cent of total variance (R-squared = 0.28, F = 125.39, $p < .01$), with Unsuccessful and Pleasant supplementing an additional 5 per cent (R-squared = 0.05, F = 78.88, $p < .01$) and 2 per cent (R-squared = 0.02, F = 57.38, $p < .05$), respectively. All other personality and non-verbal behaviour variables entered into the stepwise MRA failed to contribute significantly to total variance in outcome decisions.

This findings generates two important implications in relation to the lens model. Firstly, the results ratify it's two-stage design since none of the non-verbal behaviour variables contribute significantly to outcome decisions in a direct manner, but, as illustrated in Figure 9.3, these variables are linearly predictive of interviewer assessments of candidate personality which in turn

are linearly associated with outcome decisions. Secondly, as total variance in interviewer outcome decisions accounted for by candidate non-verbal behaviour and personality is 35 per cent (i.e. total R-squared = 0.35), factors other than these account for the remaining two-thirds of total variance. These factors are likely to include contrast effects, hiring quotas, and, of course, the influence of the candidate's biographical details and initial utterances via primacy effect. It is therefore pertinent to query the extent to which interviewers were basing their decisions upon behavioural evidence present during the interview situation, and also the justification for using the interview primarily as a means of candidate personality assessment.

TABLE 9.12

STEPWISE MULTIPLE REGRESSION ANALYSIS WITH INTERVIEWER

OUTCOME DECISIONS AS THE DEPENDENT VARIABLE AND

NON-VERBAL BEHAVIOUR AND PERSONALITY FACTOR

RATINGS AS INDEPENDENT VARIABLES

DEPENDENT VARIABLE	INDEPENDENT VARIABLES	MR	R^2	F *	BETA
Outcome Decision	Boring	0.53	0.28	125.39	0.53
	Unsuccessful	0.57	0.33	78.88	0.29
	Pleasant	0.60	0.35	57.38	-0.17

* F-Ratios significant at $p < .05$

257

7. Multiple Regression Analyses on Second-Order Factors and
   Development of a Summary Specification Model

It has been mentioned that the proportions of total variance in
suitability ratings accounted for by ratings of personality is
high in the light of the method of inquiry. However, as in
Experiment III, the correlation matrix of personality factors
shown in Table 9.9 suggests the existence of an underlying simple
structure which may account for even greater proportions of the
variance. Therefore, a second-order factor analysis with iteration
and varimax rotation was computed, the results of which are given
in Table 9.13. A simple structure of 2 orthogonal factors emerges:
Factor 1: Competence, and Factor 2: Liking.

TABLE 9.13

FACTOR LOADINGS AND VARIANCE

ACCOUNTED FOR BY THE SECOND-ORDER SOLUTION

	FACTOR 1: COMPETENCE	FACTOR 2: LIKING
Boring	-0.80	-0.29
Relaxed	0.72	0.11
Weak	-0.90	-0.07
Unsuccessful	-0.76	-0.19
Active	0.82	0.17
Immature	-0.73	-0.21
Enthusiastic	0.70	0.41
Insensitive	0.08	-0.84
Pleasant	0.41	0.76
Honest	0.12	0.71
Dominant	0.84	-0.09
Liked	0.61	0.64
Similar-to-Me	0.61	0.28
PERCENTAGE OF VARIANCE	79.3	20.7

Factor 1: Competence accounts for almost 80 per cent of the extracted variance and loads positively onto the variables Dominant, Active, Relaxed, Enthusiastic, Liked, and Similar-to-Me in excess of the 0.50 cut-off (Kim and Mueller, 1978b). This factor loads negatively onto Boring, Weak, Unsuccessful, and Immature at this level.

Factor 2: Liking accounts for the remaining 20 per cent of variance extracted and loads positively onto Pleasant, Honest, and Liked. It loads negatively onto Insensitive.

This factor analytical solution is illustrated graphically in Figure 9.4 which utilises the factor loadings as coordinates to represent the spatial relationship of the personality dimensions upon the pivotal factors of Competence and Liking.

Figure 9.4
Spatial Relationship of Personality Variables Upon the Two Factor Simple Structure

FACTOR 1:
COMPETENCE

FACTOR 2:
LIKING
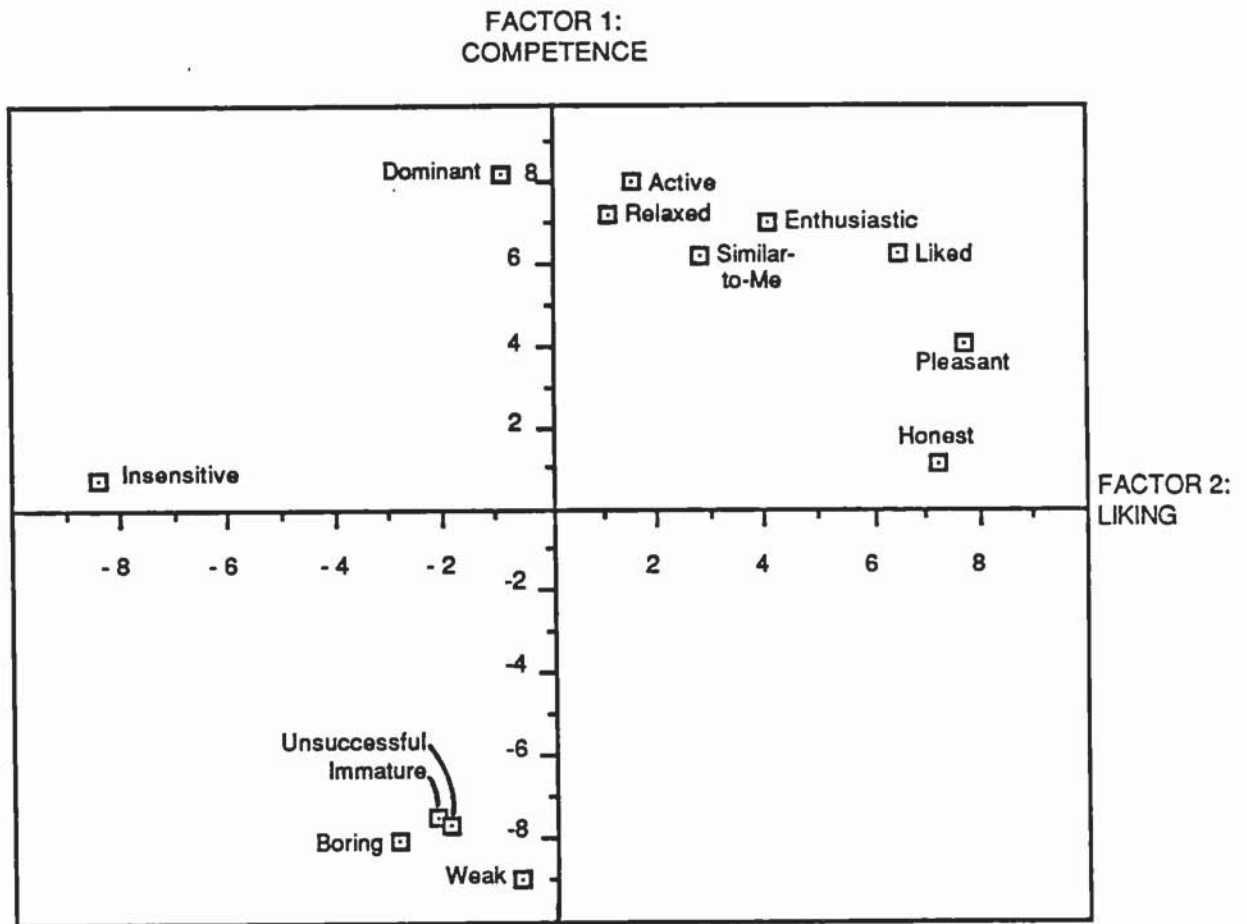
Comparing this solution to that obtained in Experiment III (Table 8.9), two minor differences are apparent. The first is that this solution is more clear cut, with the pattern of loadings being quite definite in terms of interpretation of the factors. The second is that this solution only extracts two orthogonal factors as opposed to the three extracted in Experiment III. However, these two factors are virtual counterparts of the principle two factors extracted previously, so that the third factor extracted in Experiment III has effectively been subsumed under those of Competence and Liking.

Additional MRAs were computed using these two second-order factors firstly as dependent variables upon candidate non-verbal behaviour, and secondly as independent variables against occupational group suitability. The results of the first MRA are displayed in Table 9.14, and those of the second in Table 9.15.

Table 9.14 indicates that candidate facial behaviours account for almost 40 per cent of the total variance in interviewer ratings on the composite scale of Competence, and over 30 per cent on the composite of Liking. Again, as these proportions originate from real interview situations where no experimental control over nuisance variables could be exercised, they are indicative of the linear dependence of core personality impressions upon candidate facial behaviours. Table 9.15 extends this analysis, confirming the extent to which perceptions of occupational group suitability are linearly dependent upon impressions of the candidate's competence and liking for the candidate. The Competence scale accounts for over half of the variance in ratings of suitability (R-squared = 0.51, F = 339.47, $p <$ .001) and Liking adds a further 3 per cent to total variance.

TABLE 9.14

STEPWISE MULTIPLE REGRESSION ANALYSES
WITH SECOND-ORDER PERSONALITY FACTORS AS DEPENDENT VARIABLES
AND NON-VERBAL BEHAVIOUR RATINGS AS INDEPENDENT VARIABLES

DEPENDENT VARIABLES	INDEPENDENT VARIABLES	MR	R^2	F*	BETA
FACTOR 1: COMPETENCE	FE	0.55	0.30	138.73	−0.55
	EC	0.62	0.38	43.39	−0.31
FACTOR 2: LIKING	FE	0.51	0.26	116.34	−0.51
	EC	0.55	0.31	21.07	−0.22
	HG	0.56	0.32	5.94	0.12

* F-Ratios significant at $p < .05$

TABLE 9.15

STEPWISE MULTIPLE REGRESSION ANALYSES
WITH SUITABILITY AS THE DEPENDENT VARIABLE AND
SECOND-ORDER PERSONALITY FACTORS AS INDEPENDENT VARIABLES

| DEPENDENT VARIABLE	INDEPENDENT VARIABLES	MR	R^2	F*	BETA
SUITABILITY	FACTOR 1: COMPETENCE	0.71	0.51	339.47	0.71
	FACTOR 2: LIKING	0.73	0.54	21.90	0.21

* F-Ratios significant at $p < .05$

In order to evaluate the direct predictive power of candidate facial behaviours upon suitability ratings, a final MRA was computed. Candidate facial expressions account for 17 per cent of the variance in suitability (R-squared = 0.17, F = 67.38, p < .01), whilst eye contact adds another 5 per cent, and frequency of hand gestures another 1 per cent to this proportion when entered into the analysis (R-squared = 0.05, F = 22.10, p < .05, and R-squared = 0.01, F = 5.98, p < .05, respectively).

Summarising these results, Figure 9.5 illustrates diagrammatically the linear dependence of these variables, and this figure hence presents a summarised version of the specification model shown in Figure 9.3. It will be noted that facial expressions predict ratings of competence 0.30 and ratings of liking 0.26. Competence ratings in turn predict occupational group suitability evaluations 0.51, which predict outcome decisions 0.53. This summary specification model thus highlights interviewer perceptual links between candidate non-verbal behaviour and impressions of personality, and between perceptions of personality and occupational group and suitability decision making.

FIGURE 9.5

THE LINEAR DEPENDENCE OF INTERVIEWER OUTCOME DECISIONS AND RATINGS

OF SUITABILITY UPON SECOND-ORDER PERSONALITY FACTORS AND

CANDIDATE NON-VERBAL BEHAVIOUR
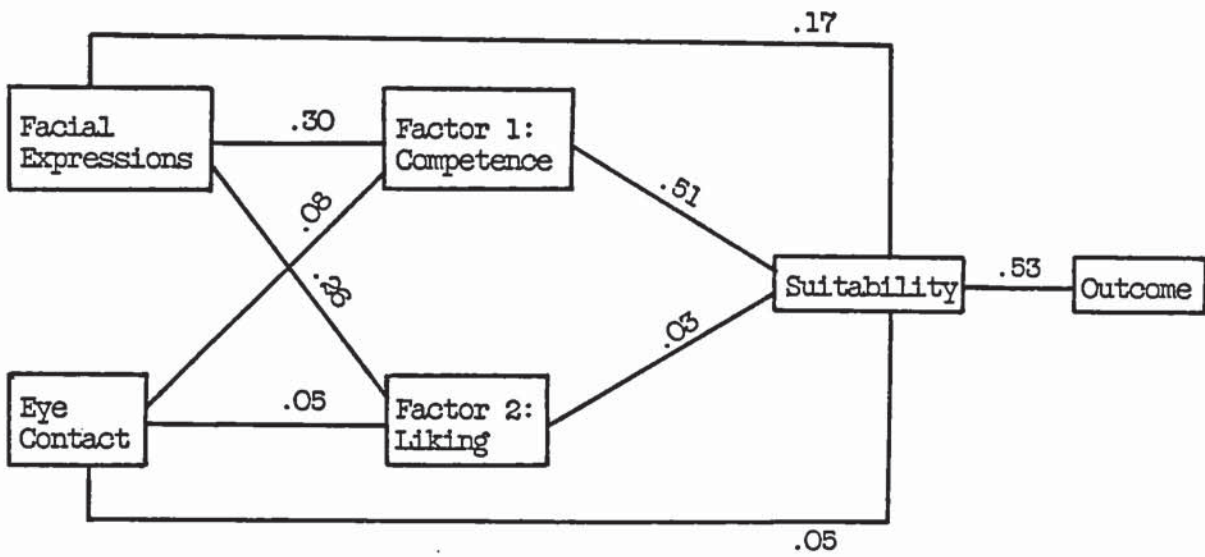
DISCUSSION

There are five crucial results of Study B:

1. Interviewer impressions of candidate personality were linearly dependent to a substantial extent upon candidate facial non-verbal behaviours.

2. The person perception biases of similar-to-me effect and, more influentially, personal liking for the candidate affected interviewer impression formation.

3. Interviewers screened against the ubiquitous personality criterion of a suitable graduate prototype for diverse occupational groups. The suitable graduate was perceived as interesting, relaxed, strong, successful, active, mature, enthusiastic, sensitive, pleasant, honest, and dominant.

4. The suitable graduate prototype factor analysed down to an underlying simple structure of two critical factors: (i) competence as perceived by the interviewer, and (ii) the interviewer's personal liking for the candidate.

5. Interviewer impressions of candidate personality were highly predictive of occupational group suitability ratings and outcome decisions, indicating the importance of personality considerations in graduate interviewer decision making.

Several important implications arise from these findings which can be considered in relation to the two-stage lens model of interviewer perceptual links developed for this study.

Stage 1 Impression Formation Perceptual Links

The results of the first set of MRAs denote the linear dependence of interviewer impressions of personality upon candidate facial behaviour, and thus reiterate the findings of Experiment III. In essence these findings verify the existence and operation of interviewer perceptual links in the context of actual graduate selection interviews. Moreover, these results oppose the conclusion drawn by several recent studies into the influence of candidate non-verbal behaviour that gestaltist impressions of behaviour influence interviewer decision making (e.g. Imada and Hakel, 1977; Young and Beier, 1977; McGovern and Tinsley, 1978). Rather, the MRAs emphasise the overwhelming weight of microscopic facial cues upon interviewer impression formation and outcome decision making.

Ramifications stemming from these findings were discussed in Chapter Eight. To re-state these briefly, there are implications for micro-skills training of interviewees concentrating upon facial non-verbal behaviours, for discriminatory practices at interview, for interviewer training, and for further research to address the validity and reliability of interviewer perceptual links. These points are developed in Chapter Ten in relation to theoretical conceptions of the assessment interview as a psychometric instrument.

2. Occupational Group Suitability Perceptual Links

It is significant that the participating interviewers both held notions of a universally appropriate personality prototype, and also, virtually without exception, adhered to this criterion when determining whether to accept or reject candidates. Returning to the occupation-specific stereotype versus the ubiquitous prototype debate, the results of this study clearly show that interviewers failed to differentiate between appropriate personalities for widely divergent occupational groups. These findings directly contradict the argument advanced by Jackson and his co-workers

that interviewers perceive distinct stereotypes of suitable personality for different occupations (Rothstein and Jackson, 1980; Jackson et al., 1982).

Even though interviewers did not distinguish between suitable personalities for different occupational groups, it is unreasonable to justify this finding by arguing that there may actually be a single most appropriate personality type for such diverse occupations. Indeed, it seems highly unlikely that the personality criteria for an army officer should be synonymous with those for an optician or an accountant. Conversely, these results indicate that this was precisely the criteria adopted by interviewers. This outcome is perhaps attributable to two inter-related factors.

Firstly, there is an element of social desirability in interviewers' Ideal Personality Profiles and assessments of candidates accepted for second interviews. It can be argued that all of the personality factors associated with the suitable graduate prototype hold positive connotations. This explanation does not detract from the assertion that interviewers were screening against a universal prototype, however, it merely suggests that this prototype is something of a socially desirable ideal.

Secondly, it is possible that information overload, already found to be influential in Experiment I, is also a salient feature of the interviewer's perceptions of criterion personality dimensions. In other words, the interviewer, in attempting to cope with an unmanageable load of external stimulus information, minimises his internalised criteria of suitable personality for different occupational groups to a single universally-applicable prototype. This process of criteria simplification may assist the interviewer to reach suitability decisions under intolerable loads of documented-biographical, verbal, and non-verbal information.

These two possibilities are certainly not mutually exclusive, and
their combined explanatory power, that interviewers utilise the
socially desirable prototype of a 'good graduate' in order to
simplify their task, is intuitively appealing and persuasive.

