

THE UNIVERSITY OF HULL

**FACTORS IMPACTING ON THE DESIGN, DEVELOPMENT
AND USE OF AN EFFECTIVE PRE-EMPLOYMENT
INTEGRITY TEST**

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by

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ABSTRACT

The aim of this thesis was to examine various factors that impact on the design, development and use of effective paper and pencil pre-employment integrity tests and to take these factors into account in the development of a personality-based test. Findings indicated that current definitions of the concept purported to be examined by integrity tests were inadequate. In particular, it was argued that honesty is not the concept under investigation, rather the focus should be on a concept of Employee Compliance. Compliance takes into account the requirement that dishonest behaviours go against formal organisational rules as well as the strong link between not acting in a counterproductive manner and trait conscientiousness.

A survey of 279 UK-based personnel managers indicated that base-rates of dishonest behaviour in the UK ranged from around 60% to 80% if the behaviour is considered infrequent and/or not serious. For the more serious behaviours (such as alcohol abuse and sabotage) rates were between 23% to 44%. Honesty/integrity was viewed by personnel managers as the most important attribute within employees and this was consistent across industry sector. For example, honesty/integrity was considered more important than interest in the work, general ability, general personality and work experience. A large proportion of participants reported using references (78%) and/or interviews (66%) to assess for honesty and integrity, with few using honesty and integrity tests (2.5%).

Further, integrity tests in general were shown to compare favourably against 6 psychometric quality issues and in most cases better than other methods that are used to examine honesty/integrity. In particular, integrity tests were shown to be valid, reliable, fair and practical methods of assessment. The scope of integrity tests depends upon the type of tests used. They can measure both narrow (theft) and broad criteria (employee deviance). Some issues were raised in respect to training, labelling and false positive issues within such tests.

Personality was shown to play a key role in whether an individual is likely to act in a dishonest manner. Results from two studies, using a Five-Factor Model framework

showed that intended and reported dishonest behaviour related negatively to conscientiousness, stability and social desirability and positively to extraversion. An individual likely to engage in dishonest workplace behaviour will tend to have casual attitudes to rules, view the world as hostile and become alienated, seek excitement and be impulsive, and be socially insensitive. The Five-Factor framework was then utilised in the development of a personality-based test that examined the construct of Employee Compliance. This new Compliance scale was shown to be valid, reliable, fair, acceptable and practical in relation to integrity tests in general and other methods of assessing honesty/integrity. The issue of whether a 'honest' individual is a theoretical ideal rather than a practical requirement was discussed and whether such individuals would be appropriate for all types of jobs.

A laboratory study indicated that cheating behaviour was not only a function of personality (Compliance) but also the interaction between Compliance and group norms supporting cheating. A significant interaction emerged between Compliance and group norms on cheating behaviour. Specifically, the highest amount of cheating occurred for those individuals low in Compliance (hence likely to cheat) in the situation where group norms promoted cheating. Such findings have implications for integrity testing as not only does the dispositional aspect of dishonest behaviour need to be examined, organisations also need to consider the impact that the work environment may have of promoting or reducing dishonest behaviour.

Chapter 1: General introduction

Overview of the thesis

This thesis examines a number of issues that impact on the design, development and use of pre-employment honesty and integrity tests as a method of controlling employee dishonest behaviour in the workplace. The use of paper and pencil honesty/integrity tests in the US as a pre-employment screening device grew following the introduction of the Employee Polygraph Protection Act (1988). This act actually prohibited the use of polygraphs and other physiological techniques for pre-employment screening in the private sector. Such tests are used by a large number of US organisations. Bean (1987) estimated that up to 2.5 million honesty/integrity tests were carried out annually. Sackett and Harris (1984) report that 5000 US organisations use honesty/integrity tests annually and O'Bannon, Goldinger and Appleby (1989, as cited in Murphy & Lee, 1994) place the level of use at between 10-15% of all US employers. Demand will evidently rise, as there is a growing awareness of employee theft, high labour turnover and increasing evidence of the validity of such tests.

Honesty/integrity tests are not a new phenomenon as they have been in existence since the 1950's (the Reid Report developed by John Reid was published in 1951). The explosion in their use in the 1980's can also be partly attributed to the sensitisation of the American people towards dishonesty in the workplace as a result of the huge infamous scandals (Wall Street deception, Irangate) around at that time (Scrivner, 1991). It appears that this sudden increase in the use of honesty/integrity tests in the US

in the 1980's was a knee-jerk reaction to the Employee Polygraph Protection Act and to the compulsion of American organisations to assess honesty.

Sackett, Burriss and Callahan (1989) proposed two distinct classifications of integrity tests (see Appendix 1 for a summary of principle instruments). Firstly, overt integrity tests typically involve an attitude and/or admissions scale, such as the London House Personnel Selection Inventory (PSI), the Reid Report and the Stanton Survey. The attitude scale assesses the attitudes of people to forms of dishonest behaviour (i.e. punishment towards theft, perceived ease of theft). This measure of attitude predicting behaviour stems from the Theory of Planned Behaviour by Ajzen and Fishbein (1977). Their model shows that attitudes can best predict behaviour when the attitudinal qualities being measured (action, context) are consistent with the relevant behaviour being predicted (Jones and Terris, 1991). For example, attitudes to theft in the workplace will be a better predictor of workplace theft than will attitudes to crime in general. The admissions scale relies on the theory that admitting to previous forms of theft/dishonest behaviour (money stolen from previous employer, history of drug abuse) will be a predictor of future behaviour. Those who admit to past dishonesty are considered to be highly likely to act in a similar manner in the future.