In contrast to the marked individual differences in personality
construct sub-systems found in Study A, these results suggest that
there is also a general perception amongst interviewers of the
prototypical suitable graduate. These two findings are not
incompatible, however, as it seems reasonable that interviewer
impression formation could be affected by both perceptions of an
ideal prototype, as well as idiosyncratic criteria of assessment
internalised by individual interviewers. This point is developed
further in Chapter Ten.

Personal Liking and Outcome Decision Making

The interviewers personal liking for the candidate was found to be
a pervasive bias affecting the processes of impression formation
and outcome decision making in this study. Liking correlated
significantly with all other ratings of personality, suggesting
considerable halo effects in assessments. More critically, liking
correlated highly with ratings of occupational group suitability
($r = 0.64$, $p < .01$). This finding shows a notably stronger
association between liking and overall assessments than that
reported by Keenan (1977), where these variables correlated
$r = 0.51$. It is also important to stress that as a result of the
second-order factor analysis, liking emerged as a core dimension
in interviewer impression formation. Despite Keenan's plea that
interviewers should guard against this bias affecting their
overall evaluations (Keenan, 1978c), it appears that over the
intervening decade the impact of this bias may have actually
increased rather than waned.

Perceptions of interviewer liking for the candidate were found to
be linearly dependent upon the positiveness of the candidate's
facial expressions in the MRAs, such that more positive

expressions resulted in greater liking. Several alternative explanations can be offered for this finding, although it should be acknowledged that these are, by necessity, conjectures.

One possibility is that interviewers inferred various positively connotated personality traits from the candidate's positive facial behaviour, and as a consequence, perceived the candidate as more likeable. This premise is based upon an extension of implicit personality theory, in conjunction with probable halo effects in interviewer impression formation and the functioning of perceptual links between candidate behaviour and interviewer perceptions. For example, a candidate displaying positive facial behaviours may be perceived by the interviewer as more interesting. From this perception the interviewer infers that the candidate is also more active, dominant, strong, and so forth, culminating in a cohesive overall perception which is generally positive and one which leads the interviewer to rate the candidate high on personal liking.

Alternatively, the interviewer's feelings of personal liking may have been reflexive in nature. As individuals display more positive facial expressions and greater eye contact toward those they like (Exline and Winters, 1965; Mehrabian, 1968; Mehrabian and Friar, 1969; Gatton, 1970; Holstein, et al. 1971), these behaviours may be interpreted by the interviewer as indicative of the interviewee's personal liking for him, which he may then reciprocate in his assessment of the interviewee.

A third possibility concerns the interplay between the role of the interviewer and that of the interviewee. It was argued in Chapter Eight that positive facial behaviours are non-verbal manifestations of ingratiation attempts but also, implicit in such behaviour, is the acceptance by the interviewee of his subordinate power position to that of the interviewer. The interviewer may even expect such ingratiation behaviour as reassurance of his superior role status. As Herriot (1984) notes, in accordance with Kelley's Augmentation Principle (Kelley, 1972), interviewees who do not exhibit these expected non-verbal behaviours, and thus who

fail to uphold this inequitable power distribution, may receive unfavourable assessments.

All three of these possibilities are feasible explanations for the perceptual links between candidate facial behaviour and interviewer perceptions of personal liking. Further research is therefore needed to establish which supposition, or which combination of these, is most accurate. The impact of interviewer liking for the candidate upon the process of impression formation is clear, however. Personal liking operated as a confounding bias in interpersonal perception, causing marked halo effects in interviewer assessments of candidate personality.

Perceived Similarity and Outcome Decision Making

Rand and Wexley's (1975) 'similar-to-me effect' was also found in this study to be an influential factor in interviewer decision making. Perceived similarity of the interviewee's personality correlated $r = 0.50$ with occupational group suitability ratings, which were in turn highly predictive of outcome decisions. Interviewers were clearly recruiting in their own image, presumably on the basis that their success in the organisation was as good a criterion as any other. This 'clone syndrome' almost certainly acts as an additional source of bias in interviewer decision making, since the criterion is unspecified and unvalidated and, in the longer-term, may be self-perpetuating.

Personality as a Determinant of Interview Outcomes

Finally, the result that ratings of occupational group suitability were highly predictive of outcome decisions needs to be considered. As Herriot' (1985) states

> 'What needs to be avoided is the use of the interview as a
> quasi-personality test, with interview behaviour being used
> as evidence of personal characteristics'   (p.35).

Ironically, these findings show that in actual fact the graduate interview is used predominantly as a personality assessment device, with personality considerations accounting for over half of the total variance in outcome decisions. Further, these results show that perceptual links between candidate behaviour, especially facial non-verbal behaviour, and interviewer impressions of personality constitute the chain of reasoning underlying interviewer impression formation. Herriot's ideal therefore stands in contrast to the actual function and functioning of the graduate selection interview. The theoretical and practical implications of this point are considered in the following chapter.

CONCLUSION

In conclusion, the results of Study B re-affirm the existence and operation of perceptual links between candidate facial behaviour and interviewer impressions of personality delineated in Experiment III. Furthermore, the linear dependence of outcome decisions upon personality factors is clarified by this study, as it was found that interviewers screened against the criterion of a universally-acceptable graduate prototype. The core personality dimensions of competence and interviewer liking for the candidate under-pinned this prototype, whilst the moderator variable of perceived similarity-to-self strongly influenced outcome decisions.

RE-THEORISING THE INTERVIEW:

IMPLICATIONS AND RAMIFICATIONS

'There are a number of areas in which the potential of the
interview cannot be surpassed by other selection methods
.... in an interview some assessment can be made of
matters that cannot be approached in any other way'
                    (Torrington and Hall, 1987: 252).

Recapitulation

It is useful at this stage to review the principal findings of the three laboratory experiments and the two field studies undertaken as empirical work for this thesis. At the risk of oversimplification, these can be summarised as follows:

1. The graduate interviewer forms an impression of the candidate under an intolerable load of documented-biographical, verbal, and non-verbal information.

   (Experiment I, Chapter Five).

In order to cope with this situation, the interviewer

2. Selectively attends to only a proportion of all available information.

   (Experiment I, Chapter Five).

3. Utilises a highly idiosyncratic system of personality constructs to perceive the candidate.

   (Study A, Chapter Six).

4. Forms a detailed impression of candidate personality in the opening few minutes of the interview which remains fundamentally resistant to change.

   (Experiment II, Chapter Seven).

5. Perceives the candidate through a system of perceptual links which relates candidate behaviour, particularly facial non-verbal behaviour, to impressions of personality.

   (Experiment III, Chapter Eight, and Study B, Chapter Nine).

6. Simplifies the complex task of impression formation by allowing halo effect, similar-to-me effect, and personal liking for the candidate to strongly affect overall impressions of candidate personality.

(Study B, Chapter Nine).

7. Simplifies outcome decision making by screening against the ubiquitous criterion of a suitable personality prototype for diverse occupational groups. The suitable graduate is perceived as interesting, relaxed, strong, successful, active, mature, enthusiastic, sensitive, pleasant, honest, and dominant.

(Study B, Chapter Nine).

8. Bases this personality prototype upon the core dimensions of perceived competence and personal liking for the candidate.

(Experiment III, Chapter Eight, and
Study B, Chapter Nine).

These findings have major implications in three inter-dependant areas: interview theory, graduate interview practices, and future research into the interview as an assessment technique. Chapter Ten sets out to discuss the ramifications of these results, and thereby to achieve four main objectives. Firstly, to relate these findings to the cognitive social model of interviewer impression formation propounded in Chapter Three. Secondly, to consider the findings in terms of existing theoretical accounts of the interview and, having noted shortcomings in both the objectivist-psychometric and the subjectivist-social perception perspectives, to prescribe an alternative theoretical perspective of the interview as a 'behavioural-perceptual forum'. Thirdly, following on from this re-theorising of the interview, to discuss the practical implications of this perspective and these findings for graduate interview techniques. Finally, this chapter concludes by

advocating important directions for future interview research
stemming from this work.

Initially, however, it is necessary to point out two issues which
arise from the laboratory experiments and field studies upon which
these findings are based.

Internal and External Validity

Different methodological limitations of the empirical
investigations have been acknowledged at various points in the
preceding chapters. In addition to these caveats, it is prudent to
note two more over-arching issues regarding internal and external
validity (Campbell and Stanley, 1966), and to assess the impact of
these issues upon the interpretation of these findings.

1. Internal Validity

One concern regarding the internal validity of Experiments II and
III and Study B is that of the direction of causality of subjects'
ratings. It was assumed that interviewee behaviour would influence
interviewer personality impressions and, since interviewers were
able to recognise changes in candidate non-verbal behaviour
(Experiment II), that interviewer ratings of behaviour would
therefore precede assessments of personality. However, an opposing
explanation can be derived from Herriot's (1987a, 1987b) argument
that ratings of personality may be 'post hoc rationalisations' of
initial impressions, particularly those of physical attraction.
Developing this line of reasoning further, it is possible that
ratings of candidate non-verbal behaviour were also subject to
rationalisation. The effect of this would have been to increase
the magnitude of the correlations between assessments of behaviour
and assessments of personality in these investigations. This
possibility of an a-posteriori halo effect in ratings certainly
cannot be discounted, but this effect in itself may be a mechanism
supporting information integration by interviewers. In other

words, rationalising immediate impressions may serve to create a falsely coherent outcome assessment.

This assertion is supported by the findings of Experiment II and Study B. In Experiment II it was found that initial perceptions of the candidate remained remarkably resistant to change despite the emergence of divergent information later in the interview. The results of Study B showed high correlations between eleven orthogonal dimensions of personality indicative of the marked influence of halo effect on ratings. Having acknowledged the possible impact of subjects' rationalisations, this effect was not the focus of this research, though, and so it would be unwise to draw firm conclusions regarding its influence upon interviewer impression formation.

2. External Validity

As with the issue of internal validity, comments on external validity and the generality of these findings have been made in earlier chapters. Nonetheless, the question of the generality of these findings to other types of selection interview needs to be addressed briefly. It was stated in Chapter Two that the graduate selection interview is distinct from interviews for other types of staff in several respects: it is commonly of short duration, there is comparatively little career history information available to the recruiter, recruitment is often for graduate traineeships, and so forth. These inherent differences render generalisation of the findings of this thesis a highly dubious practice. Without doubt, the wide generalisations common in the interview research should be resisted since these results cannot be interpreted as being representative of impression formation in other selection contexts.

The discussion now turns to consider the process of interviewer impression formation and the dysfunctions in information processing found to be prevalent in this research. In order to re-evaluate this process, the four-stage model of impression

formation propounded in Chapter Three is utilised, with dysfunctions in information recognition, translation, integration, and justification dealt with in turn.

THE COGNITIVE SOCIAL MODEL OF IMPRESSION FORMATION RE-VISITED

Stage 1: Recognition

An unequivocal finding of this research is that the interviewer is liable to recognise only a small proportion of the behavioural information available during the interview. In Experiment I it was concluded that making both audio and visual information available to subjects did not result in significantly more accurate assessments of the candidate than only making one source of information available. This strongly suggests that subjects either failed to utilise the additional information, or, if it was taken into account, failed to interpret it correctly. Whichever is the case, this finding points towards the response of subjects to selectively attend to the mass of available data on the grounds that information overload precluded comprehensive recognition of all available data. The results of Experiment II indicated one powerful coping mechanism employed by interviewers to deal with this untenable situation. Interviewers attended closely to information emerging in the first few minutes of the interaction and based their perceptions of candidate personality upon this data, thus confirming the influence of primacy effect in impression formation. Finally, Experiment III and Study B illustrated that interviewers concentrated upon the facial non-verbal behaviour of the candidate as source information of personality attributes, and through facial behaviour attention, reduced the complexity and range of incoming information.

Stage 2: Translation

The effects of <u>facial behaviour attention</u> upon information translation by interviewers was also examined in Experiment III and Study B. In the laboratory situation it was found that candidate eye contact was used principally to infer competence and dominance perceptions, whilst facial expressions were decoded in terms of personal liking and motivation. In the field study these distinctions were less clear-cut, probably due to the inability of interviewers to notice changes in eye contact in real-life situations. However, these <u>perceptual link translation specifications</u> between candidate non-verbal behaviour and personality impressions were found to be critical determinants of interviewer decisions in both investigations. It was concluded in Study A that interviewers translated candidate behaviour into highly idiosyncratic structures of personality dimensions, wherein marked individual differences between interviewers were uncovered. Superordinate to these <u>idiosyncratic structures of personality construal</u>, though, there emerged in Study B a <u>suitable graduate prototype</u> which was applied as a criterion measure by interviewers recruiting for diverse occupational groups. This prototype was founded upon the core dimensions of perceived competence for the position being recruited for and the interviewer's personal liking for the candidate.

Stage 3: Integration

A number of dysfunctions in information integration by interviewers emerged from this research. Most importantly, the pervasive bias of <u>halo effect</u> was found in both Experiment III and Study B to underlie interviewer assessments. Even across eleven orthogonal (i.e. uncorrelated) dimensions of personality statistically significant correlations were found in interviewers' ratings. This bias was exacerbated by the impact of <u>personal liking bias</u> and <u>similar-to-me effect</u> upon interviewers' evaluations. In Study B it was found that over a large sample of actual graduate interviews (n = 330), interviewers' ratings of

personal liking for the candidate correlated highly with overall suitability ratings (r - 0.64, p ‹ .01). Perceived similarity of the interviewee also correlated strongly with suitability ratings (r - 0.50, p ‹ .01), suggesting that interviewers were actively recruiting in their own somewhat idealised self-image.

Stage 4: Justification

Although as mentioned in Chapter Three confirmatory information seeking strategies were purposely excluded from this research, these results hint at the fundamentally deterministic nature of interviewer impression formation. In Experiment II interviewers were found to disregard or distort information emerging later in the interview, responding with surprising conformity to primacy effect in person perception. Thus, despite recent evidence which refutes the use of confirmatory information seeking strategies in impression formation (Sackett, 1982; McDonald and Hakel, 1985; Pennington, 1987), these findings suggest that interviewers may well search for data to justify their initial impressions.

Summarising these findings in terms of the cognitive social model of interviewer impression formation, Figure 10.1 illustrates the major dysfunctions in information processing found in this research as they affect different stages of the process.

FIGURE 10.1

MODIFIED CONCEPTUAL SCHEMA MODELLING INTERVIEWER IMPRESSION FORMATION AND THE INFLUENCE OF DYSFUNCTIONS IN INFORMATION PROCESSING AT DIFFERENT STAGES IN THE PROCESS

INPUT

PROCESS OF INTERVIEWER IMPRESSION FORMATION

OUTPUT

DOCUMENTED-BIOGRAPHICAL INFORMATION

VERBAL INFORMATION

NON-VERBAL INFORMATION

INFORMATION OVERLOAD

SELECTIVE ATTENTION

PRIMACY EFFECT

FACIAL BEHAVIOUR ATTENTION

IDIOSYNCRATIC STRUCTURES OF PERSONALITY CONSTRUAL

PERCEPTUAL LINK TRANSLATION SPECIFICATIONS

SUITABLE GRADUATE PROTOTYPE

HALO EFFECT

PERSONAL LIKING BIAS

SIMILAR-TO-ME EFFECT

CONFIRMATORY INFORMATION SEEKING STRATEGIES

STAGE 1 — RECOGNITION

STAGE 2 — TRANSLATION

STAGE 3 — INTEGRATION

STAGE 4 — JUSTIFICATION

ASSESSMENT OF CANDIDATE PERSONALITY

OUTCOME DECISION

281

Theoretical Critique Revisited

These results constitute grounds for an empirically-driven re-theorising of the selection interview, since they highlight important facets of the interaction which have been undervalued not only in the objectivist-psychometric perspective, but also in the subjectivist-social perception perspective (Anderson, 1988). It was argued in Chapter Three that the subjectivist-social perception perspective presented a more accurate account of the function and functioning of the interview. However, the results of this research highlight three crucial factors which should be integrated into any theoretical conceptualisation of the dynamics of interaction in the interview.

1. Intentionality

Writings in both perspectives, but particularly those in the objectivist tradition, have underestimated the intentionality of interviewee behaviour and have tended to portray the candidate as reactive rather than proactive. Indeed, as stated in Chapter Two, the interviewee is often depicted as a servile information provider in objectivist texts, over whom the interviewer sits as expert judge and jury. Subjectivist-social perception writings have also pondered little on the issue of intentionality in candidate behaviour, although this is acknowledged implicitly in Herriot's (1981, 1984) application of role theory to the interview. That is, as Herriot points out, the interviewee may or may not conform to role requirements, but non-conformity is likely to result in an unfavourable outcome decision. It is therefore in the interviewee's best interests to intentionally behave in certain ways, and it is logical to argue that the interviewee can

influence and direct outcomes through skilful impression management.

Existing research supports this assumption of intentionality. Interviewees have been found to filter documented-biographic information provided on the application form to present themselves in a favourable light (Goldstein, 1971). Fletcher (1979) reports that candidates believed that they should behave in particular ways at interview; that they should look at the interviewer and not attempt to bluff when answering questions, for instance. These findings vindicate the self-evident claim that interviewees, at least to some extent, are able to exert control over their behaviour and thereby purposely manage the interviewer's impression formation process.

2. Inequitable Distribution of Power

The second point of criticism which can be levelled against the objectivist and subjectivist perspectives is that writings have generally failed to take account of the inequitable distribution of situational power between the participants. It was argued in Chapter Two that the interviewer possesses substantially more power in this situation than the candidate. Objectivist-psychometric texts have, virtually without exception, not considered the implications of this distribution upon decision making processes. Moreover, in many of the practitioner texts it is assumed that this should constitute the 'natural order', with interviewers holding the prerogative 'to interview' (e.g. Bolton, 1983; Courtis, 1985). Writings in the subjectivist perspective have only very recently made reference to this facet of the interview. The present author has argued that recruiters should allow a limited transfer of their authority to the candidate so that selection decisions become founded more upon 'mutual counselling' and two-way information exchange (Anderson, 1987a). Similarly, Herriot (1987a) rightly points out that this inequality may restrict the exchange of information between the interviewer and interviewee, and he proposes that organisations 'will have to

incorporate efforts to reduce the imbalance of power between the parties' (p.156). Thus, despite a lack of studies focusing on the effects of the inequitable power distribution at interview, the likely result is that information exchange between the parties is restricted and that the possibilities for skilful impression management by the interviewee are therefore more pronounced.

3. Impression Management Behaviour

The results of Study B clarify the components of effective impression management by the candidate under the circumstances of the inequitable distribution of power at interview. It was found that interviewees who both looked and smiled more were more successful in obtaining favourable outcome decisions. Relating these findings to the social psychological research reviewed in Chapter Three, high eye contact is likely to convey attentiveness, attraction, and competency, whilst positive facial expressions are perceived as signals of interpersonal liking. The two factor personality structure of competence and liking elicited in Study B allies with these findings, but the non-verbal determinants of interviewer perceptions must also be interpreted in conjunction with the issue of the power distribution at interview.

High levels of eye contact may also be decoded as a dominance signal, and would certainly disrupt the balance of power if displayed by the interviewee. The interviewer would be likely to interpret such non-verbal behaviour as threatening and would probably react most unfavourably to the candidate. Accordingly, the candidate has to offset high eye contact with non-verbal cues which portray subordination, the principal one of which seems to be frequent smiling. Considerable eye contact and positive facial expressions appear to be mutually dependent in affecting a desired outcome decision, then, as the interviewee needs to uphold the interviewer's superior status by demonstrating both subordination and attentiveness. This argument reiterates the point that the candidate is forced to utilise subtle methods of impression management, as overt tactics may well be interpreted as an affront

to the interviewers status. As pointed out in Chapter Three, ingratiation and even outright deception are likely to be key techniques at the interviewee's disposal. Certainly, the non-verbal manifestations of ingratiation attempts (high eye contact, and frequent smiling, gestures, and head nods) are likely to be positively construed by the interviewer and may well lead to a successful outcome decision.

This point brings the critique back full circle to the issue of intentionality of interviewee behaviour being an undervalued facet of the interview. It is argued in the following sections that concentrating upon this facet could improve the psychometric performance of the selection interview.

The 'Behavioural - Perceptual Forum' Perspective

Existing theoretical perspectives under-emphasise the notion of the interview as a situation which provides a forum for the inter-related processes of impression formation and impression management. Such a view is founded upon two central tenets. Firstly, that the interview should be re-theorised from a 'behavioural-perceptual forum' perspective, wherein the interaction is treated as an arena for the elicitation and appraisal of the interviewee's impression management skills. Secondly, dysfunctions or so-called 'errors' in interviewer impression formation should be regarded as an inherent and potentially beneficial feature of the forum.

1. The Interview as a Behavioural Arena

The findings of this research point to the fact that the forum must be seen as being short-term and micro-analytical in nature since the interviewer is likely to form an impression of the candidate within the first few minutes based upon the interviewee's facial reactions. This need not necessarily hold negative psychometric connotations, as the interviewer's susceptibility to making snap judgments may replicate reactions of the job incumbent's peers. Ekman and Friesen's (1974) study described in Chapter Eight into the ability of nurses to display positive facial reactions whilst viewing unpleasant film scenes is apposite. The recent study by Arvey et al. (1987) into interview validity for predicting success as a salesperson also supports this behavioural-perceptual perspective. Interviewer assessments correlated significantly with first and second year supervisory ratings, and these unusually high levels of predictive validity were almost certainly due to the similarity between effective interview behaviour and job behaviour needed as a salesperson.

Both of these studies are congruent with the view of the interview as a behavioural-perceptual forum and suggest that this arena may replicate job-relevant behaviour for certain types of jobs. Hence, it is possible that the interview may be more valid for predicting success in jobs involving considerable interpersonal contact and self-presentational skills than in jobs less dependent on this type of task. As Robertson and Smith (1987) argue, the interview can function as a 'surrogate work sample test' (p.14) under these circumstances, thereby providing a useful sample of the interviewee's impression management skills.

Re-theorising the interview from a behavioural-perceptual forum perspective highlights the tripartite relation between impression management, behaviour, and impression formation, a relation which can be exploited to improve the predictive validity of interviewer assessments and outcome decisions.

2. 'Errors' in Information Processing

The second tenet of this perspective, that dysfunctions in interviewer information processing should be treated as an integral part of the forum, is a logical extension of the first tenet. Certainly, the findings of this research support the claim that interviewer judgments are prone to many of the errors in person perception found in social psychological studies. Rather than striving to minimise these dysfunctions through interviewer training, it is argued that more attention should be devoted to instructing interviewers to recognise interviewees who are able to engender such reactions. This would entail training interviewers to attend to the self-presentational cues associated with skilful impression management. Indeed, there is already evidence that this is a viable approach. DePaulo et al. (1984) provided subjects with detailed training on the behavioural indicators of deception attempts. It was found that subjects were able to detect deception with impressive levels of reliability. Dysfunctions should therefore be regarded as both omnipresent and potentially useful indicators of the interviewee's prowess as an impression manager.

To summarise, a behavioural-perceptual forum perspective of the interview entails the acceptance of dysfunctions in interviewer information processing as an inherent feature of the situation. However, if the interview is used as a work sample test of the interviewee's impression management skills then such 'errors' may be useful indicators of the candidate's interpersonal skills in the job situation. Using the interview in this manner is likely to enhance its predictive validity as a selection technique since the interview forum provides behavioural information which is difficult to obtain by other methods of assessment.

PRACTICAL IMPLICATIONS

Although the practical implications of the findings of this thesis have been alluded to in several chapters, other ramifications stem from this alternative theoretical account of the interview. These concern three related areas: graduate interview practices, interviewer training, and careers advisory practices regarding interviewee training.

Graduate Interview Practices

The interview will probably remain a universally popular method of graduate selection for at least the forseeable future (Parsons, 1985; Pearson, 1986). It is therefore pertinent to comment on its usage in the light of the findings of this thesis and the alternative theoretical perspective propounded above.

Despite Herriot's (1985) plea that the interview should not be used as a 'quasi-personality test', it was concluded in Study B that interviewers' personality assessments were a prime determinant of their outcome decisions. Ironically, these findings support Herriot's assertion since interviewer judgments were found to be highly idiosyncratic and prone to a host of dysfunctions in information processing. Perhaps, then, interviewer personality ratings cannot be expected to be acceptably valid and reliable given the situational conditions of information overload and the inherent biases in impression formation. It is certainly apparent from these findings that it is inappropriate to regard the interview as a test of personality, and recruiters wishing for this type of information would be well advised to rely upon properly validated psychometric instruments for this type of information. The question that arises is, to what purpose should the interview be directed, assuming that it is being employed as an assessment device?

Taking a behavioural-perceptual forum view, it is argued that the interview should be used to elicit and evaluate a sample of the

interviewee's impression management skills. On this premise, any
attributions by the interviewer to candidate personality must be
treated with caution and regarded as possible manifestations of
the interviewee's intentional behaviour as an attempt to
impression manage. This would entail interviewers concentrating on
the interviewee's self-presentational style per se, rather than
attempting to 'see through' the candidate's behaviour to infer
underlying dispositional characteristics. Documented-biographical
information collection should be kept to an absolute minimum
during the interview, with all predictive items having been
obtained previously on a biodata inventory or comprehensive
application form. Only major points of clarification of these
details should be pursued at interview, thus allowing the
interviewer to minimise information overload and to focus upon
behavioural information collection and appraisal.

These assertions place the interview in a radically different
light to that in which it is currently seen by practitioners.
Further, this view is diametrically opposed to that advocated by
proponents of highly standardised interviewing techniques such as
the situational interview (Latham et al., 1980; Latham and Saari,
1984). As argued in Chapter Two, these methods are conceptually
flawed in that they require the interviewer to collect information
which could have been obtained by other means. The probable
effects of this is that information overload on the interviewer is
accentuated and that behavioural data predictive of successful job
performance may well be overlooked.

The behavioural-perceptual approach to interviewing may, in fact,
be taken one stage further. On the assumption that the interview
is operating as a work sample test of interviewee impression
management skills, there is no reason why the candidate should not
be informed of this intention in advance. As Fletcher (in press)
contends, it is possible to provide candidates with a 'role
description' detailing expected behavior, with recruiters
screening out those who fail to fulfill expectations. Individual
differences in behavioural expectations do exist between

interviewees (Fletcher, 1979), and this measure would effectively norm candidate expectations as well as set out the intention to use the interview as a behavioural forum. Using the interview in this manner would also be highly cost-effective as the expense of conducting an assessment centre procedure including work sample tests would be prohibitive, particularly at the early stages of graduate selection when candidate numbers are still large.

Interviewer Training

Before this approach to interviewing may be instituted, however, interviewers will need to be trained to attend to and recognise the behavioural and perceptual indicators of skilful candidate impression management.

The social psychological literature shows that these behavioural indicators include:

* High levels of gaze and eye contact

* Frequent smiling

* Frequent head nods

* Using statements intended to flatter the interviewer

* A marked absence of statements disagreeing with the interviewer

* Higher voice pitch than normal

* More interruptions in speech than normal

The findings of the research conducted for this thesis suggest
that perceptual indicators include:

* Unjustifiably coherent ratings of the candidate
  across different criterion dimensions (either
  positive or negative)

* Marked personal liking or disliking for the candidate

* Perceptions of considerable personal similarity or
  dissimilarity with the candidate

In order to train interviewers to recognise these cues it is
recommended that a different approach to instructional techniques
be applied. Since most validatory studies of interviewer training
show unencouraging results (e.g. Heneman, 1975; Vance et al.,
1978), it may be added that the predominant approach to try to
'train out' dysfunctions in information processing has been
singularly unsuccessful in any case. Interviewer training should
focus instead upon improving recognition abilities, and to this
end could usefully employ closed circuit television recordings
coupled with feedback instruction to interviewers. It was pointed
out earlier in this chapter that dysfunctions in interviewer
impression formation should be treated as omnipresent features of
the forum. As useful indicators of effective candidate impression
management, these should certainly not be suppressed through
training recruiters to use highly structured methods of
interviewing.

Interviewee Training

Commensurate with this perspective is the possibility of careers advisors conducting training in impression management techniques for graduate interviewees. Training provisions should centre upon candidate facial behaviour, particularly in the opening few minutes of the interview. Since individuals are able to control their facial reactions quite closely (Ekman and Friesen, 1974), it may be expected that interviewee training in this respect would be effective in improving candidates' chances of success. Again, the use of videotaped recordings of interview behaviour would appear to be a fruitful method of conducting training programmes. To reiterate the findings of this research, candidates should be encouraged to look at the interviewer, particularly whilst listening, to smile frequently and give frequent reinforcement signals such as head nods.

Summarising these practical implications, it is argued that a radically different view of the interview should be taken to that currently held by practitioners. The interview is misconstrued as a test of candidate personality by many recruiters, and is presently misused on this basis. Rather, a behavioural-perceptual forum stance should be applied so that interviews are used to elicit a sample of the candidate's impression management skills. This would entail training interviewers to recognise the behavioural and perceptual clues to effective impression management, an approach which clearly may be replicated in terms of interviewee training in the techniques of self-presentation and behavioural control.

Calls for various types of additional research stemming from the findings reported in this thesis have been made in the preceding chapters. However, it is useful at this stage to summarise these into a three-fold typology of recommended directions for future research. This comprises:

1. 'Structural' research into interview behaviour

2. 'External variable' research into interviewer and interviewee impression formation

3. Validatory research into the behavioural-perceptual forum approach to interviewing

1. 'Structural' Research into Interview Behaviour

As stated in the pilot study (Appendix II), there is a paucity of studies taking a 'structural' approach (Duncan, 1969) to interview research. That is, few studies have attempted to examine interviewer and interviewee behaviour through micro-analytical methods, so that the verbal and non-verbal composition of the interview remains under-researched. This weakness in the research determined the objectives of the pilot study, but clearly, there is a need for considerably more studies in this vein.

The findings of this research strongly suggest that micro-analytical studies should be directed towards establishing the composition of facial behaviour in the interaction, particularly in the opening few minutes, as these cues are likely to be highly influential upon outcome decisions. This research could certainly utilise methods developed by social psychologists conducting experimental studies of facial behaviour (see Ekman, 1982, and Exline and Fehr, 1982, for recent reviews), thus basing interview research on methodologically sound measurement techniques. It

would be possible, then, for micro-analytical studies to build up a detailed catalogue of the behavioural elements of the interaction which is currently lacking in the body of interview research.

2. 'External Variable' Research into Impression Formation

The second type of research referred to by Duncan (1969) is 'external variable' research which, in essence, examines the perceived meaning of verbal and non-verbal behaviour. Although most interview research has related interviewee and interviewer behaviour to acceptance decisions by the other, the decoding of behaviour in terms of the impression formation processes of both parties remains an important direction for future studies.

It was found in this research that personality impressions were a substantial consideration in outcome decision making. The need for additional research into impression formation is thus apparent, especially studies which elucidate the causes of such impressions through the concept of perceptual links between behaviour and cognitions. In association with structural research, it will be possible to enhance understanding of the behavioural components of the interview situation together with an appreciation of the perceptual implications of different behavioural styles.

3. Validatory Research into the Behavioural-Perceptual Forum Approach to Interviewing

The third and final direction for ongoing research is generated by the alternative theoretical account of the interview presented in this chapter. There is a need for research to address the assertions made here, and several important questions arise concerning validation of the behavioural-perceptual forum approach

to interviewing. These include:

* Can interviewers recognise the behavioural and perceptual
  indicators of effective candidate impression management?

* Can interviewer training then improve recognition
  abilities?

* Are interviewee self-presentational skills predictive of
  on-the-job behaviours?

* For which types of occupational groups is this approach
  to interviewing appropriate?

* Ultimately, does this use of the interview supplement the
  accuracy of graduate selection procedures?

Undoubtedly, therefore, considerable applied research is called
for to validate this alternative approach to interviewing.
However, this direction of study is likely to advance interview
practices in the longer-term and should therefore be pursued by
researchers.

CONCLUDING COMMENTS

In conclusion, the interview should be re-theorised from a
behavioural-perceptual forum perspective, wherein its function is
to provide an arena for the elicitation and appraisal of the
interviewee's impression management skills. Since such skills as
ingratiation and interpersonal deception may be highly job-
relevant, this approach is likely to improve the poor levels of
predictive validity associated with using the interview as a
quasi-test of personality.

CHAPTER ELEVEN

CONCLUSION

RETROSPECTIVE EVALUATION

FUTURE CONDITIONAL

'Full many a glorious thesis have I seen wending its
dignified way to a trivial and predestined inconclusion,
armed cap-à-pie with all the trappings of scientism; the
decimals correct, the references in order, only the mind
lacking'

(Notcutt, 1953: 4).

RETROSPECTIVE EVALUATION

This final chapter concludes by offering an overview of the thesis and an evaluation of its contribution to the body of knowledge on the selection interview. It is inappropriate, however, to arrive at 'a conclusion' to the thesis since this work presents a synergy of exploratory themes, both theoretical and empirical in nature.

These themes are three-fold; firstly, the literature reviews presented in Chapter Two and Chapter Three. This theme grounded the cognitive social model of interviewer impression formation upon the findings of interview studies and social psychological writings on person perception. The model was operationalised into a three-point research specification in Chapter Four, the methodological issues of which were also discussed in this chapter. The first broad theme, then, is that of literature review, critique, and interpretation.

The second theme emerges from the three laboratory experiments and two field studies undertaken for the thesis and reported in Chapters Five to Nine. The findings of these investigations reveal that interviewer impression formation is prone to a number of dysfunctions in information processing, a theme which concurs with the results of person perception studies conducted by social psychologists. These dysfunctions include primacy effect, halo effect, personal liking bias, similar-to-me effect, and by implication, confirmatory information seeking strategies. In addition, the interviewer was found to be under information overload and was therefore forced to simplify the complex task of impression formation through the use of a variety of coping mechanisms. These comprise, selective attention, facial behaviour attention, perceptual link translation specifications, idiosyncratic structures of personality construal, and the application of a suitable graduate prototype as a ubiquitous screening criterion. The second theme thus comprises of the findings of these empirical investigations.

Rationalising these findings against the objectivist-psychometric and the subjectivist-social perception perspectives of the interview generated the third theme to this thesis. Neither perspective appeared to offer a completely acceptable viewpoint to explain and conceptualise these results, and indeed, the findings highlighted shortcomings in both theoretical accounts. As a consequence, in Chapter Ten the interview was re-theorised from a behavioural-perceptual forum standpoint. In essence, the interview was conceptualised as a behavioural arena, the enactment of which is dependent upon the simultaneous processes of impression formation and impression management. On the premise that impression management skills manifest by the candidate at interview may be predictive of job behaviour, the implications of this alternative view for graduate interview practices, interviewer training, interviewee training, and future research efforts were discussed. This third theme hence centres upon a re-theorising of the selection interview and a consideration of the implications that adopting a behavioural-perceptual forum approach to interviewing entails.

These three over-arching themes of literature review, empirical findings, and conceptual re-theorising are all fundamentally exploratory in orientation. That is, since interview research has traditionally been conducted in virtual isolation from social psychological findings on person perception, relatively few interview studies have focused upon interviewer impression formation. The results of this thesis elucidate important aspects of this perceptual process but, in so doing, generate a myriad of questions for future research to examine.