Secondly, by contrast, personality-orientated tests employ no obvious reference to theft or other dishonest behaviours. These tests purport to measure multiple traits, which through empirical investigation, are believed to be related to dishonesty. Such examples of these tests are:

- Personnel Reaction Blank (PRB) devised by Gough (1971). This test measures a concept of 'Wayward impulse' based on the Sociability, Dependability and Conscientiousness scales from the California Psychological Inventory (CPI).
- Paajanen (1986, as cited in Sackett et al., 1989) measured 'Employee deviance' using the Personnel Decisions Inc. Employment Inventory (PDI-EI). Scales included Hostility, Non-conformance and Socialisation.
- Hogan and Hogan (1989) developed the Reliability Scale to measure the construct of 'Organisational delinquency'. Included here are scales of Hostility to authority, Thrill seeking and Conscientiousness.

The thesis is structured to provide literature and empirical evidence in relation to various issues that impact on the effectiveness of integrity tests as a pre-employment tool. Chapter 2 examines various definitions that have been proposed to characterise the concept that honesty and integrity tests are designed to measure. It looks at whether the concept is one of honesty, integrity or employee deviance and what aspects should feature in a definition. In addition, categories and types of behaviours are presented in order to clarify further the key aspects, which will aid in the development of a testable definition. This chapter also looks at whether prosocial behaviours in the workplace can be considered at the opposite end of a continuum to dishonest ones.

The rationale behind Chapter 3 is to produce a reasoned justification for using some form of honesty and integrity test on the basis of current base rates of dishonest behaviour in the UK, the importance attached to a construct of honesty, and current methods used to screen for honesty and integrity. It uses a survey design of Personnel Managers within the UK in order to provide some estimates on the extent of dishonest

behaviour within UK organisations. Much work has been done in the US with very little in the UK. Personnel managers' perspective is invaluable in any attempt to assess the viability of honesty and integrity tests, as they are most likely to be the people who would be interested in and potentially use such a method. If there is little cause for concern in terms of the rates of dishonest behaviour and or honesty is not necessarily viewed as that important then it would be increasingly difficult to justify the need for an intervention technique, especially a pre-employment integrity tool. However, if dishonest behaviours occur within UK organisations, managers view honesty as a crucial characteristic within employees and current methods to select for honesty are not the most efficient then a reasonable argument can be presented for the use of honesty and integrity tests as an intervention method.

Chapters 4 and 5 extend this argument further by applying a structured framework, which judges the effectiveness of honesty and integrity tests from a psychometric viewpoint. Specifically, assessment is made in terms 6 psychometric quality criteria: scope, reliability, validity, fairness, acceptability and practicality. These criteria are then used to judge other methods of screening for honesty (polygraph, interview, biodata and references) and comparisons are made with the results from integrity tests. In this respect, the outcome will be an evaluation of the psychometric effectiveness of honesty and integrity tests and how they fare against other potential methods.

Honesty and integrity tests by their design assume that individuals will have a disposition to act in a dishonest manner. Personality-based tests especially, assume that specific traits underlie an individual's disposition to act in a dishonest way. Chapter 6 is designed to analyse the notion further in order to provide the basis for the development

of a personality-based 'integrity' scale based on the Five-Factor Model. This chapter looks at the literature surrounding the relationship between personality and integrity test scores as well as with actual dishonest behaviour. It culminates in two research studies that employed different Five-Factor Model inventories and different dishonest behaviour criteria. From the findings and the previous research it is predicted that a consistent pattern of traits will emerge based on the Big-5, that will provide the foundation for the development of a personality-based scale.

The development of the scale is outlined in Chapter 7. It begins with refining the definition of the concept under investigation based on previous definitions, categories, types of behaviour and the findings from the personality studies. It moves on to standardising the scale and then to assessing its effectiveness in relation to the same 6 quality criteria as applied to integrity tests in general in Chapter 4. This allows for a direct comparison with the literature obtained on integrity tests overall. The chapter also discusses implications of selecting purely on a basis of honesty without considering the competencies required in the job and questions whether honest individuals are a theoretical ideal and not a practical one.

The laboratory-based design in Chapter 8 was developed in order to provide controlled conditions to look at some of the methodological questions raised in previous chapters as well as assessing the impact of situational factors on dishonest behaviours. In particular, objective measures of dishonest behaviour are employed that vary in their levels of seriousness (seriousness in this case meant how blatant the disregard for rules was). This was to enable the 'integrity scale' to be validated against objective measures and to examine if a similar pattern of base rates would occur as was obtained in Chapter

2. The effect of group norms and risk were the two situational variables chosen in the laboratory studied. The design employed not only provided an analysis of situational manipulations but also it enabled the interaction between personality and the situation to be examined.

The final chapter presents a general discussion of the issues arising within the thesis overall. It gathers all the information together and applies it to the question of whether pre-employment integrity tests (and specifically a personality-based test) can be an effective screening tool.

Chapter 2: Definition of the concept under investigation. What are honesty/integrity tests attempting to measure?