FUTURE CONDITIONAL

These three exploratory themes provide a framework upon which future research into impression formation and impression management in the interview may be developed. It is clear that research should concentrate upon elucidating attempts at impression management, and the resultant perceptual processes of both parties within the behavioural-perceptual forum of the selection interview. These advances, it might be hoped, will inform and improve interview practices so that organisational and individual work objectives may be better predicted and accomplished through their initial face-to-face encounters.

BIBLIOGRAPHY

Abele, A., (1981), Acquaintance and visual behavior between two interactants: Their communicative function for the impression formation of an observer, European Journal of Social Psychology, 11, 409 - 425.

Adams-Webber, J.R., (1979), Personal Construct Theory: Concepts and Applications, Chichester: Wiley.

Adams-Webber, J.R., (1981), Empirical Developments in Personal Construct Theory, in, H. Bonarius, R. Holland, and S. Rosenberg, (eds.), Personal Construct Psychology: Recent Advances in Theory and Practice, London: Macmillan.

A.G.C.A.S., (1986), Exploring your Future, A.G.C.A.S. Workbook Series, London: Careers Service Trust.

A.G.C.A.S., C.U.S., and S.C.O.E.G., (1988), Graduate Employment Prospects 1988, press statement, January, 1988.

A.G.C.A.S., S.C.O.E.G., and N.U.S., (1987), Code of Practice, London: Careers Service Trust.

Aiello, J.R., (1977), A further look at equilibrium theory: Visual interaction as a function of interpersonal distance, Environmental Psychology and Nonverbal Behavior, 1, 112 - 140.

Amalfitano, J.G., and Kalt, N.C., (1977), Effects of eye contact on the evaluations of job applicants, Journal of Employment Counselling, 14, 46 - 48.

Anderson, C.W., (1960), The relation between speaking times and decisions in the employment interview, Journal of Applied Psychology, 44, 267 - 268.

Anderson, C.W., (1961), The relation of verbal behavior to decision formulation in the employment interview, Unpublished PhD Dissertation, McGill University.

Anderson, N.H., (1962), Application of an additive model to impression formation, Science, 138, 817 - 818.

Anderson, N.H., (1965), Averaging versus adding as a stimulus-combination rule in impression formation, Journal of Experimental Psychology, 70, 394 - 400.

Anderson, N.H., (1973), Information integration theory applied to attitudes about U.S. presidents, Journal of Educational Psychology, 64, 1 - 8.

Anderson, N.H., (1975), On the role of context effects in psychophysical judgment, Psychological Review, 82, 462 - 482.

Anderson, N.H., (1981), Foundations of Information Integration Theory, New York: Academic Press.

Anderson, N.H., (1982), Methods of Information Integration Theory, New York: Academic Press.

Anderson, N.R., (1986), Assessment methodology: An alternative perspective for the design of recruitment and selection procedures, Doctoral Working Paper No. 104, Aston University, July 1986.

Anderson, N.R., (1987a), Personal construct psychology and repertory grid technique in employee selection, Paper presented at The Third West European Congress on the Psychology of Work and Organisation, VOCAP, Antwerp, Belgium, April 1987.

Anderson, N.R., (1987b), Interview Decision Making, feedback report to participants in a doctoral research study, Aston University, April 1987.

Anderson, N.R., (1987c), Personality assessment in the graduate 'milkround' interview: A personal construct psychology perspective and study using repertory grid technique, Doctoral Working Paper No.114, Aston University.

Anderson, N.R., (1988), Re-theorising the selection interview, Paper presented at the British Psychological Society Occupational Psychology Conference, Manchester, January 1988.

Anderson, N.R., and Shackleton, V.J., (1986), Recruitment and selection: A review of developments in the 1980s, Personnel Review, 15, (4), 19 - 28.

Anderson, R.C., (1954), The guided interview as an evaluative instrument, Journal of Educational Research, 48, 203 - 209.

Anstey, E., (1977), A 30-year-follow-up of the CSSB procedure with lessons for the future, Journal of Occupational Psychology, 50, 149 - 159.

Argyle, M., (1957), The Scientific Study of Behaviour, London: Methuen.

Archer, D., and Akert, R.M., (1977), Words and everything else: Verbal and nonverbal cues in social interaction, Journal of Personality and Social Psychology, 35, 443 - 449.

Argyle, M., (1969), Social Interaction, London: Methuen.

Argyle, M., (1973), Social Encounters: Readings in Social Interaction, Harmondsworth: Penguin.

Argyle, M., (1974), Social Interaction, London: Methuen.

Argyle, M., (1983), The Psychology of Interpersonal Behaviour, Harmondsworth: Penguin.

Argyle, M., (1984), Some new developments in social skills training, Bulletin of the British Psychological Society, 37, 405 - 410.

Argyle, M., and Cook, M., (1976), Gaze and Mutual Gaze, Cambridge: Cambridge University Press.

Argyle, M., and Dean, J., (1965), Eye contact, distance and affiliation, Sociometry, 28, 289 - 304.

Argyle, M., Furnham, A., and Graham, J.A., (1981), Social Situations, Cambridge: Cambridge University Press.

Argyle, M., and Ingham, R., (1972), Gaze, mutual gaze and distance, Semiotica, 6, 32 - 49.

Argyle, M., Lalljee, M., and Cook, M., (1968), The effects of visibility on interaction in a dyad, Human Relations, 21, 3 - 17.

Argyle, M., Lefebvre, L., & Cook, M., (1974), The meaning of five patterns of gaze, European Journal of Social Psychology, 4, (2), 125 - 136.

Arvey, R.D., (1979), Unfair discrimination in the employment interview: Legal and psychological aspects Psychological Bulletin, 86, 736 - 765.

Arvey, R.D., and Campion, J.E., (1982), The employment interview: A summary and review of recent research, Personnel Psychology, 35, 281 - 322.

Arvey, R.D., and Campion, J.E., (1984), Person Perception in the Employment Interview, in, M. Cook, (ed.), Issues in Person Perception, London: Methuen.

Arvey, R.D., Miller, H.E., Gould, R., and Burch, P., (1987), Interview validity for selecting sales clerks, Personnel Psychology, 40, 1 - 12.

Asch, S., (1946), Forming impressions of personality, Journal of Abnormal and Social Psychology, 41, 258 - 290.

Bales. R.F., (1950), Interaction Process Analysis, Cambridge: Addison-Wesley.

Bannister, D., (1960), Conceptual structure in thought-disordered schizophrenics, Journal of Mental Science, 106, 1230 - 1249.

Bannister, D., (1970), (ed.), Perspectives in Personal Construct Theory, London: Academic Press.

Bannister, D., and Fransella, F., (1986), Inquiring Man: The Theory of Personal Constructs, Harmondsworth: Penguin.

Bannister, D., and Mair, J.M.M., (1968), The Evaluation of Personal Constructs, London: Academic Press.

Bardack, N.R., and McAndrew, F.T., (1986), The influence of physical attractiveness and manner of dress on success in a simulated personnel decision, Journal of Social Psychology, 125, 777 - 778.

Baron, R.A., (1983), "Sweet smell of success"? The impact of pleasant artificial scents on evaluations of job applicants, Journal of Applied Psychology, 68, (4), 709 - 713.

Baskett, C.D., (1973), Interview decisions as determined by competency and attitude similarity, Journal of Applied Psychology, 57, 343 - 345.

Bass, B.M., (1951), Situational tests:I. Individual interviews compared with leaderless group discussions, Educational and Psychological Measurement, 11, 67 - 75.

Baxter, J.C., and Rozelle, R.M., (1975), Nonverbal Expression as a Function of Crowding during a Simulated Police-citizen Encounter, Unpublished Manuscript, Department of Psychology, University of Houston, Houston, Texas, U.S.A..

Bayes, M.A., (1972), Behavioral cues of interpersonal warmth, Journal of Consulting and Clinical Psychology, 39, 333 - 339.

Bayne, R., (1977), Can selection interviewing be improved?, Journal of Occupational Psychology, 50, 161 - 167.

Bayne, R., and Fletcher, C., (1983), Selecting the selectors, Personnel Management, June, 42 - 44.

Beail, N., (ed.), (1985), Repertory Grid Technique and Personal Constructs: Applications in Clinical and Educational Settings London: Croom Helm.

Beebe, S.A., (1974), Eye contact: A nonverbal determinant of speaker credibility, The Speech Teacher, 23, 21 - 25.

Bellows, R.M., and Estep, M.F., (1957), Employment Psychology: The Interview, New York: Rinehart.

Bem, S.L., (1974), The measurement of psychological androgyny, Journal of Consulting and Clinical Psychology, 42, 155 - 162.

Bernstein, V., Hakel, M.D., and Harlan, A., (1975), The college student as a threat to generalizability, Journal of Applied Psychology, 60, 266 - 268.

Biddle, B.J., (1979), Role Theory: Expectations, Identities and Behaviors, New York: Academic Press.

Bieri, J., (1955), Cognitive complexity-simplicity and predictive behaviour, _Journal of Abnormal and Social Psychology_, 51, 263 - 268.

Bieri, J., Atkins, A.L., Briar, S., Lobeck, R., Miller, H., and Tripoldi, T., (1966), _Clinical and Social Judgment_, New York: Wiley.

Binet, A., (1911), Nouvelles recherches sur la measure du niveau intellectuel, _L'Annee Psychol_, XVII, 9: 182.

Bingham, W.V., (1939), Halo, invalid and valid, _Journal of Applied Psychology_, 23, 221 - 228.

Birdwhistell, R.L., (1952), _Introduction to Kinesics: An Annotation System for Analysis of Body Motion and Gesture_, KY: University of Louisville.

Birdwhistell, R.L., (1970), _Kinesics and Context_, Pennsylvania: University of Pennsylvania Press.

Black, J.M., (1970), _How to Get Results from Interviewing_, New York: McGraw-Hill.

Blakeney, R.N., and MacNaughton, J.F., (1971), Effects of temporal placement of unfavorable information on decision making during the selection interview, _Journal of Applied Psychology_, 55, 138 - 142.

Blinkhorn, S., (1986), Assessing managerial potential - retrospect and prospect, _Guidance and Assessment Review_, 2, (6), 1 - 3.

Bloom, B.F., and Brundage, E.G., (1947), _Prediction of success in elementary schools for enlisted personnel_, in, D.B. Stuit, (ed.), _Personnel Research and Test Development in the Bureau of Naval Personnel_, Princetown, NJ: Princetown University Press.

Bolster, B.I., and Springbett, B.M., (1961), The reaction of interviewers to favorable and unfavorable information, _Journal of Applied Psychology_, 45, 97 - 103.

Bolton, G.M., (1983), _Interviewing for Selection Decisions_, Windsor: NFER-Nelson.

Bonarius, J.C.J., (1965), _Research in the Personal Construct Theory of George A. Kelly_, in, Maher, B.A., (ed.), _Progress in Experimental Personality Research_, Vol. 2, London: Academic Press.

Bonneau, L.R., (1957), An interview for selecting teachers, _Dissertation Abstracts_, 17, 537 - 538.

Boyd, H.W. Jr., and Westfall, R., (1955), Interviewers as a source of error in surveys, _Journal of Marketing_, XIX, 311 - 324.

Brennan, J.L., and McGeevor, P.A., (1985), _CNAA Graduates: Their Experiences and Views Twelve Months after Graduation_, H.E.L.M. Working Paper No. 4, London: CNAA.

British Psychological Society, (1978), _Ethical Principles for Research with Human Subjects_, statement approved at the B.P.S. annual meeting, April 1978.

Broadbent, D.E., (1952), Listening to one of two synchronous messages, _Journal of Experimental Psychology_, 44, 51 - 55.

Broadbent, D.E., (1958), _Perception and Communication_, Oxford: Pergammon.

Brook, J.A., (1982), _An evaluation of the management training programme_, Unpublished PhD Thesis, Massey University, New Zealand.

Bruner, J.S., and Tagiuri, R., (1954), _Person Perception_, in, Lindzey, G., (ed.), _Handbook of Social Psychology_, Vol. 2, Reading, Mass.: Addison Wesley.

Brunswik, E., (1956), _Perception and the Representative Design of Psychological Experiments_, Berkeley: University of California Press.

Bryant, B., and Trower, P.E., (1974), Social difficulty in a student sample, _British Journal of Educational Psychology_, 44, 13 - 21.

Bull, P.E., (1982), Non-verbal behaviour and non-verbal communication, _Paper given to the Annual Conference of the Social Psychology Section of the British Psychological Society_, Edinburgh, September 1982.

Bull, P.E., (1983), _Body Movements and Interpersonal Communication_, Chichester: Wiley.

Bull, P.E., (1985), Theoretical issues in non-verbal communication research, _Paper given to the Communication Studies Network First Annual Conference_, April 1985.

Bull, P.E., (1987), _Posture and Gesture_, Oxford: Pergamon Press.

Buros, O.K., (1978), _The Eighth Mental Measurements Yearbook_, Lincoln: University of Nebraska, Buros Institute of Mental Measurements.

Burrell, G., and Morgan, G., (1979), _Sociological Paradigms and Organizational Analysis_, London: Heinemann Education Books.

Campbell, D.T., (1957), Factors relevant to the validity of experiments in social settings, _Psychological Bulletin_, 54, 297 - 312.

Campbell, D.T., and Stanley, J.C., (1966), _Experimental and Quasi-experimental Design for Research_, Chicago: Rand McNally.

Campbell, J.T., Otis, J.L., Liske, R.E., and Prien, E.P., (1962), Assessments of higher-level personnel:II. Validity of the over-all assessment process, _Personnel Psychology_, 15, 63 - 74.

Campbell, J.T., Prien, E.P., and Brailey, L.G., (1960), Predicting performance evaluations, _Personnel Psychology_, 13, 435 - 440.

Campion, M.A., (1980), Relationship between interviewers' and applicants' reciprocal evaluations", _Psychological Report_, 47, 1335 - 1338.

Cann, A., Siegfried, W.D., and Pearce, L., (1981), Forced attention to specific applicant qualifications: Impact on physical attractiveness and sex of applicant biases, _Personnel Psychology_, 34, 65 - 75.

Cantor, N., and Mischel, W., (1977), Traits as prototypes: Effects on recognition memory, _Journal of Personality and Social Psychology_, 35, 38 - 48.

Carlson, R.E., (1967a), Selection interview decisions: The effect of interviewer experience, relative quota situation, and applicant sample on interviewer decisions, _Personnel Psychology_, 20, 259 - 280.

Carlson, R.E., (1967b), Selection interview decisions: The relative influence of appearance and factual written information on an interviewer's final rating, _Journal of Applied Psychology_, 51, 461 - 468.

Carlson, R.E., (1968), Selection interview decisions: The effect of mode of applicant presentation on some outcome measures, _Personnel Psychology_, 21, 193 - 207.

Carlson, R.E., (1970), Effects of applicant sample on ratings of valid information in an employment setting, _Journal of Applied Psychology_, 54, 217 - 222.

Carlson, R.E., and Mayfield, E.C., (1967), Evaluating interview and employment application data, _Personnel Psychology_, 20, 441 - 460.

Carlson, R.E., Schwab, D.P., and Henneman, H.G., (1970), Agreement among selection interview styles, _Journal of Applied Psychology_, 5, 8 - 17.

Carlson, R.E., Thayer, P.W., Mayfield, E.C., and Peterson, D.A., (1971), Improvements in the selection interview, _Personnel Journal_, 50, 268 - 275; 317 - 321.

Cash, T.F., Gillen, B., and Burns, D.S., (1977), Sexism and
"beautyism" in personnel consultant decision-making, Journal
of Applied Psychology, 62, 301 - 307.

Cattell, R.B., (1952), Factor Analysis, New York: Harper.

Cattell, R.B., (1966), The Scree test for the number of factors,
Multivariate Behavioral Research, 1, 140 - 161.

Cattell, R.B., (1978), Personality and Learning Theory, New York:
Springer.

Cattell, R.B., Saunders, D.R., and Stice, G.F., (1950), The 16
Personality Factor Questionnaire, Champaign, Ill.: Institute
of Personality and Ability Testing.

Christie, R., and Geis, F.L., (1970), Studies in Machiavellianism
New York: Academic Press.

Clark, E.L., (1926), Value of student interviews, Journal of
Personnel Research, 5, 204 - 207.

Cohen, S.L., and Bunker, K.A., (1975), Subtle effects of sex role
stereotypes on recruiters' hiring decisions, Journal of Applied
Psychology, 60, 566 - 572.

Connor, H., and Prior-Wandesforde, G., (1986), The graduate
milkround: Its changing role and pattern of use, I.M.S. Report
No. 124, Brighton: Institute of Manpower Studies.

Conrad, H.S., and Satter, G.A., (1946), The Use of Test Scores and
Quality Classification Ratings in Predicting Success in
Electricians' Mates School, Publications Board No. 13290,
Washington: U.S. Department of Commerce.

Cook, M., (1971), Interpersonal Perception, Harmondsworth:
Penguin.

Cook, M., (1979), Perceiving Others: The Psychology of
Interpersonal Perception, London: Methuen.

Cook, M., and Smith, J.M.C., (1975), The role of gaze in
impression formation, British Journal of Social and Clinical
Psychology, 14, 19 - 25.

Cook, T.D., and Campbell, D.T., (1976), The Design and Conduct
of Quasi-experiments and True Experiments in Field Settings,
in, M.D. Dunnette, (ed.), Handbook of Industrial and
Organizational Psychology, Chicago: Rand McNally.

Corey, S.M., (1933), The interview in teacher selection, Journal
of Educational Research, 26, 525 - 531.

Courtis, J., (1985), The I.P.M. Guide to Cost-effective
Recruitment, London: Institute of Personnel Management.

Coutts, L.M., and Schneider, F.W., (1975), Visual behavior in an unfocused interaction as a function of sex and distance, Journal of Experimental Social Psychology, 11, 64 - 77.

von Cranach, M., (1971), The Role of Orienting Behavior in Human Interaction, in, A.H. Esser, (ed.), Behavior and Environment: The Use of Space by Animals and Men, New York: Plenum Press.

Crockett, W.H., (1965), Cognitive Complexity and Impression Formation, in, Maher, B.A., (ed.), Progress in Experimental Personality Research, Vol. 2, London: Academic Press.

Cronbach, L.J., (1951), Coefficient alpha and the internal structure of tests, Psychometrika, 16, 297 - 334.

Cronbach, L.J., (1955), Processes affecting scores on 'understanding of others' and 'assumed similarity', Psychological Bulletin, 52, 177 - 193.

Crowell, A.H., (1961), Decision sequences in perception, Unpublished PhD Dissertation, McGill University, Canada.

Dalessio, A., and Imada, A.S., (1984), Relationships between interview selection decisions and perceptions of applicant similarity to an ideal employee and self: A field study, Human Relations, 37, 67 - 80.

Daniels, H.W., and Otis, J.L., (1950), A method for analyzing employment interviews, Personnel Psychology, 3, 425 - 444.

D'Augelli, A.R., (1974), Nonverbal behavior of helpers in initial helping interactions, Journal of Counseling Psychology, 21, 360 - 363.

DePaulo, B.M., Kenny, D.A., Hoover, C.W., Webb, W., and Oliver, P.V., (1987), Accuracy of person perception: Do people know what kinds of impressions they convey?, Journal of Personality and Social Psychology, 52, 303 - 315.

DePaulo, B.M., and Rosenthal, R., (1979a), Ambivalence, Discrepancy, and Deception in Nonverbal Communication, in, R. Rosenthal, (ed.), Skill in Nonverbal Communication: Individual Differences, Cambridge, Mass: Oelgeschlager, Gunn and Hain.

DePaulo, B.M., and Rosenthal, R., (1979b), Telling lies, Journal of Personality and Social Psychology, 37, 1713 - 1722.

DePaulo, B.M., Stone, J.I., and Lassiter, G.D., (1984), Deceiving and Detecting Deceit, in, B.R. Schlenker, (ed.), The Self in Social Life, New York: McGraw-Hill.

de Wolff, C.J., and van den Bosch, G., (1984), Personnel Selection, in, Drenth, P.J.D., Thierry, H., Willems, P.J., and de Wolff, C.J., Handbook of Work and Organisational Psychology, Chichester: Wiley.

Dipboye, R.L., (1980), <u>Self-fulfilling Prophecies in the Selection Recruitment Interview</u>, Unpublished Manuscript, Rice University, Houston, Texas.

Dipboye, R.L., Arvey, R.D., and Terpstra, D.E., (1977), Sex and physical attractiveness of raters and applicants as determinants of resume evaluations, <u>Journal of Applied Psychology</u>, 62, 288 - 294.

Dipboye, R.L., Fomkin, H.L., and Wiback, K., (1975), Relative importance of applicant sex, attractiveness, and scholastic standing in evaluation of job applicant resumes, <u>Journal of Applied Psychology</u>, 60, 39 - 43.

Dipboye, R.L., Fontenelle, G.A., and Garner, K., (1984), Effects of previewing the application on interview process and outcomes, <u>Journal of Applied Psychology</u>, 69, 118 - 128.

Dipboye, R.L., and Wiley, J.W., (1977), Reactions of college recruiters to interviewee sex and self presentation style, <u>Journal of Vocational Behaviour</u>, 10, 1 - 12.

Dipboye, R.L., and Wiley, J.W., (1978), Reactions of male raters to interviewee self presentation style and sex: Extensions of previous research, <u>Journal of Vocational Behaviour</u>, 13, 192 - 203.

Dittman, A.T., (1972), <u>Interpersonal Messages of Emotion</u>, New York: Springer.

Dohmeyer, T.W., (1970), Modes of information utilization by employment interviewers in suitability ratings of hypothetical job applicants, <u>Paper presented at the Midwestern Psychological Convention</u>, Cincinnati.

Dovido, J.F., and Ellyson, S.L., (1982), Decoding visual dominance: Attributions of power based on relative percentages of looking while speaking and looking while listening, <u>Social Psychology Quarterly</u>, 45, 106 - 113.

Driver, R.S., (1944), Research in the interview, <u>Office Management Series No. 112</u>, American Management Association, pp. 20 - 31.

Druckman, D., Rozelle, R.M., and Baxter, J.C., (1982), <u>Nonverbal Communication: Survey, Theory, and Research</u>, Beverly Hills, CA: Sage.

Dudycha, G.J., (1941), A suggestion for interviewing for dependability based on student behavior, <u>Journal of Applied Psychology</u>, 25, 227 - 231.

Duncan, S.D., Jr., (1969), Nonverbal communication, <u>Psychological Bulletin</u>, 72, 118 - 137.

Duncan, S.D., Jr., (1972), Some signals and rules for taking speaking turns in conversations, Journal of Personality and Social Psychology, 23, 283 - 292.

Dunlap, J.W., and Wantman, M.J., (1947), An Investigation of the Interview as a Technique for Selecting Aircraft Pilots, CAA\ Airman Development Division Report No. 33, Publications Board No. 50308, Washington, D.C.: U.S. Department of Commerce.

Edinger, J.A., and Patterson, M.L., (1983), Nonverbal involvement and social control, Psychological Bulletin, 93, 30 - 56.

Einhorn, H.J., and Hogarth, R.M., (1978), Confidence in judgment: Persistence of the illusion of validity, Psychological Review, 85, 395 - 416.

Ekman, P., (1982), Methods for Measuring Facial Action, in, K.R. Scherer and P. Ekman, (eds), Handbook of Methods in Nonverbal Behavior Research, Cambridge: Cambridge University Press.

Ekman, P., and Friesen, W.V., (1969), Nonverbal leakage and clues to deception, Psychiatry, 32, 88 - 106.

Ekman, P., and Friesen, W.V., (1974), Detecting deception from the body or face, Journal of Personality and Social Psychology, 29, 288 - 298.

Ekman, P., and Friesen, W.V., (1975), Unmasking the Face, Englewood Cliffs, NJ: Prentice-Hall.

Ekman, P., Friesen, W.V., and Ellsworth, P.C., (1972), Emotion in the Human Face: Guidelines for Research and an Integration of Findings, New York: Pergamon Press.

Ekman, P., Friesen, W.V., and Scherer, K.R., (1976), Body movement and voice pitch in deceptive interaction, Semiotica, 16, 23 - 27.

Ellsworth, P.C., (1975), Direct Gaze as Social Stimulus: The Example of Aggression, in, P. Pliner, L. Krames, and, T. Alloway, (eds.), Nonverbal Communication of Aggression, New York: Plenum Press.

England, G.W., and Patterson, D.G., (1960), Selection and Placement - The Past 10 Years, in, Heneman, H.G., (ed.), Employment Relations Research, New York: Harper.

Exline, R.V., (1971), Visual Interaction: The Glances of Power and Preference, in, J.K. Cole, (ed.), Nebraska Symposium on Motivation, 19, pp. 162 - 205, Lincoln: University of Nebraska Press.

Exline, R.V., and Eldridge, C., (1967), Effects of two patterns of a speaker's visual behavior upon the perception of the authenticity of his verbal message, Paper Presented at the Meeting of the Eastern Psychology Association, Boston, April.

Exline, R.V., and Fehr, B.J., (1982), The Assessment of Gaze and and Mutual Gaze, in, K.R. Scherer and P. Ekman, (eds), Handbook of Methods in Nonverbal Behavior Research, Cambridge: Cambridge University Press.

Exline, R.V., and Winters, L.C., (1965), Affective Relations and Mutual Glances in Dyads, in, S. Tomkins and C. Izard, (eds.), Affect, Cognition, and Personality, New York: Springer.

Eysenck, H.J., and Eysenck, S.B.G., (1969), Personality Structure and Measurement, London: Routledge and Kegan Paul.

Farr, J.L., (1973), Response requirements and primacy-recency effects in a simulated selection interview, Journal of Applied Psychology, 57, 228 - 232.

Farr, J.L., and York, C.M., (1975), Amount of information and primacy-recency effects in recruitment decisions, Personnel Psychology, 28, 233 - 238.

Fear, R.A., (1978), The Evaluation Interview: Predicting Job Performance in Business and Industry, London: McGraw-Hill.

Ferguson, G.A., (1981), Statistical Analysis in Psychology and Education, London: McGraw-Hill.

Ferguson, J., (1987), Update on the search for the good interviewer, Paper presented at the B.P.S. Occupational Psychology Conference, Hull, January 1987.

Ferris, G.R., and Gilmore, D.O., (1977), Effects of mode of presentation, sex of applicant, and sex of interviewer on simulated interview decisions, Psychological Reports, 40, 566.

Fischer, C.D., Ilgen, D.R., and Hoyer, W.D., (1979), Source credibility, information favourability, and job offer acceptance, Academy of Management Journal, 22, 94 - 103.

Fjeld, S.P., and Landfield, A.W., (1961), Personal construct theory consistency, Psychological Reports, 8, 127 - 129.

Flanagan, J.C., (1947), AAF Aviation Psychological Program Research Reports, Report No. 1, Washington, D.C.: Government Printing Office.

Fletcher, C., (1979), Candidates' beliefs and self-presentation strategies in selection interviews, Personnel Review, 10, (3), 14 - 17.

Fletcher, C., (1987), Candidate personality as an influence on selection interview assessments, Applied Psychology: An International Review, 36, 157 - 162.

Fletcher, C., (in press), Impression Management in the Selection Interview, in, R.A. Giacalone and P. Rosenfeld, (eds), Impression Management in Organizations, Hillsdale, NJ: Erlbaum.

Fonda, N., (1981), Using the Grid to Evaluate Training, in Stewart, V., and Stewart, A., (eds.), Business Applications of Repertory Grid, London: McGraw-Hill.

Forbes, R.J., (1978), The effects of a candidate's non-verbal behaviour on interview decisions, Unpublished Masters Thesis, Sheffield University.

Forbes, R.J., and Jackson, P.R., (1980), Non-verbal behaviour and the outcome of selection interviews, Journal of Occupational Psychology, 53, 65 - 72.

Ford, J.K., MacCallum, R.C., and Tait, M., (1986), The application of exploratory factor analysis in applied psychology: A critical review and analysis, Personnel Psychology, 39, 291 - 314.

Forsythe, S., (1985), personal correspondence: 6 September, 1985.

Forsythe, S., Drake, M.F., and Cox, C.E., (1985), Influence of applicants' dress on interviewers selection decisions, Journal of Applied Psychology, 70, 374 - 378.

Frank, L.L., and Hackman, J.R., (1975), Effects of interviewer-interviewee similarity on interviewer objectivity in college admissions interviews, Journal of Applied Psychology, 60, 356 - 360.

Fransella, F., and Bannister, D., (1977), A Manual for Repertory Grid Technique, London: Academic Press.

Fraser, J.M., (1978), Employment Interviewing, London: McDonald and Evans.

French, W., (1974), The Personnel Management Process, New York: Houghton Mifflin.

Fugita, S.S., Wexley, K.N., and Hillery, J.M., (1974), Black-white differences in nonverbal behavior in an interview setting, Journal of Applied Social Psychology, 4, 343 - 350.

Gaines, B.R., and Shaw, M.L.G., (1982), New Directions in the Analysis and Interactive Elicitation of Personal Construct Systems, in, M.L.G. Shaw, (ed.), Recent Advances in Personal Construct Technology, London: Academic Press.

Gatton, M.J., (1970), Behavioral aspects of interpersonal attraction, *Journal of Personality and Social Psychology*, 29, 586 - 592.

Ghiselli, E.E., (1964), *Theory of Psychological Measurement*, London: McGraw-Hill.

Ghiselli, E.E., (1966), The validity of a personnel interview, *Personnel Psychology*, 19, 389 - 394.

Ghiselli, E.E., (1973), The validity of aptitude tests in personnel selection, *Personnel Psychology*, 26, 461 - 477.

Giedt, F.H., (1955), Comparison of visual, content, and auditory cues in interviewing, *Journal of Consulting Psychology*, 19, 407 - 416.

Gifford, R., Fan NG, C., and Wilkinson, M., (1985), Nonverbal cues in the employment interview: Links between applicant qualities and interviewer judgments, *Journal of Applied Psychology*, 70, 729 - 736.

Gill, D., (1980), *Selecting Managers: How British Industry Recruits*, London: Institute of Personnel Management/ British Institute of Management.

Gilmore, D.C., Beehr, T.A., Love, K.G., (1986), Effects of applicant sex, applicant physical attractiveness, type of rater, and type of job on interview decisions, *Journal of Occupational Psychology*, 59, 103 - 109.

Goffman, E., (1959), *The Presentation of Self in Everyday Life*, London: Anchor Books.

Goldstein, A., (1979), *Social Skills Training*, in, A. Goldstein, (ed.), *In Response to Aggression*, New York: Pergamon.

Goldstein, I.L., (1971), The application blank: How honest are the responses?, *Journal of Applied Psychology*, 55, 491 - 492.

Gordon, A., (1983), Attitudes of employers to the recruitment of graduates, *Educational Studies*, 9, (1), 45 - 64.

Gordon, M.E., Slade, L.A., and Schmitt, H., (1986), The "science of the sophomore" revisited: From convecture to empiricism, *Academy of Management Review*, 11, 191 - 207.

Gough, H.G., (1952), The Adjective Check List, *Consulting Psychologists Press, Inc.*, Palo Alto, CA.

Gough, H.G., (1960), The Adjective Check List as a personality assessment research technique, *Psychological Reports*, 6, 107 - 122.

Gough, H.G., and Heilbrun, A.B., (1983), *The Adjective Check List Manual*, Consulting Psychologists Press, Inc., Palo Alto, CA.

Graham, J.A., and Argyle, M., (1975), A cross-cultural study of the communication of extra-verbal meaning by gesture, International Journal of Psychology, 10, 57 - 67.

Guilford, J.P., (1954), Psychometric Methods, New York: McGraw-Hill.

Guilford, J.P., (1965), Fundamental Statistics in Psychology and Education, London: McGraw-Hill.

Guion, R., (1986), Changing views for personnel selection research Paper presented at the International Congress of Psychology, Jerusalem, Israel, July 1986.

Haefner, J.E., (1977), Race, age, sex, and competence as factors in employer selection of the disadvantaged, Journal of Applied Psychology, 62, 199 - 202.

Haggard, E.A., and Isaacs, K.S., (1966), Micromomentary Facial Expressions as Indicators of Ego Mechanisms in Psychotherapy, in, L.A. Gottschalk, and A.H. Auerbach, (eds.), Methods of Research in Psychotherapy, New York: Appleton-Century-Crofts.

Hakel, M.D., (1971), Similarity of post-interview trait rating intercorrelations as a contributor in interrater agreement in a structured employment interview, Journal of Applied Psychology, 55, 443 - 448.

Hakel, M.D., Hollman, T.D., and Dunnette, M.D., (1970a), Accuracy of interviewers, certified accountants, and students in identifying the interests of accountants, Journal of Applied Psychology, 54, 115 - 119.

Hakel, M.D., Dobmeyer, T.W., and Dunnette, M.D., (1970b), Relative importance of three content dimensions in overall suitability ratings of job applicants' resumes, Journal of Applied Psychology, 54, 67 - 71.

Hakel, M.D., Ohnesorge, J.P., and Dunnette, M.D., (1970), Interviewer evaluations of job applicants' resumes as a function of the qualification of the immediately preceding applicants, Journal of Applied Psychology, 54, 27 - 30.

Hakel, M.D., and Schuh, A.J., (1971), Job applicant attributes judged important across several diverse occupations, Personnel Psychology, 24, 45 - 52.

Hall, E.T., (1966), The Hidden Dimension, New York: Doubleday.

Hall, J.A., (1984), Nonverbal Sex Differences, Baltimore, MD: John Hopkins University Press.

Hampson, S., (1982), The Construction of Personality, London: Routledge and Kegan Paul.

Handyside, J.D., and Duncan, D.C., (1954), Four years later: A follow-up of an experiment in selecting supervisors, Occupational Psychology, 28, 9 - 23.

Hanna, J.V., (1950), Estimating intelligence by interview, Educational and Psychological Measurement, 10, 420 - 430.

Harman, H.H., (1976), Modern Factor Analysis, Chicago: Chicago University Press.

Harn, T.J., and Thornton, G.C. III, (1985), Recruiter counselling behaviours and applicant impressions, Journal of Occupational Psychology, 58, 57 - 65.

Harper, R.G., Wiens, A.N., and Matarazzo, J.D., (1978), Nonverbal Communication: The State of the Art, New York: John Wiley.

Harris, P.L., and Hampson, S.E., (1980), Processing information within implicit personality theory, British Journal of Social and Clinical Psychology, 19, 235 - 242.

Hastie, R., and Rasinski, K.A., (in press), The Concept of accuracy in Social Judgement, in, D. Bar-Tal and A. Kruglanski, (eds.), The Social Psychology of Knowledge, Cambridge: Cambridge University Press.

Heilman, M.E., (1980), The impact of situational factors on personnel decisions concerning women: Varying the sex composition of the applicant pool, Organizational Behavior and Human Performance, 26, 386 - 396.

Heilman, M.E., and Saruwatari, L.R., (1979), When beauty is beastly: The effects of appearance and sex on evaluations of job applicants for managerial and non-managerial jobs, Organizational Behavior and Human Performance, 23, 360 - 372.