“He who would distinguish the false from the true must have an adequate idea of what is false and true”

Benedictus de Spinoza (1677)

Definitions of honesty/integrity

Before any attempt can be made to assess for some attribute, a precise description of that attribute is required. Integrity tests purport to measure some definable concept such as honesty, integrity or reliability, but what in actual fact is being examined when studying honesty in the workplace? This chapter examines the whole issue surrounding definitions of the concept underlying certain employee behaviours such as absenteeism, lateness and theft.

The first port of call could well be a dictionary definition of the word ‘honest’. The Concise Oxford Dictionary defines it as: “fair and just in character or behaviour, not cheating or stealing. Free from deceit and untruthfulness.” Therefore, taking this definition, ‘honest’ behaviours in the workplace are those that do not involve lying, deceit, cheating or stealing. Certainly, an employee who has been caught stealing from or cheating an organisation would quite easily be classified as dishonest from the above definition. However, can such a global definition be realistically applied to the working environment? Consider this example:

A manager instructs a secretary that he/she does not wish to speak to a telephone caller and to inform the caller that they are out of the office, which the secretary does.

At one level the secretary, in following the instructions, has violated the dictionary definition to be considered honest (involvement in a behaviour that is untruthful and deceitful). Yet the act carried out would be, and is, considered acceptable behaviour within the workplace. In fact imagine the implications of the secretary going back to the caller and repeating exactly the manager's words, especially if the caller is a client.

So, there is need for some flexibility in any operational definition concerning dishonest employee behaviours. One term which has been widely used and which allows some flexibility is that of integrity. Analytical philosophy views integrity as a broader concept than honesty. Honesty relates to conventional moral standards of not lying, not stealing and always telling the truth. Whereas integrity incorporates some personal beliefs of what is right and wrong which may in turn conflict with conventional moral standards (Moore & Stewart, 1989). Murphy (1993) suggests that integrity "...refers to the extent to which a person lives up to his or her personal ideals and values...Integrity implies the belief that you are acting correctly..." (p. 5). An individual can possess high integrity yet still perform dishonest acts. The most common example of this is the telling of a 'white lie' so as not to hurt someone else's feelings. This involves a strong sense of personal integrity (the personal belief that you are acting correctly in not hurting another person's feelings) but also dishonesty (the act of lying).

Individuals, who perceive themselves to be high in integrity, believe that the behaviour they have carried out is the right one even if it involved some deceit. Going back to the example of the secretary, even though the behaviour in the strict sense is dishonest, the actions could be seen to involve integrity. It is easier to acknowledge the use of a term such as integrity rather than one of honesty in the working environment. There is no room for personal beliefs in a concept of honesty, which is too rigid to be applied in a workplace setting. Behaviours by an employee that may appear outwardly to be dishonest could in fact be tolerated or even encouraged by the organisation in which they work.

McFall (1987) suggests that personal integrity requires support for some consistent principles that an agent considers to be right even in the face of temptation to go against them. Yet there is a problem with the use of an integrity concept. Even though it allows for a personal belief of what is right and wrong this belief may be an irrational one. An employee may not consider their behaviour as wrong due to irrational assumptions. For example, Dabney (1995) highlights the irrational assumptions that underpinned nurse's theft of general hospital supplies. One such nurse stated that "...everyone takes something once in a while. It is a kind of fringe benefit for us." (p.321). In attempting to overcome this problem, Murphy (1993) suggested that workplace honesty is: "the extent to which individuals and groups in organisations abide by consistent and rational ethical principles related to obligations to respect the truth" (p. 9).

Once again a personal belief is allowed for in this interpretation, but Murphy argues that by placing the emphasis on consistent and rational principles it prevents the employee

from adopting fluid principles which can change over situations and still claim that they are honest. This definition does overcome the problems associated with the dictionary definition of honesty, as well as those associated with the term integrity, as it allows for individuals to engage in certain acts if they believe that they are right (the secretary earlier) but it excludes employees performing acts based on irrational beliefs. In addition, it illustrates that behaviours are not necessarily performed by individuals alone but also by groups.

However, there is still a need to specify the concept even more. No direction is given as to what are considered to be acceptable behaviours and what are not. Murphy does not take into account where the 'rational and ethical principles' arise. Arguably, each organisation would have its own agenda as to what is considered rationally and ethically right. At its extreme the definition allows for those individuals who have a well-developed rigid set of rational and ethical principles, some of which may be against those of the organisation, to be classified as showing high levels of 'workplace honesty'. Arguably, these individuals could be just as problematic for the organisation as those who steal or engage in unauthorised absenteeism.

A further definition, of 'Employee deviance' by Jones (1980), takes account of the organisation's specifications of acceptable behaviour. He defines the concept as:

"...reserved for those situations in which employees' behaviour is in a direction disapproved by written company policy and of sufficient degree to incur financial loss upon the employees' workplace" (p. 71)

The sticking point of this definition is the stress placed on financial loss. With most deviant behaviours some financial loss will occur (theft of items and the need to replenish stock, someone claiming more money than allocated on an expense account), but Jones fails to take account of the effect on the workforce of these behaviours. Ultimately, it could be argued that financial loss will occur, yet in the intervening period one may see a reduction in employee morale and motivation which not only is detrimental to the organisation but also to the employees personally.

A similar definition of employee deviance, that does not restrict itself to financial loss, was proposed by Robinson and Bennet (1995). They define employee deviance as “voluntary behaviour that violates significant organisational norms and in doing so threatens the well-being of an organisation, its members or both” (p. 556). Such a definition is close to an operational description of the concept under investigation. It allows for certain behaviours that may appear dishonest to be carried out so long as they are not against organisational norms and it also takes account of the effects on the workforce as well as the organisation itself. It does leave itself short somewhat on the notion of personal belief in the behaviour as proposed by Murphy (1993).

Giacalone and Greenberg (1997) use the term ‘Antisocial Behaviours’ and suggest that it is closely linked to deviancy. They define antisocial behaviour as “any behaviour that brings harm, or is intended to bring harm, to an organization, its employees, or stakeholders” (p. vii). Specifically they list a number of varying and wide ranging

behaviours that are examples of this broad concept (such as arson, blackmail, fraud, sabotage, theft and whistle blowing).

As is seen, the first problem that researchers encounter in this area is the lack of a specific and effective definition of the concept. Is it the honesty of an employee under investigation? Is it their integrity? Is it the extent to their deviancy? An effective, agreed operational definition is essential, otherwise how can researchers/practitioners be sure what they are measuring? This is especially important as 'honesty' measurement is such a controversial issue.

Typology of dishonest behaviours

Categories of dishonest acts

Leading on from the discussion of the general concept, the next question to be posed is what type of behaviours fit under the workplace honesty umbrella? By outlining key behaviours that encompass a concept of honesty (dishonesty), perhaps a fuller understanding of the concept under consideration can be obtained. Here, the focus is on blue-collar rather than white-collar deviancy.

Hollinger and Clark (1982) suggested that workplace dishonesty could manifest itself in 2 classifications of deviant behaviour. Property deviance (theft, sabotage) which they defined as "those instances where employees acquire or damage the tangible property or assets of the work organization without authorization" (p.333); and Production deviance

(absenteeism, lateness) defined as “behaviours that violate the formally proscribed norms delineating the minimal quality and quantity to be accomplished” (p. 333).

Through further research into the frequency of deviant acts Hollinger, Slora and Terris (1992), proposed a third category of Altruistic deviance: “Giving away of company property and assets to others at a discount or for free” (p. 160). This behaviour is termed altruistic because the behaviour does not directly enrich the employee involved but allows for personal and social relationships to be enhanced.

A typology of deviant workplace behaviours was developed by Robinson and Bennett (1995) which spanned across two dimensions of minor versus serious and interpersonal versus organizational. From this they identified four categories of deviant acts:

- a) Relatively minor but organisationally harmful acts (closely linked to production deviance).
- b) Serious and organisationally harmful acts (closely related to property deviance).
- c) Minor and interpersonally harmful acts (such as blaming co-workers or gossiping) which they termed Political deviance. They defined this as “engagement in social interaction that puts other individuals at a personal or political disadvantage” (p. 566)
- d) Serious and interpersonally harmful acts (verbal abuse, sexual harassment). This was termed Personal aggression and defined as “behaving in an aggressive or hostile manner to another person” (p. 566).

Boye and Slora (1993), from research on evaluations of types of employee theft and counterproductivity by experts, proposed 5 general employee deviance categories:

- a) Cash/Property theft - stealing company merchandise or money

- b) Theft support - helping others to steal
- c) Time theft - wasteful use of company time
- d) Counterproductivity - work behaviours associated with poor performance
- e) Other

Generally, there is some agreement that dishonest employee behaviours can be grouped into a number of categories, with both production and property deviance playing an integral part. Although, researchers present the behaviours in differing numbers of categories, overall the previous research appears to illustrate that there are those of a counterproductive nature and those of a more serious abuse nature.

The next aspect to examine is what specifically are the types of behaviours that are clustered into the more general factors? Common sense would allow anyone to generate certain dishonest behaviours such as lateness, theft and absenteeism. But is it as simple as that? Absenteeism for example can take many forms, an employee can be off due to illness or to look after a relative or just because they do not wish to go in. Similarly, lateness can be due to a reasonable excuse or not. So as before when discussing the need for a specific definition of the concept, there also needs to be a specific outline of the behaviours that are covered by the concept.

In reality, the emphasis should be placed on 'unauthorised behaviours' which, as the name implies, go against the formal organisational rules and regulations. For example taking absenteeism once more, the 'dishonest' behaviour in question is one of persistent uncertified sick leave or other unauthorised absence. In this section, a number of

behaviours that can be considered dishonest in the workplace are presented. This is by no means an exhaustive list. It attempts to outline general headings rather than organisational specific behaviours. Certain behaviours are only applicable to certain types of organisations (e.g. theft from a till is mostly applicable to retail organisations).

Specific forms of dishonest behaviours

Absenteeism

The Advisory Conciliation and Arbitration Service (ACAS) advisory booklet (1989) reports that unauthorised absence (the 'odd day off') is considered by most people as absenteeism. It is problematic due to its unpredictability. The main premise is that the period of time off (which can often be shorter than long-term sickness) is taken without permission.

ACAS (1985) state that not only can absenteeism incur financial losses on the organisation, by lost or delayed production and the need for overtime or replacement labour, but also it can reduce morale and satisfaction and disrupt the flow of work.