Helmsley, G.D., and Doob, A.N., (1978), The effect of looking behavior on perceptions of a communicator's credibility, Journal of Applied Psychology, 8, 136 - 144.

Heneman, H.G., (1975), The impact of interviewer training and interview structure on the reliability and validity of the selection interview, Proceedings of The Academy of Management, pp. 231 - 233.

Heneman, H.G., (1977), Impact of test information and applicant sex, Journal of Applied Psychology, 62, 524 - 526.

Henrichs, O.R., (1960), Technical selection: How to improve your batting average, Personnel, 37, (2), 56 - 60.

Herriot, P., (1981), Towards an attributional theory of the selection interview, Journal of Occupational Psychology, 54, 165 - 173.

Herriot, P., (1984), _Down from the Ivory Tower: Graduates and Their Jobs_, Chichester: Wiley.

Herriot, P., (1985), Give and take in graduate selection, _Personnel Management_, May, 33 - 35.

Herriot, P., (1986a), Graduate recruitment: Getting it right, _Paper presented at the Institute of Personnel Management Annual Conference_, Harrogate, October 1986.

Herriot, P., (1986b), Management assessment centres: dimensions or job samples?, _Paper presented at the European Conference on the Benefits of Psychology_, Lausanne, Switzerland, September 1986.

Herriot, P., (1987a), _The Selection Interview_, in, P. Warr, (ed.), _Psychology at Work_, Harmondsworth: Penguin.

Herriot, P., (1987b), Social processes in selection, _Paper presented at the International Conference on Advances in Selection and Assessment_, Buxton, England, May 1987.

Herriot, P., and Rothwell, C., (1983), Expectations and impressions in the graduate selection interview, _Journal of Occupational Psychology_, 56, 303 - 314.

Herriot, P., and Wingrove, J., (1984), Decision processes in graduate pre-selection, _Journal of Occupational Psychology_, 57, 269 - 275.

Higham, M., (1979), _Coping with Interviews_, London: New Opportunity Press.

Hillabrant, W., (1974), The influence of locomotion and gaze direction on perceptions of interacting persons, _Paper Presented at the Meeting of the American Psychological Association_, New Orleans, April 1974.

H.M.S.O., (1985), _White Paper on the Development of Higher Education into the 1990's_, London: Her Majesty's Stationery Office.

H.M.S.O., (1987), _Green Paper on the Development of Higher Education into the 1990's_, London: Her Majesty's Stationery Office.

Hollandsworth, J.G., Kazelskis, R., Stevens, J., and Dressel, M.E., (1979), Relative contributions of verbal, articulate, and nonverbal communication to employment decisions in the job interview setting, _Personnel Psychology_, 32, 359 - 367.

Hollandsworth, J.G., and Sandifer, B.A., (1979), Behavioral training for increasing effective job-interview skills: Follow-up and evaluation, _Journal of Counselling Psychology_, 26, 448 - 450.

Hollingworth, H.L., (1922), <u>Judging Human Character</u>, New York: Appleton.

Hollman, T.D., (1972), Employment interviewers' errors in processing positive and negative information, <u>Journal of Applied Psychology</u>, 56, 130 - 134.

Holstein, C.M., Goldstein, J.M., and Bem, D.J., (1971), The importance of expressive behaviors, involvement, sex, and need-approval in induced liking, <u>Journal of Experimental Social Psychology</u>, 7, 534 - 544.

Holt, R.R., (1958), Clinical and statistical prediction: A re-formulation and some new data, <u>Journal of Abnormal and Social Psychology</u>, 56, 1 - 12.

Honey, J., (1984), Accents at work, <u>Personnel Management</u>, January, 18 - 21.

Hovland, C.I., and Wonderlic, E.F., (1939), Prediction of success from a standardized interview, <u>Journal of Applied Psychology</u>, 23, 537 - 546.

Howard, G.S., and Dailey, P.R., (1979), Response-shift bias: A source of contamination of self report measures, <u>Journal of Applied Psychology</u>, 64, 144 - 150.

Howard, G.S., Dailey, P.R., and Gulanick, N.A., (1979), The feasibility of informed pre-tests in attenuating response-shift bias, <u>Applied Psychological Measurement</u>, 3, 481 - 494.

Huegli, J.M., and Tschirgi, H., (1975), An investigation of the relationship of time to recruitment interview decision making, <u>Proceedings of Academy of Management</u>, 234 - 236.

Hui, C.H., and Yam, Y., (1987), Effects of language proficiency and physical attractiveness on person perception, <u>British Journal of Social Psychology</u>, 26, 257 - 261.

Hunt, D.E., (1951), <u>Studies in Role Concept Repertory: Conceptual Consistency</u>, Unpublished Masters Thesis, Ohio State University.

Hunter, J.E., and Hunter, R.F., (1984), Validity and utility of alternative predictors of job performance, <u>Psychological Bulletin</u>, 96, 72 - 98.

Huse, E., (1962), Assessments of higher level personnel: IV. The validity of assessment techniques based on systematically varied information, <u>Personnel Psychology</u>, 15, 195 - 205.

Imada, A.S., and Hakel, M.D., (1977), Influence of nonverbal communication and rater decisions in simulated employment interviews, <u>Journal of Applied Psychology</u>, 62, 295 - 300.

Jackson, D.N., Peacock, A.C., and Holden, R.R., (1982), Professional interviewers' trait inferential structures for diverse occupational groups, Organizational Behavior and Human Performance, 29, 1 - 20.

Jackson, D.N., Peacock, A.C., and Smith, J.P., (1980), Impressions of personality in the employment interview, Journal of Personality and Social Psychology, 39, 294 - 307.

Janisse, M.P., (1977), Pupillometry: The Psychology of the Pupil Response, New York: Wiley.

Janz, T., (1977), The behaviour based patterned interview: An effective alternative to the warm smile selection interview, Proceedings of the Annual Conference of the Administrative Sciences Association of Canada.

Janz, T., (1982), Initial comparisons of patterned behaviour description interviews versus unstructured interviews, Journal of Applied Psychology, 67, 577 - 580.

Johns, G., (1975), Effects of informational order and frequency of applicant evaluation upon linear information-processing competence of interviewers, Journal of Applied Psychology, 60, 427 - 433.

Johnson, R. and Heal, L.W., (1976), Private employment agency responses to the physically handicapped applicant in a wheelchair, Journal of Applied Rehabilitation Counselling, 7, 12 - 21.

Jones, E.E., (1964), Ingratiation: A Social Psychological Analysis, New York: Appleton-Century-Crofts.

Jones, E.E., and Davis, K.E., (1965), From Acts to Dispositions: The Attribution Process in Person Perception, in, L. Berkowitz, (ed.), Advances in Experimental Social Psychology, Volume 2, New York: Academic Press.

Jones, E.E., and Harris, V.A., (1967), The attribution of attitudes, Journal of Experimental Social Psychology, 3, 1 - 24.

Kahn, R.L., and Cannell, C.F., (1957), The Dynamics of Interviewing: Theory, Technique, and Cases, New York: Wiley.

Kahneman, D., and Tversky, A., (1973), On the psychology of prediction, Psychological Review, 80, 251 - 273.

Kalin, R., and Rayko, D.S., (1978), Discrimination in evaluation against foreign accented job candidates, Psychological Reports, 43, 1203 - 1209.

Kaplan, M.F., (1967), Interview interaction of repressors and sensitizers, Journal of Consulting Psychology, 21, 513 - 516.

Keenan, A., (1976a), Effects of the non-verbal behaviour of interviewers on candidates' performance, Journal Occupational Psychology, 49, 171 - 176.

Keenan, A., (1976b), Interviewers' evaluations of applicant characteristics: Differences between personnel and non-personnel managers, Journal of Occupational Psychology, 49, 223 - 230.

Keenan, A., (1977), Some relationships between interviewers' personal feelings about candidates and their general evaluation of them, Journal of Occupational Psychology, 50, 275 - 283.

Keenan, A., (1978a), Selection interview outcomes in relation to interviewer training and experience, Journal of Social Psychology, 106, 249 - 260.

Keenan, A., (1978b), The selection interview: Candidates' reactions and interviewers' judgments, British Journal of Social and Clinical Psychology, 17, 201 - 209.

Keenan, A., (1978c), Interviewing for graduate recruitment, Personnel Management, 10, (2), 31 - 35.

Keenan, A., (1982), Candidate personality and performance in selection interviews, Personnel Review, 11, (1), 20 - 22.

Keenan, A., and Wedderburn, A.A.I., (1975), Effects of the non-verbal behaviour of interviewers on candidates' impressions, Journal of Occupational Psychology, 48, 129 - 132.

Keenan, A., and Wedderburn, A.A.I., (1980), Putting the boot on the other foot: Candidates' descriptions of interviewers, Journal of Occupational Psychology, 53, 81 - 89.

Keith, R.D., Engelkes, J.R., and Winborn, B.B., (1977), Employment seeking preparation and activity: An experimental job-placement training model for rehabilitation clients, Rehabilitation Counselling Bulletin, 21, 259 - 265.

Kelley, H.H., (1972), Attribution in Social Interaction, in, E.E. Jones, D.E. Kanouse, H.H. Kelley, R.E. Nisbett, S. Valins, and B. Weiner, (eds), Attribution: Perceiving the Causes of Behavior, Morristown, NJ: General Learning Press.

Kelly, E.L., and Fiske, D.W., (1950), The prediction of success in the V.A. training program in clinical psychology, American Psychologist, 5, 395 - 406.

Kelly, E.L., and Fiske, D.W., (1951), The Prediction of Performance in Clinical Psychology, Ann Arbor: University of Michigan Press.

Kelly, G.A., (1955), <u>The Psychology of Personal Constructs</u>, Volumes I and II, New York: Norton.

Kelly, G.A., (1963), <u>A Theory of Personality: The Psychology of Personal Constructs</u>, New York: Norton.

Kenagy, H.G., and Yoakum, C.S., (1925), <u>The Selection and Training of Salesmen</u>, New York: McGraw Hill.

Kendon, A., (1967), Some functions of gaze direction in social interaction, <u>Acta Psychologica</u>, 28, 1 – 47.

Kendon, A., (1970), Movement coordination in social interaction: some examples described, <u>Acta Psychologica</u>, 32, 100 – 125.

Kendon, A., and Cook, M., (1969), The consistency of gaze patterns in social interaction, <u>British Journal of Psychology</u>, 69, 481 – 494.

Kerlinger, F.N., (1973) <u>Foundations of Behavioural Research</u>, London: Holt, Rinehart, and Winston.

Kim, J.O., and Mueller, C.W., (1978a), <u>Introduction to Factor Analysis: What it is and How to do it</u>, Beverley Hills: Sage.

Kim, J.O., and Mueller, C.W., (1978b), <u>Factor Analysis: Statistical Methods and Practical Methods</u>, Beverley Hills: Sage.

Kingston, N., (1971), <u>Selecting Managers: A Survey of Current Practice in 200 Companies</u>, London: British Institute of Management.

Kleck, R.E., and Nuessle, W., (1968), Congruence between the indicative and communicative functions of eye contact in interpersonal relations, <u>British Journal of Social and Clinical Psychology</u>, 7, 241 – 246.

Kleck, R.E., and Rubenstein, C., (1975), Physical attractiveness, perceived attitude similarity, and interpersonal attraction in an opposite-sex encounter, <u>Journal of Personality and Social Psychology</u>, 31, 107 – 114.

Kleinke, C.L., (1986), Gaze and eye contact: A research review, <u>Psychological Bulletin</u>, 100, 78 – 100.

Kleinke, C.L., Bustos, A.A., Meeker, F.B., and Staneski, R.A., (1973), Effects of self-attributed and other-attributed gaze on interpersonal evaluations between males and females, <u>Journal of Experimental Social Psychology</u>, 9, 154 – 163.

Kleinke, C.L., Meeker, F.B., and LaFong, C., (1974), Effects of gaze, touch, and use of name on evaluation of "engaged" couples, <u>Journal of Research in Personality</u>, 7, 368 – 373.

Kleinke, C.L., Staneski, R.A., and Berger, D.E., (1975),
Evaluation of an interviewer as a function of interviewer
gaze, reinforcement of subject gaze, and interviewer
attractiveness, Journal of Personality and Social Psychology,
6, 7 - 12.

Kline, P., (1987), Factor analysis and personality theory,
European Journal of Personality, 1, 21 - 36.

Knapp, M.L., (1972), The Field of Nonverbal Communication: An
Overview, in, C.J. Steward, and B. Kendall, (eds.), On Speech
Communication: An Anthology of Contemporary Writings and
Messages, New York: Holt, Rinehart, and Winston.

Knapp, M.L., (1978), Nonverbal Communication in Human
Interaction, New York: Holt, Rinehart, and Winston.

Knapp, M.L., Hart, R.P., and Dennis, H.S., (1974), An exploration
of deception as a communication construct, Human Communications
Research, 1, 15 - 29.

Knapp, M.L., Hart, R.P., Fredrich, G.W., and Schulman, G.M.,
(1973), The rhetoric of good-bye: Verbal and nonverbal
correlates of human leave taking, Speech Monographs, 40,
182 - 198.

Kopelman, M.D., (1975), The contrast effect in the selection
interview, British Journal of Educational Psychology, 45,
333 - 336.

Krauss, R.M., (1981), Impression Formation, Impression Management,
and Nonverbal Behaviors, in, E.T. Higgins, et al., (eds),
Social Cognition: The Ontario Symposium, Hillsdale, NJ:
Lawrence Erlbaum.

Kraut, A.I., (1975), Prediction of managerial success by peer and
training staff ratings, Journal of Applied Psychology, 60,
14 - 19.

Kraut, R.E., and Poe, D., (1980), Behavioral roots of person
perception: The deception judgments of customs inspectors and
laymen, Journal of Personality and Social Psychology, 39,
784 - 798.

Krefting, L.A., and Brief, A.P., (1977), The impact of applicant
disability on evaluative judgements in the selection process,
Academy of Management Journal, 19, 675 - 680.

Kuhn, T.S., (1962), The Structure of Scientific Revolutions,
Chicago: University of Chicago Press.

LaCrosse, M.B., (1975), Nonverbal behavior and perceived
counselor attractiveness and persuasiveness, Journal of
Counseling Psychology, 22, 563 - 566.

LaFrance, M., and Mayo, C., (1976), Racial differences in gaze behavior during conversations: Two systematic observational studies, _Journal of Personality and Social Psychology_, 33, 547 - 552.

Lampel, A.K., and Anderson, N.H., (1968), Combining visual and verbal information in an impression-formation task, _Journal of Personality and Social Psychology_, 9, 1 - 6.

Landy, F.J., and Bates, F., (1973), Another look at contrast effects in the employment interview, _Journal of Applied Psychology_, 58, 141 - 144.

Langdale, J.A., and Weitz, J., (1973), Estimating the influence of job information on interviewer agreement, _Journal of Applied Psychology_, 57, 23 - 27.

Latham, G.P., and Saari, L.M., (1984), Do people do what they say? Further studies on the situational interview, _Journal of Applied Psychology_, 69, 569 - 573.

Latham, G.P., Saari, L.M., Pursell, E.D., and Campion, M.A., (1980), The situational interview, _Journal of Applied Psychology_, 65, 422 - 427.

Latham, G.P., Wexley, K.M., and Purcell, E.D., (1975), Training managers to minimize rating errors in the observation of behavior, _Journal of Applied Psychology_, 60, 550 - 555.

Lau, S., (1982), The effect of smiling on person perception, _Journal of Social Psychology_, 117, 63 - 67.

Lay, C.H., and Jackson, D.N., (1969), Analysis of the generality of trait-inferential relationships, _Journal of Personality and Social Psychology_, 12, 12 - 21.

LeCompte, W.F., and Rosenfeld, H.M., (1971), Effects of minimal eye contact in the instruction period on impressions of the experimenter, _Journal of Experimental Social Psychology_, 7, 211 - 220.

Lefebvre, L.M., (1972), Reciprocity and altruism as social exchange rules in a performer-judge relation, _Psychologica Belgica_, 12, 207 - 220.

Lefebvre, L.M., (1973), _The encoding and decoding of main and subordinate ingratiation_, Unpublished PhD Dissertation, University of Leuven, Belgium.

Lefebvre, L.M., (1975), Encoding and decoding of ingratiation in modes of smiling and gaze, _British Journal of Social and Clinical Psychology_, 14, 33 - 42.

Lemke, E., and Wiersma, W., (1976), _Principles of Psychological Measurement_, Chicago: Rand-McNally.

Leonard, R.L., (1976), Cognitive complexity and the similarity-attraction paradigm, *Journal of Research in Personality*, 10, 83 - 88.

Lewis, C., (1985), *Employee Selection*, London: Hutchinson.

Libby, W.L., and Yaklevich, D., (1973), Personality determinants of eye contact and direction of gaze aversion, *Journal of Personality and Social Psychology*, 27, 197 - 206.

Liden, R.C., and Parsons, C.K., (1986), A field study of job applicant interview perceptions, alternative opportunities, and demographic characteristics, *Personnel Psychology*, 39, 109 - 122.

Lim, B., (1972), Interpretations from pictures: The effects on judgments of intimacy of varying social context and eye contact, *Journalism Abstracts*, 10, 152 - 153.

Loevinger, J., (1959), Theory and techniques of assessment, *Annual Review of Psychology*, 10, 287 - 316.

London, M., and Hakel, M.D., (1974), Effects of applicant stereotypes, order, and information on interview impressions, *Journal of Applied Psychology*, 59, 157 - 162.

Lopez, F.M., (1975), *Personnel Interviewing*, Maidenhead: McGraw Hill.

Luchins, A.S., (1957), *Primacy-recency in Impression Formation*, in, C. Hovland, (ed.), *The Order of Presentation in Persuasion*, New Haven, Conn.: Yale University Press.