Lateness

Lateness in the 'dishonest' sense relates to unexcused incidences of tardiness. Blau (1994) proposed that there are 3 types of lateness. Firstly, unavoidable lateness which has a random pattern (due to bad weather, traffic). Secondly, stable periodic lateness, which involves a non-random pattern of stable frequency and duration. This type of lateness behaviour occurs often because the individual has something better to do,

either for legitimate reasons (taking a child to school) or not. Finally, (and perhaps the one which can be termed 'dishonest'), increasing chronic lateness. This is non-random with increasing frequency and duration.

Koslowsky, Sagie, Krausz and Singer (1997) suggested lateness has a number of distinct features. It can be made up later on in the day; it may not be recorded in personnel files (unlike absenteeism); and it has no organisational benefits.

Theft

Greenberg (1997) defines employee theft as:

“ any unauthorized appropriation of company property by employees either for one's own use or for sale to another. It includes, but is not limited to, the removal of products, supplies, materials, funds, data, information, or intellectual property” (p.86).

Within this, the extent of the theft is an important consideration. Theft of items of a limited value is referred to as pilfering or petty theft, whereas the theft of more expensive items is termed grand theft (Merriam, 1977; Smigel & Ross, 1970).

Use of Resources

Unauthorised use of telephone facilities, mailing facilities or computer equipment can be placed in this behaviour type. This is distinct from employee theft, as it does not involve the removal of equipment as such even though it is misappropriated. It is

very much organisation specific and may be tolerated to a certain extent in some organisations. A possible definition of such behaviour is “frequent use of facilities or equipment for non-approved purposes”.

Sabotage

Giacalone and Rosenfeld (1987) define sabotage as:

“...any behaviour by a payroll employee which is intended to inflict a production or profit loss for the targeted organization” (p. 367).

It arises from the French word ‘sabot’ meaning clog and relates to the practice by French workers in the industrial revolution of inserting one of their clogs into the machinery to paralyse it. Taylor and Walton (1971) illustrate, what can only be termed an extreme form of sabotage, at a sweet factory. A large quantity of Blackpool rock was destroyed because an employee, who had been dismissed from the job, placed a message running through the middle reading ‘F*** Off.’

Unauthorised breaks

This encompasses such acts as taking long lunch/rest breaks or leaving the premises for unauthorised reasons. It is similar to absenteeism and lateness as it is also a form of time-related deviance and once again it should be distinguished from those breaks where permission is granted.

Drug and alcohol abuse

Being under the influence of drugs and/or alcohol whilst at work. For instance, being drunk at work or cognitively impaired due to substance abuse or consuming alcohol at work. This kind of behaviour is not only serious in terms of financial aspects but equally for safety reasons. Further, alcohol and drug abuse may be an indication of a more deep-seated problem in the individual and hence difficult to overcome. Once again the acceptability of such behaviour can be organisational specific. One organisation may allow the drinking of alcohol at lunchtime where another may not.

Violence

Violence involves physical injury or harm or threat of harm to a fellow worker or customer. Neuman and Baron (1997) use the different term 'aggression', though the basis is similar to that of violence. They define aggression as:

“...efforts by individuals to harm others with whom they work, or have worked, or the organizations in which they are currently, or were previously, employed. This harm-doing is intentional and includes psychological as well as physical injury” (p. 38).

Aggressive acts include hitting a fellow worker; spreading rumours; 'sending to Coventry'; arguing with a customer and sexual harassment, whereas violence often refers more to severe physical harm.

Slowing down the work process

This behaviour covers the conscious restriction of production or performance by slowing the work process. Klein (1964, as cited in Mars, 1982) provides an illustration of this behaviour in practice. Klein found that machine-operators slowed down the rate of work when being assessed by a time-study engineer. The outcome of their action was a large gap between the time the job appeared to take and the time the job actually took. This allowed employees to work at an easy rate for the same money or to increase the rate when they wanted to earn bonuses. Even when the rate was increased it still would not be too exhaustive. Interestingly, Dubois (1980) suggests that this behaviour is actually a form of sabotage.

Rule avoiding

Disregard for explicitly stated rules and regulations, such as health and safety regulations. Rule avoiding is organisational specific as rules themselves are organisational specific. It is questionable as to whether this is a distinct behaviour, or an overriding general factor, because the others presented involve some kind of disregard for rules.

Obviously, forms of dishonest acts can vary in the level of seriousness. Looking back to the examples above there are clear examples of serious (often criminal) types, such as alcohol abuse, violence and theft. Indeed, there are also relatively minor forms of behaviour like lateness and long lunch breaks. However, the seriousness can differ within behaviours. Take the example of theft. In the first instance it could be viewed as a serious form of dishonest behaviour, but how would you classify the taking of a pen

from the office? The levels issue may lead the way to clarifying what is acceptable behaviour in organisations and what not. In fact, different levels of dishonest behaviours may be acceptable in different organisations.

One issue with some of the behaviours presented is that in order to term them counterproductive they involve some authorisation of what is considered acceptable behaviour. In these cases they would be difficult to apply to senior management or those who create the authorisation.

Prosocial and Organizational Citizenship Behaviours.

So far, this chapter has focused on those behaviours which have been considered to be dishonest in the workplace, and that in not engaging in these behaviours an employee would be considered as 'honest' or high in 'integrity' or low in 'deviancy', depending on one's view of the concept. Therefore, if individuals are measured on some form of a 'honesty-dishonesty' continuum, some individuals will be extremely honest and others extremely dishonest. But is acting honestly merely just not performing dishonest acts or do those individuals also act more prosocially than those at the dishonest end?

Murphy (1993) suggests that there are two arguments regarding prosocial behaviours. Firstly, behaviour in the workplace is considered as ranging along a 'prosocial-dishonest' continuum. In examining employee behaviour then individuals can be extremely prosocial to extremely dishonest. One would expect that an employee who

engages in dishonest behaviour is less likely to perform prosocial acts in the organisation than an employee who does not act in a dishonest manner.

The second argument is that prosocial acts are distinct from dishonest ones (Murphy 1993). Each type of behaviour has different correlates and hence should be examined separately. An employee who acts dishonestly may in fact also act in a prosocial manner. For example, engaging in theft-related activities may not be detrimental to an employee's performance at work. They may arrive to work earlier than scheduled, or leave later than their allocated work hours (perhaps this is the time that the theft goes on). Another example, taken from the Electronic Telegraph (27th June 1997), illustrates this point quite clearly. The article highlights the antics of a cleric who created a company to help the jobless (acting prosocially) and then proceeded to steal money from the accounts (acting dishonestly).

Following on, information from a large amount of recent research focusing on a concept closely linked to prosocial behaviour, that of Organizational Citizenship Behaviour (OCB) may provide some clarification of the debate above. Organ (1988) defines OCB as:

“Individual behaviour that is discretionary, not directly or indirectly recognized by the formal reward system and in the aggregate promotes the efficient and effective functioning of the organization” (p. 4)

Within this concept a number of different classes have been identified such as Altruism, Compliance or Conscientiousness, Sportsmanship, Civic Virtue and Courtesy (Organ, 1988; Smith, Organ & Near, 1983). Smith et al. (1983) concluded that there are 2 distinct factors of OCB, those of Altruism and Generalized Compliance. Much of OCB is altruistic in nature and involves aspects of helping people directly such as helping with the workload or helping new employees to settle into the organisation. Generalized Compliance on the other hand relates to:

“...more impersonal contributions to the organization in such forms as exemplary attendance, use of work time, respect of company property, faithful adherence to rules about work procedures and conduct.” (Organ & Ryan, 1995, p.782)

It would appear that acting prosocially is more akin to the altruism concept and acting honestly more to the compliance concept. When looking back at the discussion on the types of behaviours earlier, it can be seen that they are represented in the definition of compliance above. This evidence supports the second argument and implies that the continuum ranges not from prosocial to dishonest but rather from compliant to non-compliant.

Further research by O'Reilly and Chatman (1986) adds to this argument. They found through factor analysis 2 classifications of behaviours: One factor was termed 'extrarole' and included behaviours for which the individual receives no immediate reward and which benefit the immediate organisation; the second factor was termed 'intrarole' and this included behaviours that were required by the job description. Once

again, the research illustrates that there is a prosocial factor (extrarole) and a compliance factor (intrarole). Indeed, when examining the item loadings this distinction is even clearer. Items loaded highest on the extrarole factor were 'I make suggestions to improve the organization' and 'I attend functions that are not required, but that help the organisation's image'. On the contrary, those loaded highest on the intrarole factor were 'I comply with the rules and regulations of this organization' and 'I complete my assigned duties on time'.

Acting 'honestly' does not necessarily involve acting prosocially. Prosocial or altruistic acts, although expected to be negatively correlated with dishonesty, do not form one end of the continuum. What the research uncovers is that not engaging in dishonest behaviours is more likely to be acting in a compliant manner or performing intrarole behaviours. It also does imply that the behaviours under investigation lie on a 'compliant to non-compliant' continuum. Puffer (1987) upholds this view. She suggests that it is inappropriate to classify compliance as prosocial behaviour.

In concluding this chapter it is clear that there is a lack of agreement on the concept under investigation. There is a need to create a clear, precise and acceptable definition of the concept that integrity tests are aiming to measure. Ideally, it will combine facets from established definitions but it will certainly need to be related to empirical investigation. This chapter has presented a number of concepts, factors and behaviours related to what honesty and integrity tests are attempting to measure. The question still remains as to what these tests actually measure.

There does emerge from previous definitions, categories and types of behaviour a consistent view that 'workplace honesty' as a concept involves following rules and procedures set by the organisation. What is not so clear is whether this behaviour of complying with rules is actually honesty. For example, taking an unauthorised day off would generally be against organisational rules and policies. However, so long as the individual does not lie by stating he/she was ill, then he/she has not actually been dishonest. Perhaps then, the concept is more the extent that someone follows rules rather than the extent they are moralistic, fair and just. Indeed, when considering the research on OCB, the compliance factor relates more to the concept under consideration here than does the more prosocial altruistic factor. In being compliant an individual will not necessarily act altruistically. More likely the continuum involves compliant or intrarole behaviours at one end to non-compliant behaviours at the other.

Chapter 3: The need to assess for honesty/integrity in the workplace

“Honesty is the most single important factor having a direct bearing on the final success of an individual, corporation or product”

Ed McMahon

Once there is some notion of the construct under investigation, in essence knowledge of what one wishes to examine, the next factor for consideration is establishing the usefulness of a selection measure. In other words is there a need for a selection method that can predict honesty or dishonesty in the workplace? Although in Chapter 2 no agreed operational definition was given (later in the thesis such a definition is presented), key factors such as the dishonest behaviour being unauthorised and involving the lack of rule following were clearly identified. Therefore it is pertinent to examine whether there is a need for a selection method to assess honesty now.