McDonald, T., and Hakel, M.D., (1985), Effects of applicant race, sex, suitability, and answers on interviewers' questioning strategy and ratings, *Personnel Psychology*, 38, 321 - 334.

McGovern, T.V., (1976), *The making of a job interviewee: The effect of nonverbal behavior on an interviewer's evaluation during a selection interview*, Unpublished PhD Dissertation, Southern Illinois University.

McGovern, T.V., and Tinsley, H.E.A., (1978), Interviewer evaluations of interviewee nonverbal behaviour, *Journal of Vocational Behaviour*, 13, 163 - 171.

McMurray, R.N., (1947), Validating the patterned interview, *Personnel*, 23, (4), 263 - 272.

Maas, J.B., (1965), The patterned scaled-expectation interview: Reliability studies on a new technique, *American Psychologist*, 18, 438.

Mabe, P.A., and West, S.G., (1982), Validity of self-evaluation of ability: A review and meta-analysis, *Journal of Applied Psychology*, 67, 280 - 296.

Mabey, C., (1986), _Graduates into Industry_, Aldershot: Gower.

Maccoby, E.E., and Jacklin, C.N., (1975), _The Psychology of Sex Differences_, Stanford, CA: Stanford University Press.

Mackenzie Davey, D., and McDonnell, P., (1975), _How To Interview_, London: British Institute of Management.

Magson, E.H., (1926), How we judge intelligence, _British Journal of Psychology_, Monograph Supplement No. 9.

Maier, N.R.F., (1966), Sensitivity to attempts at deception in an interview situation, _Personnel Psychology_, 19, 55 – 65.

Maier, N.R.F., and Thurber, J.A., (1968), Accuracy of judgments of deception when an interview is watched, heard, and read, _Personnel Psychology_, 21, 23 – 30.

Mayfield, E.C., (1964), The selection interview: A re-evaluation of published research, _Personnel Psychology_, 17, 239 – 260.

Mayfield, E.C., Brown, S.H., and Hamstra, B.W., (1980), Selection interviewing in the life insurance industry: An update of research and practice, _Personnel Psychology_, 33, 725 – 739.

Mayfield, E.C., and Carlson, R.E., (1966), Selection interview decisions: First results from a long-term research project, _Personnel Psychology_, 19, 41 – 55.

Meehl, P.E., (1954), _Clinical Versus Statistical Prediction: A Theoretical Analysis and a Review of the Evidence_, Minnesota: University of Minnesota Press.

Mehrabian, A., (1968), Inference of attitudes from the posture, orientation, and distance of a communicator, _Journal of Consulting and Clinical Psychology_, 32, 296 – 308.

Mehrabian, A., (1969), Significance of posture and position in the communication of attitude and status relationships, _Psychological Bulletin_, 71, 359 – 372.

Mehrabian, A., (1971), Verbal and nonverbal interaction of strangers in a waiting situation, _Journal of Experimental Research in Personality_, 5, 127 – 138.

Mehrabian, A., (1972), _Nonverbal Communication_, Chicago: Aldine-Atherton.

Mehrabian, A., and Friar, J.T., (1969), Encoding of attitude by a seated communicator via posture and position cues, _Journal of Consulting and Clinical Psychology_, 33, 330 – 336.

Mehrabian, A., and Ksionzky, S., (1972), Categories of social behavior, _Comparative Group Studies_, 3, 425 – 436.

Miller, J.W., and Rowe, P.M., (1967), Influence of favorable and unfavorable information upon assessment decisions, Journal of Applied Psychology, 51, 432 - 435.

Miller, S., (1984) Experimental Design and Statistics, London: Methuen.

Mintzberg, H., (1973), The Nature of Managerial Work, New York: Harper and Row.

Mischel, W., (1968), Personality and Assessment, Chichester: Wiley.

Mischel, W., (1973), Toward a cognitive social learning reconceptualisation of personality, Psychological Review, 80, 252 - 283.

Monahan, C.J., and Muchinsky, P.M., (1983), Three decades of personnel selection research: A state-of-the-art analysis and evaluation, Journal of Occupational Psychology, 56, 215 - 225.

Morgan, G., (ed.), (1983), Beyond Method: Strategies for Social Research, Beverly Hills, CA: Sage.

Moriwaki, E., (1929), Note on the comparative validities of judgements of intelligence based on photographs and on interviews, Journal of Applied Psychology, 13, 630 - 631.

Moss, F.A., (1931), Scholastic aptitude tests for medical students, Journal of the Association of American Medical Colleges, 6, 1 - 16.

Mowbray, G.H., (1952), Simultaneous vision and audition: The detection of elements missing from overlearned sequences, Journal of Experimental Psychology, 44, 292 - 300.

Mowbray, G.H., (1953), Simultaneous vision and audition: The comprehension of prose passages with varying levels of difficulty, Journal of Experimental Psychology, 46, 365 - 372.

Muchinsky, P.M., (1986), Personnel Selection Methods, in, Cooper, C.L., and Robertson, I.T., (eds.), International Review of Organizational Psychology, Chichester: Wiley.

Muchinsky, P.M., and Harris, S.L., (1977), The effect of applicant sex and scholastic standing on the evaluation of job applicant resumes in sex-typed occupations, Journal of Vocational Behavior, 11, 95 - 108.

Mullins, T.W., (1978), Racial attitudes and the selection interview: A factorial experiment, Unpublished PhD Dissertation, University of Houston.

Myers, J.L., (1962), Fundamentals of Experimental Design, Boston: Allyn and Bacon.

Nagatta, D.K., Nay, W.R., and Seidman, E., (1983), Nonverbal and verbal content behaviors in the prediction of interviewer effectiveness, Journal of Counseling Psychology, 30, (1), 83 - 86.

Nagy, G., (1981), How are personnel selection decisions made? an analysis of decision strategies in a simulated personnel selection task, Unpublished PhD Dissertation, Kansas State University.

Naiman, T.H., and Breed, G., (1974), Gaze duration as a cue for judging conversational tone, Representative Research in Social Psychology, 5, 115 - 122.

Newman, S.H., Bobbit, J.M., and Cameron, D.C., (1946), The reliability of the interviewing method in an officer candidate evaluation program, American Psychologist, 1, 103 - 109.

Nie, N.H., Hull, C.H., Jenkins, J.G., Steinbrenner, K., and Bent, D.H., (1975), SPSS: Statistical Package for the Social Sciences, New York: McGraw-Hill.

Nielson, G., (1962), Studies in Self Confrontation, Copenhagen: Monksgaard.

Nunnally, J.C., (1978), Psychometric Theory, New York: McGraw-Hill.

Okanes, M.M., and Tschirgi, H., (1978), Impact of the face-to-face interview on prior judgements of a candidate, Perceptual and Motor Skills, 46, 322.

Oldfield, R.C., (1943), The Psychology of the Interview, London: Methuen.

Orne, M.T., (1962), On the social psychology of the psychological experiment: With particular reference to demand characteristics and their implications, American Psychologist, 17, 776 - 783.

Orpen, C., (1985), Patterned behavior description interviews versus unstructured interviews: A comparative validity study, Journal of Applied Psychology, 70, 774 - 776.

Osburn, H.G., Timmrick, C., and Bigby, D., (1981), Effect of dimensional relevance and accuracy of simulated hiring decisions by employment interviewers, Journal of Applied Psychology, 66, 159 - 165.

Osgood, C.E., Suci, G.J., and Tannenbaum, P.H., (1957), The Measurement of Meaning, Urbana: University of Illinois Press.

Parsons, C.K., and Liden, R.C., (1984), Interviewer perceptions of applicant qualifications: A multivariate field study of demographic characteristics and nonverbal cues, Journal of Applied Psychology, 69, 557 - 568.

Parsons, D., (1985), Graduate recruitment and retention, 1980 – 1984, I.M.S. Report No. 107, Brighton: Institute of Manpower Studies, University of Sussex.

Pashalian, S., and Crissy, W.M.J.E., (1953), The Interview: IV. The Reliability and Validity of the Assessment Interview as a Screening and Selection Technique in the Submarine Service, United States Navy Submarine Medical Research Laboratory Report, 12, 1, No. 216.

Patterson, M.L., (1973), Stability of nonverbal immediacy behaviors, Journal of Experimental Social Psychology, 9, 97 – 109.

Peacock, A.C., and Jackson, D.N., (1981), Dynamics of inferential accuracy in the employment interview, Unpublished Manuscript, Halifax, N.S.: Dalhousie University.

Pearson, R., (1986), Graduate supply and availability to 1987 and beyond, Brighton: Institute of Manpower Studies, University of Sussex.

Pennington, D.C., (1987), Confirmatory hypothesis testing in face-to-face interaction: An empirical refutation, British Journal of Social Psychology, 26, 225 – 235.

Peters, L.H., and Terborg, J.R., (1975), The effects of temporal placement of unfavorable information and of attitude similarity on personnel selection decisions, Organizational Behavior and Human Performance, 13, 279 – 293.

Plag, J.A., (1961), Some considerations of the value of the psychiatric screening interview, Journal of Clinical Psychology, 17, 3 – 8.

Prien, E.P., (1962), Assessment of higher level personnel: V. An analysis of interviewers' predictions of job performance, Personnel Psychology, 15, 319 – 334.

Putney, R.W., (1947), Validity of the placement interview, Personnel Journal, 26, 144 – 145.

Raines, G.N., and Rohrer, J.H., (1955), The operational matrix of psychiatric practice: I. Consistency and variability in interview impressions of different psychiatrists, American Journal of Psychiatry, 3, 721 – 733.

Rand, T.M., and Wexley, K.N., (1975), Demonstration of the effect, 'similar to me', in simulated employment interviews, Psychological Reports, 36, 535 – 544.

Rasmussen, K.G., (1984), Nonverbal behavior, verbal behavior, resume credentials, and selection interview outcomes, Journal of Applied Psychology, 69, 551 – 556.

Raza, S.M., and Carpenter, B.N., (1987), A model of hiring decisions in real employment interviews, <u>Journal of Applied Psychology</u>, 72, 596 - 603.

Recruitment Report, (1987), Graduate turnover is major headache for recruiters, <u>Personnel Management</u>, December.

Reilly, R.R., and Chao, G.T., (1982), Validity and fairness of some alternative employee selection procedures, <u>Personnel Psychology</u>, 35, 1 - 62.

Renwick, P.A., and Tosi, T., (1978), The effects of sex, marital status, and educational background on selection decisions, <u>Academy of Management Journal</u>, 21, 93 - 103.

Reynolds, A.H., (1979), The reliability of a scored oral interview for police officers, <u>Public Personnel Management</u>, 8, 324 - 328.

Riggio, R.E., and Friedman, H.S., (1986), Impression formation: The role of expressive behavior, <u>Journal of Personality and Social Psychology</u>, 50, 421 - 427.

Roberts, L., Bufton, I., and Haxby, P., (1987), <u>Applications and Interviews</u>, Careers Information Booklet, Manchester: Central Services Unit, Association of Graduate Careers Advisory Services.

Robertson, I.T., Gratton, L., and Sharpley, D., (1987), The psychometric properties and design of managerial assessment centres: Dimensions into exercises won't go, <u>Journal of Occupational Psychology</u>, 60, 187 - 195.

Robertson, I.T., and Makin, P.J., (1986), Management selection in Britain: A survey and critique, <u>Journal of Occupational Psychology</u>, 59, 45 - 57.

Robertson, I.T., and Smith, M., (1987), Personnel Selection Methods, <u>Paper presented at the International Conference on Advances in Selection and Assessment</u>, Buxton, England, May 1987.

Rodger, A., (1952), The Seven-Point Plan, Paper No. 1, London: <u>National Institute for Industrial Psychology</u>.

Rose, G.L., (1980), Employment decisions regarding the handicapped: Experimental evidence, <u>Presentation at the American Psychological Association</u>, Montreal, September.

Rosen, B., and Jerdee, T.H., (1974a), Effects of applicant sex and difficulty of job on evaluations of candidates for management positions, <u>Journal of Applied Psychology</u>, 59, 511 - 512.

Rosen, B., and Jerdee, T.H., (1974b), Influence of sex role stereotypes on personnel decisions, <u>Journal of Applied Psychology</u>, 59, 9 - 14.

Rosen, B., and Jerdee, T.H., (1976), The influence of age stereotypes on managerial decisions, _Journal of Applied Psychology_, 61, 428 - 432.

Rosen, B., and Merich, M.F., (1979), Influence of strong versus weak fair employment policies and applicants' sex on selection decisions and salary recommendations in management simulation interviews, _Journal of Applied Psychology_, 64, 435 - 439.

Rosenberg, S., and Sedlak, A., (1972), _Structural Representations of Implicit Personality Theory_, in, L. Berkowitz, (ed.), _Advances in Experimental Social Psychology_, Vol. 6, New York: Academic Press.

Rosenfeld, H.M., (1966), Approval-seeking and approval-avoiding functions of verbal and nonverbal responses in the dyad, _Journal of Personality and Social Psychology_, 4, 597 - 605.

Rosenthal, R., (1976), _Experimenter Effects in Behavioral Research_, New York: Irvington.

Rosenthal, R., (1982), _Conducting Judgement Studies_, in, Scherer, K.R., and Ekman, P., (eds.), _Handbook of Methods in Nonverbal Behavior Research_, Cambridge: Cambridge University Press.

Rosenthal, R., Hall, J.A., DiMatteo, M.R., Rogers, P.L., and Archer, D., (1979), _Sensitivity to Nonverbal Communication: The PONS Test_, Baltimore: John Hopkins University Press.

Ross, J., (1977), The intuitive psychologist and his shortcomings: Distortions in the attribution process, in, L. Berkowitz, (ed.), _Advances in Experimental Social Psychology_, Vol. 10, New York: Academic Press.

Rothstein, M., and Jackson, D.N., (1980), Decision-making in the employment interview: An empirical approach, _Journal of Applied Psychology_, 65, 271 - 283.

Rothstein, M., and Jackson, D.N., (1984), _Implicit Personality Theory and the Employment Interview_, in, Cook, M., (ed.), _Issues in Person Perception_, London: Methuen.

Rotter, J.B., (1966), Generalized expectancies for internal versus external control of reinforcement, _Psychological Monographs_, 80, 1 - 27.

Rowe, P.M., (1963), Individual differences in selection decisions, _Journal of Applied Psychology_, 47, 304 - 307.

Rowe, P.M., (1967), Order effects in assessment decisions, _Journal of Applied Psychology_, 51, 13 - 22.

Rozelle, R.M., and Baxter, J.C., (1981), Influence of role pressures on the perceiver: Judgements of videotaped interviews varying judge accountability and responsibility, _Journal of Applied Psychology_, 66, 437 - 441.

Rozelle, R.M., Druckman, D., and Baxter, J.C., (1986), Nonverbal Communication, in Hargie, O., (ed.), A Handbook of Communication Skills, London: Croom Helm.

Rundquist, E.A., (1947), Development of an Interview for Selection Purposes, in, G.A. Kelly, (ed.), New Methods in Applied Psychology, College Park, MD: University of Maryland.

Runkel, P.J., and Damrin, D.E., (1961), Effects of training and anxiety upon teachers' preference information about students, Journal of Educational Psychology, 52, 254 - 261.

Rutter, D.R., and Stephenson, G.M., (1979), The functions of looking: Effects of friendship on gaze, British Journal of Social and Clinical Psychology, 18, 203 - 205.

Rynes, S.L., and Miller, H.E., (1983), Recruiter and job influences on candidates for employment, Journal of Applied Psychology, 68, 147 - 154.

Sackett, P.R., (1982), The interviewer as hypothesis tester: The effects of impressions of an applicant on interviewer questioning strategy, Personnel Psychology, 35, 789 - 804.

Sackett, P.R., and Dreher, G.F., (1982), Constructs and assessment center dimensions: Some troubling empirical findings, Journal of Applied Psychology, 67, 401 - 410.

Sainsbury, P., and Woods, E., (1977), Measuring gesture: Its cultural and clinical correlates, Psychological Medicine, 7, 63 - 72.

van de Sande, J.P., (1980), Cue utilisation in the perception of dominance, British Journal of Social and Clinical Psychology, 19, 311 - 316.

Sarbin, T.R., (1942), A contribution to the study of actuarial and individual methods of prediction, American Journal of Sociology, 48, 593 - 603.

Sattler, J.M., (1970), Racial 'experimenter effects' in experimentation, testing, interviewing, and psychotherapy, Psychological Bulletin, 73, 137 - 160.

Saville and Holdsworth Limited, (1984), The Occupational Personality Questionnaire, Esher, Surrey.

Scarr, S., (1966), The adjective check list as a personality assessment technique with children: Validity of the scales, Journal of Consulting Psychology, 30, 122 - 128.

Schein, E.H., (1970), Organizational Psychology, Englewood Cliffs, NJ: Prentice-Hall.

Schein, E.H., (1978), Career Dynamics: Matching Individual and Organizational Needs, Reading, Mass: Addison-Wesley.

Scherer, K.R., and Ekman, P., (1982), Handbook of Methods in Nonverbal Behavior Research, Cambridge: Cambridge University Press.

Scherer, S.E., and Schiff, M.R., (1973), Perceived intimacy, physical distance, and eye contact, Perceptual and Motor Skills, 36, 835 - 841.

Scheflen, A.E., (1965), Stream and Structure of Communicational Behavior: Context Analysis of a Psychotherapy Session, Behavioral Studies Monograph No. 1, Philadelphia: Western Pennsylvania Psychiatric Institute.

Schlenker, B.R., (1980), Impression Management, Monterey, CA: Brooks/Cole.

Schmidt, F.L., Hunter, J.E., McKenzie, R.C., and Muldrow, T.W., (1979), Impact of valid selection procedures on work-force productivity, Journal of Applied Psychology, 64, 609 - 626.