The ITC Guidelines for Test Use (Bartram, 2000) specify that there is a need to evaluate the potential utility of testing in an assessment situation. The guidelines posit that a competent user should:

- produce a reasoned justification for the use of tests
- thoroughly analyse the client’s needs
- assess the advantages and disadvantages of using tests compared with other sources of information.

This chapter examines the first two of these guidelines by focusing upon the prevalence of dishonest behaviour (base rate), the importance attached to honesty and integrity as well as what methods organisations currently use to assess for honesty and integrity. If dishonest behaviours are undesirable and potentially harmful to the organisation and its employees, as is suggested by the different definitions discussed earlier, then clearly organisations would prefer them to be uncommon and even non-existent. However, if the types of behaviours that would come within the bracket of dishonest acts were common and organisations viewed honesty and integrity as an important characteristic, then arguably, one has analysed the client's needs in part and could produce a reasoned justification for using a selection method that assessed for the risk of engaging in these behaviours. The third point from the guidelines will be examined in the following two chapters in relation to a psychometric evaluation.

Prevalence of dishonest acts

Establishing employee deviance base rates is certainly an important and possibly the primary task for anyone researching in the area of honesty in the workplace. Not only will the information be useful to documenting the frequency of dishonest acts, but also the information will help set base rates for use in the setting of cut-off scores in integrity tests. However, the detection of dishonesty in the workplace is problematic, with estimates of the base rate for non-trivial theft (termed more than \$5) being around 5% (Murphy, 1987). Yet, why more than \$5 is termed non-trivial is unclear. This amount seems fairly small to be considered the boundary between 'petty' and 'non-trivial theft'. Given this, accurately detecting the behaviour is difficult. Indeed, certain dishonest acts

will be hard to detect and arguably this is one reason why employees may engage in them. For example, it may be difficult to detect actual levels of theft if employees are careful not to get caught or the organisation has inappropriate inventory checks.

Previous US-based research regarding the prevalence of dishonest acts in the workplace is widespread. Sullenberger (1985) reported that as many as 50% of all US retail employees steal to some degree and 5-8% of those steal a substantial amount. Soloman (1987) suggested that a large proportion of retail workers (up to 75%) know someone who is stealing from their respective employers. Looking at a wider range of behaviours, Slora (1989), found that 94% of supermarket employees admitted to some form of dishonest acts in the workplace. Similarly, 96% of fast food employees reported engaging in some form of dishonest behaviours in the previous six months (Slora, 1991). Large admission percentages were obtained for arguing with customers or co-workers (78%); arriving for work late (71%); eaten food without paying (54%). When grouped into factors rather than separate behaviours, results showed that 84% of respondents admitted to involvement in counterproductive acts; 78% admitted to time theft; 62% to cash/property theft and 53% to theft support.

In an extension of the above study, Boye and Slora (1993) examined the frequency of serious forms of dishonest acts in a sample of 583 supermarket employees. Only those behaviours rated as serious by subject matter experts from the 1991 study were included. They found that 80% of employees admitted to engaging in serious forms of dishonest acts in the previous 6 months. In addition when grouped into factors, they found substantial percentages of employees admitting to engaging in cash/property theft

(35%), theft support (29%) and counterproductivity (69%). Likewise, larger base-rates emerged for counterproductivity (82%) than did so for property deviance, which included theft, (60%), in fast food employees (Hollinger, Slora & Terris, 1992).

A much larger scale survey encompassing 9175 respondents in three industry sectors (Retail, Hospital and Manufacturing) was carried out by Hollinger (1991).

Approximately one third of the respondents in each of the industry sectors admitted to engaging in some form of property deviance in the previous year. The results were somewhat higher for counterproductivity. Here, 65% of employees in the retail sector admitted to dishonest acts, for the hospital sector the rate was 69%, and for the manufacturing sector the rate was 82%.

Previous research on employee deviance base rates certainly provides some conflicting findings. In fact, a recent study by Wimbush and Dalton (1997) has highlighted the problem even more. They estimated the base rate for employee theft using 3 different methods (conventional survey, randomized-response technique and unmatched-count technique) in US personnel with access to or previously had access to money, supplies, merchandise etc. For the conventional survey the estimated base rate was 28.2%.

However, using the other techniques (which attempt to counter-act the sensitive nature of the data being collected) base rates increased to nearer 60%.

It would appear (albeit that the majority of the research involves organisations operating in the US) that the base rates for employee deviance are not as low as first thought. In fact, some of the admission percentages are alarmingly high. Yet, for most of the

surveys outlined in this section information regarding the level of involvement in dishonest acts is not so worrying. The reported levels of involvement are consistently skewed towards the less frequent end of self-report inventories and this skewed level of involvement is also found for those acts with a high reported admissions percentage. For example, in the survey by Slora (1991) out of those 71% who admitted to arriving for work late, 45% rated it as seldom and 19% as occasionally. Similarly, in the Wimbush and Dalton study for all three techniques theft admissions were higher at lower dollar levels (\$5 - \$9.99) than at higher levels (> \$50).

To date there is very little comparable data collected for organisations operating within Britain. A survey carried out by the British Retail Consortium (1996) does provide some data on the prevalence of dishonest acts within Britain, albeit retail crime. The survey illustrated that 30% of the costs of all retail crime (namely customer theft, frauds, burglary etc.) in those retail organisations that took part could be accounted for by staff theft.