Schmitt, N., (1976), Social and situational determinants of interview decisions: Implications for the employment interview, Personnel Psychology, 29, 79 - 101.

Schmitt, N., and Coyle, B.W., (1976), Applicant decisions in the employment interview, Journal of Applied Psychology, 61, 184 - 192.

Schmitt, N., Gooding, R.Z., Nie, R.A., and Kirsch, M., (1984), Meta-analyses of validity studies published between 1964 and 1982 and the investigation of study characteristics, Personnel Psychology, 37, 407 - 422.

Schneider, D.J., Hastorf, A.H., and Ellsworth, P.C., (1979), Person Perception, Reading, Mass.: Addison-Wesley.

Schuh, A.J., (1978), Contrast effect in the interview, Bulletin of the Psychosomatic Society, 11, 195 - 196.

Schwab, D.P., and Henneman, H.G., (1969), Relationship between interview structure and inter-interviewer reliability in an employment situation, Journal of Applied Psychology, 53, 214 - 217.

Scott, W.D., (1915), Scientific selection of salesmen, Advertising and Selling Magazine, October.

Scott, W.D., (1916), Selection of employees by means of quantitative determinations, Annals of American Academy of Political and Social Sciences, 65.

Scott, W.D., Bingham, W.V., and Whipple, G.M., (1916), Scientific selection of salesmen, Salesmanship, 4, 106 - 108.

Secord, P.F., Dukes, W.F., and Bevan, W., (1954), Personalities in faces: I. An experiment in social perceiving, <u>Genetic Psychology Monographs</u>, 49, 231 - 279.

Seiss, T.F., and Jackson, D.N., (1970), Vocational interests and personality: An empirical investigation, <u>Journal of Counseling Psychology</u>, 17, 27 - 35.

Shackleton, V.J., and Anderson, N.R., (1987), <u>Personnel Recruitment and Selection</u>, in Bass, B.M., Drenth, P., and Weissenberg, P., <u>Advances in Organisational Psychology: An International Review</u>, Beverly Hills, California: Sage.

Shanteau, J.C., and Anderson, N.H., (1969), Test of a conflict model for preference judgment, <u>Journal of Mathematical Psychology</u>, 6, 312 - 325.

Shanteau, J.C., and Nagy, G.F., (1984), <u>Information Integration in Person Perception: Theory and Application</u>, in, M. Cook, (ed.), <u>Issues in Person Perception</u>, London: Methuen.

Shapiro, J.G., (1966), Agreement between channels of communication in interviews, <u>Journal of Consulting Psychology</u>, 30, 535 - 538.

Shaw, E.A., (1972), Differential impact of negative stereotyping in employee selection, <u>Personnel Selection</u>, 25, 333 - 338.

Shaw, J., (1952), The function of the interview in determining fitness for teacher-training, <u>Journal of Educational Research</u>, 45, 667 - 681.

Shimoda, K., Argyle, M., and Ricci Bitti, P., (1978), The intercultural recognition of emotional expressions by three national groups - English, Italian, and Japanese, <u>European Journal of Social Psychology</u>, 8, 169 - 179.

Shotter, J., (1970), <u>Men, the Man-makers: George Kelly and the Psychology of Personal Constructs</u>, in, Bannister, D., (ed.), <u>Perspectives in Personal Construct Theory</u>, London: Academic Press.

Shotter, J., (1975), <u>Images of Man in Psychological Research</u>, London: Methuen.

Shrout, P.E., and Fiske, D.W., (1981), Nonverbal behaviors and social evaluation, <u>Journal of Personality</u>, 49, 115 - 128.

Sigelman, C.K., Elias, S.F., and Danker-Brown, P., (1980), Interview behaviors of mentally retarded adults as predictors of employability, <u>Journal of Applied Psychology</u>, 65, 67 - 73.

Silverman, D., and Jones, J., (1975), <u>Organizational Work: The Language of Grading: The Grading of Language</u>, London: Collier Macmillan.

Simas, K., and McCarrey, M., (1979), Impact of recruiter authoritarianism and applicant sex on evaluation and selection decisions in a recruitment interview analogue study, Journal of Applied Psychology, 64, 483 - 491.

Simpson, J., (1987), Win the Interview - Get that Job, in, Graduate Employment and Training (1988), Cambridge: Hobsons.

Smith, J.M., (1980), An analysis of three managerial jobs using repertory grids, Journal of Management Studies, 17 (2), 205 - 213.

Smith, J.M., (1986), A repertory grid analysis of supervisory jobs, International Review of Applied Psychology, 35, 501 - 512.

Smith, J.M., and Robertson, I.T., (1986), The Theory and Practice of Systematic Staff Selection, London: MacMillan.

Sneath, P.H.A., and Sokal, R.R., (1973), Numerical Taxonomy: The Principles and Practice of Numerical Classification, San Fransisco: Freeman.

Snedden, D., (1930), Measuring general intelligence by interview, Psychological Clinic, 19, 131 - 134.

Snow, A.J., (1924), An experiment in the validity of judging human ability, Journal of Applied Psychology, 8, 339 - 346.

Snyder, M., (1974), Self-monitoring of expressive behavior, Journal of Personality and Social Psychology, 30, 526 - 537.

Snyder, M., (1981), Seek and Ye Shall Find: Testing Hypotheses about other people, in, E.T. Higgins, C.P. Herman, and M.J. Zanna, (eds.), Social Cognition: The Ontario Symposium in Personality and Social Psychology, Hillsdale, NJ: Erlbaum Press.

Snyder, M., and Simpson, J.A., (1984), Self-monitoring and dating relationships, Journal of Personality and Social Psychology, 47, 1281 - 1291.

Snyder, M., and Swann, W., (1978), Hypothesis-testing processes in social interactions, Journal of Personality and Social Psychology, 36, 1202 - 1212.

Snyder, R.A., and Sutker, L.W., (1977), The measurement of the construct of dominance and its relationship to nonverbal behavior, Journal of Psychology, 97, 227 - 230.

Speas, C.M., (1979), Job-seeking interview skills training: A comparison of four instructional techniques, Journal of Counselling Psychology, 26, 405 - 412.

Spence, J.T., and Helmreich, R., (1978), Masculinity and
    Femininity: Their Psychological Dimensions, Correlates,
    and Antecedents, Austin: University of Texas Press.

Sperber, Z., and Alderstein, A.M., (1961), The accuracy of
    clinical psychologists' estimates of interviewees'
    intelligence, Journal of Consulting Psychology, 25, 521 - 524.

Sperlinger, D., (1976), Aspects of stability in the repertory
    grid, British Journal of Medical Psychology, 49, 341 - 347.

Springbett, B.M., (1954), Series effects in the employment
    interview, Unpublished PhD Dissertation, McGill University.

Springbett, B.M., (1958), Factors affecting the final decision in
    the employment interview, Canadian Journal of Psychology,
    12, 13 - 22.

Staneski, R.A., and Kleinke, C.L., (1978), Nondependence between
    verbal and nonverbal measures of attraction, Paper presented
    at the Meeting of the Western Psychological Association, San
    Fransisco, April.

Staninelli, P., (1987), Polytechnic milk round begins to go off,
    Times Higher Education Supplement, September 14, p.12.

Sternberg, J.J., (1950), An analytical study of a selection
    interview procedure, Unpublished Master's Thesis, Syracuse
    University.

Sterrett, J.H., (1976), A study of the relationship between
    nonverbal communication and perceptions of qualities associated
    with effectiveness in the insurance industry, Unpublished
    Doctoral Dissertation, Georgia State University.

Sterrett, J.H., (1978), The job interview: Body language and
    perceptions of potential effectiveness, Journal of Applied
    Psychology, 63, 388 - 390.

Stevens, W., and Tornatzky, L., (1976), The effects of a job-
    interview skills workshop on drug-abuse clients, Journal of
    Employment Counselling, 13, 156 - 163.

Stewart, V., and Stewart, A., (1981), Tomorrow's Managers Today,
    London: Institute of Personnel Management.

Stone, C.I., and Sawatzki, B., (1980), Hiring bias and the
    disabled interview: Effects of manipulating work history and
    disability information of the disabled job applicant, Journal
    of Vocational Behavior, 16, 96 - 104.

Strongman, K.T., and Champness, B.G., (1968), Dominance
    hierarchies and conflict in eye contact, Acta Psychologica,
    28, 376 - 386.

Strupp, H.H., and Williams, J.V., (1960), Some determinants of clinical evaluations of different psychiatrists, American Medical Association. Archives of General Psychiatry, 2, 434 - 440.

Sydiaha, D., (1959), On the equivalence of clinical and statistical methods, Journal of Applied Psychology, 43, 395 - 401.

Sydiaha, D., (1961), Bales' interaction process analysis of personnel selection interviews, Journal of Applied Psychology, 45, 393 - 401.

Taft, R., (1955), The ability to judge people, Psychological Bulletin, 52, 1 - 23.

Terborg, J.R., and Ilgen, D.R.A., (1975), A theoretical approach to sex discrimination in traditionally masculine organizations, Organizational Behavior and Human Performance, 13, 352 - 376.

Tessler, R., and Sushelsky, L., (1978), Effects of eye contact and social status on the perception of a job applicant in an employment interview situation, Journal of Vocational Behaviour, 13, 338 - 347.

Thayer, S., (1969), The effect of interpersonal looking duration on dominance judgments, Journal of Social Psychology, 79, 285 - 286.

Thayer, S., and Schiff, W., (1974), Observer judgment of social interaction: Eye contact and relationship inferences, Journal of Personality and Social Psychology, 30, 110 - 114.

Thayer, S., and Schiff, W., (1977), Gazing patterns and attribution of sexual involvement, Journal of Social Psychology, 101, 235 - 246.

Thomason, G., (1981), A Textbook of Personnel Management, London: Institute of Personnel Management.

Thurstone, L.L., (1947), Multiple Factor Analysis, Chicago: The University of Chicago Press.

Torrington, D.P., and Chapman, J.B., (1983), Personnel Management, London: Prentice-Hall.

Torrington, D.P., and Hall, L., (1987), Personnel Management: A New Approach, London: Prentice-Hall.

Trankell, A., (1959), The psychologist as an instrument of prediction, Journal of Applied Psychology, 43, 170 - 175.

Trope, Y., (1986), Identification and inferential processes in disposition attribution, Psychological Review, 93, 239 - 257.

Tschudi, F., (1985), _Flexigrid: An Integrated Software System for Eliciting and Analysing Grids_, Version 3.2., University of Oslo, October.

Tucker, D.H., and Rowe, P.M., (1977), Consulting the application form prior to the interview: An essential step in the selection process, _Journal of Applied Psychology_, 62, 283 - 287.

Tucker, D.H., and Rowe, P.M., (1979), Relationship between expectancy, causal attributions, and final hiring decision in the employment interview, _Journal of Applied Psychology_, 64, 27 - 34.

Tullar, W.L., Mullins, T.W., and Caldwell, S.A., (1979), Effects of interview length and applicant quality on interview decision time, _Journal of Applied Psychology_, 64, 669 - 674.

Tupes, E.C., (1950), An evaluation of personality-trait ratings obtained by unstructured assessment interviews, _Psychological Monographs_, 64, 317.

Uhrbrock, R.S., (1933), Analysis of employment interviews, _Personnel Journal_, 12, 98 - 101.

Uhrbrock, R.S., (1948), The personnel interview, _Personnel Psychology_, 1, 273 - 302.

Ulrich, L., and Trumbo, D., (1965), The selection interview since 1949, _Psychological Bulletin_, 63, 100 - 116.

Valenzi, E., and Andrews, I.R., (1973), Individual differences in the decision process of employment interviewers, _Journal of Applied Psychology_, 58, 49 - 53.

Vance, R.J., Kuhnert, K.W., and Farr, J.L., (1978), Interview judgements: Using external criteria to compare behavioral and graphic scale ratings, _Organizational Behavior and Human Performance_, 22, 279 - 294.

Viteles, M.S., (1932), _Industrial Psychology_, New York: Norton.

Wagner, R., (1949), The employment interview: A critical summary, _Personnel Psychology_, 2, 17 - 46.

Waldron, L.A., (1974), The validity of an employment interview independent of psychometric variables, _Australian Psychologist_, 9, 68 - 77.

Wanous, J.P., (1978), Realistic job previews: Can a procedure to reduce turnover also influence the relationship between abilities and performance?, _Personnel Psychology_, 31, 249 - 258.

Wanous, J.P., (1979), _Organizational Entry_, Reading, Mass: Addison-Wesley.

Wareing, R., and Stockdale, J., (1987), Decision making in the promotion interview: An empirical study, Personnel Review, 16, (4), 26 - 32.

Warr, P.B., and Haycock, V., (1970), Scales for a British personality differential, British Journal of Social and Clinical Psychology, 9, 328 - 337.

Warr, P.B., and Knapper, C., (1968), The Perception of People and Events. Chichester: Wiley.

Washburn, P.V., and Hakel, M.D., (1973), Visual cues and verbal content as influences on impressions formed after simulated employment interviews, Journal of Applied Psychology, 58, 137 - 141.

Webster, E.C., (1964), Decision-making in the Employment Interview, Montreal: Eagle.

Webster, E.C., (1982), The Employment Interview: A Social Judgement Process, Schomberg, Ontario: SIP Publications.

Webster, E.C., (1987), personal correspondence, 31 March, 1987.

Weekley, J.A., and Gier, J.A., (1987), Reliability and validity of the situational interview for a sales position, Journal of Applied Psychology, 72, 484 - 487.

Wentworth, P., (1953), How to improve employment interviews, Personnel Journal, 32, 46 - 49.

Wernimont, P.F., and Campbell, J.P., (1968), Signs, samples, and criteria, Journal of Applied Psychology, 52, 372 - 376.

Wexley, K.N., and Nemeroff, W.F., (1974), Effects of racial prejudice, race of applicant, and biographical similarity on interviewer evaluations of job applicants, Journal of Social and Behavioral Sciences, 20, 66 - 78.

Wexley, K.N., Sanders, R.E., and Yukl, G.A., (1973), Training interviewers to eliminate contrast effects in employment interviews, Journal of Applied Psychology, 57, 233 - 236.

Wexley, K.N., Yukl, G.A., Kovacs, S.Z., and Sanders, R.E., (1972), Importance of contrast effects in employment interviews, Journal of Applied Psychology, 56, 45 - 48.

Wiener, M., Devoe, S., Rubinow, S., and Geller, J., (1972), Nonverbal behavior and nonverbal communication, Psychological Review, 79, 185 - 214.

Wiener, M., and Mehrabian, A., (1968), Language Within Language: Immediacy. A Channel in Verbal Communication, New York: Appleton-Century-Crofts.

Wiener, Y., and Schneiderman, M.L., (1974), Use of job information as a criterion in employment decisions of interviewers, Journal of Applied Psychology, 59, 699 - 704..

Wilby, P., (1986), Graduates fail to make the grade, The Sunday Times, 27 April, p.34.

Wilkins, W.L., (1960), How good were the G.I.'s - and how poor?, Contemporary Psychology, 5, 243 - 246.

Williams, J.E., and Bennett, S.M., (1975), The definition of sex stereotypes via the Adjective Check List, Sex Roles, 1, 327 - 337.

Williams, K.B., and Williams, J.E., (1980), The assessment of transactional analysis ego states via the Adjective Check List, Journal of Personality Assessment, 4, 120 - 129.

Wish, M., (1979), Dimensions of Dyadic Communication, in, Weitz, S., (ed.), Nonverbal Communication: Readings with Commentary, New York: Oxford University Press.

Wood, S., (1986), Personnel management and recruitment, Personnel Review, 15, (2), 3 - 11.

Woolman, B.B., (1973), Dictionary of Behavioral Science, London: Macmillan.

Wright, G., and Fowler, C., (1986), Investigative Design and Statistics, Harmondsworth: Penguin.

Wright, O.R., (1969), Summary of research on the selection interview since 1964, Personnel Psychology, 22, 391 - 413.

Wright, O.R., Carter, J.L., and Fowler, E.P., (1967), A differential analysis of an oral interview program, Public Personnel Review, 28, 242 - 246.

Yamane, T., (1973), Statistics: An Introductory Analysis, New York: Harper.

Yonge, K.A., (1956), The value of the interview: An orientation and a pilot study, Journal of Applied Psychology, 40, 25 - 31.

Yorke, D.M., (1983a), The repertory grid: A critical appraisal, Unpublished PhD Dissertation, University of Nottingham.

Yorke, D.M., (1983b), Straight or bent? An inquirey into rating scales in repertory grids, British Educational Research Journal, 9, 141 - 151.

Yorke, D.M., (1985), Administration, Analysis, and Assumption: Some Aspects of Validity, in, Beail, N., (ed.), Repertory Grid Technique and Personal Constructs: Applications in Clinical and Educational Settings, London: Croom Helm.

Young, D.M., and Beier, E.G., (1977), The role of applicant
   nonverbal communication in the employment interview, <u>Journal of
   Employment Counseling</u>, 14, 154 - 165.

Young, D.M., Beier, E.G., and Beier, S., (1979), Beyond words:
   Influence of nonverbal behaviour of female job applicants in
   the employment interview, <u>Personnel and Guidance Journal</u>,
   March, 346 - 350.

Youngman, M.B., (1979), <u>Analysing Social and Educational Research
   Data</u>, London: McGraw-Hill.

Zaccaria, M.A., Dailey, J.T., Tupes, E.C., Stafford, A.R.,
   Lawrence, H.G., and Ailsworth, K.A., (1956), <u>Development of an
   Interview Procedure for USAF Officer Applicants</u>, United States
   Air Force Personnel and Training Research Center Development
   Report No. TN-56-43.