From the previous research into the prevalence of dishonest behaviour within organisations it is clear that these behaviours do go on and that often a large proportion of individuals do engage in them. What is also clear is that even though these behaviours are occurring, the levels of involvement are generally reported to be infrequent. These findings may provide evidence and a justification of the need for a selection system that can reliably and accurately predict those likely to engage in dishonest behaviour, especially as some individuals are likely to engage in a number of behaviours. Even though overall levels are infrequent, it may only need one incident of

dishonesty to occur to make an impact on an organisation. Yet, one aspect still outstanding is whether these admission rates hold up across cultures, specifically are similar rates occurring in the UK?

The importance attached to honesty

Another issue in assessing the utility of honesty/integrity testing relates to how important honesty is viewed in the workplace. This question relates to the value that organisations place on honest behaviour in its employees. If honesty is valued highly in employees then, organisations will work to promote honest behaviour and hence may employ an integrity testing approach. This will ideally then have an inverse relationship on the frequency of dishonest behaviours.

Previous research, although sparse, has indicated that honesty and integrity, and conscientiousness (relates to the compliance concept outlined in Chapter 2) are rated as very important by organisations. Bartram, Lindley, Marshall and Foster (1995) looked at the selection procedures of small British businesses on recruiting young people. They found that honesty and integrity was rated on average as *the* most important characteristic required in young applicants, with conscientiousness rated as the next most important.

Dunn, Mount, Barrick and Ones (1995) examined the relative importance of various applicant attributes as rated by a sample of 84 professional managers and supervisors. They reported that conscientiousness was rated as an important cue when managers

were assessing overall hirability and that this was generally stable over different occupational groups. In fact ratings of conscientiousness were on a par with those of general mental ability as the most important attributes. Moreover, when the criterion was assessing for counterproductivity, conscientiousness was again rated as important.

From the limited research it is apparent that honesty and conscientiousness are viewed by those involved in the selection process are very important traits required in employees. In the Bartram et al. (1995) study these traits were rated more important than a number of other work-related traits such as interest in the work, evidence of general ability and trainability. This does provide more support and justification for the use of some method of assessing honesty and integrity, as those who essentially will be users of such a procedure value highly the concept that such a method would purport to measure.

The assessment of honesty

Another issue which may affect the usefulness of an integrity testing selection procedure relates to whether potential test users will actually use it, in other words will they actively assess for honesty/dishonesty, and what methods do they currently use. If it is a problem and it is important then organisations should employ useful methods to assess it. Previous surveys of the use of selection methods in organisations are quite abundant, but during this research little information explicitly examining the use of selection methods to assess for honesty was found. One such study, Bartram et al (1995), found employers judged the interview as the best source of information to assess honesty and

integrity, and conscientiousness. References were also judged as an important source of information.

Clearly, there is a lack of analysis regarding the types of assessment techniques used, if any, to measure for honesty/integrity in job applicants. This is certainly required as potential integrity test users may be using methods that psychometrically are not as valid and reliable as an integrity testing system.

Overall, to examine whether an integrity testing system would be of any use in organisations (specifically within the UK), three questions are posed:

- To what extent are dishonest behaviours a problem within organisations in the UK?
- To what extent do employers value honesty/integrity as compared to other employee characteristics?
- To what extent do organisations assess for honesty/integrity and which selection methods do they currently use?

Study 3.1: Personnel managers' views as to the extent of dishonest acts and importance of honesty in the workplace: A survey.

This study carried out between November 1996 and February 1997 surveyed a sample of personnel managers within organisations operating in the UK. The aim of this survey was to attempt to discover managers' perceptions regarding the frequency of dishonest acts and the importance of honesty/integrity in employees within their respective organisations. In addition, data was also collected on the different methods used by organisations to assess for honesty/integrity.

The present survey looks at the prevalence of dishonest acts from personnel managers' perspectives. Indeed, their perspective is invaluable in any attempt to assess the viability of such a product as these are most likely to be the people who would be interested in and potentially use a honesty/integrity test. If personnel managers perceive no problem with the levels of dishonest behaviours in their organisation then they are unlikely to be interested in a pre-employment tool that selects on the basis of honesty. This could be due to the perception that their current selection system performs this role adequately. Further, personnel managers are in a good position to have knowledge of dishonest acts, particularly absenteeism, lateness or damage to equipment. They will also need to have clear views on these matters in order to inform policy making and HR management procedures in the organisation. In addition, personnel managers' ratings of the importance of honesty and integrity, and conscientiousness were examined. Unlike the Bartram et al survey, the current one examined ratings of the importance of honesty of employees within the organisation, rather than ratings of job applicants.

Method

Survey questionnaire

The questionnaire comprised three sections (see Appendix 2). Section 1 based on the scale by Bartram, Lindley, Marshall and Foster (1995) asked personnel managers to rate the relative importance on a 4 point scale of 15 characteristics in an employee within their company. The scale ranged from 1 (not at all important) to 4 (very important).

Section 2 examined perceptions of the frequency of 10 dishonest behaviours within the workplace. The scale ranged from 1 (not at all frequent) to 4 (very frequent). Each of the behaviours was clearly defined so as to avoid any confusion and to clarify the dishonest/unauthorised nature of the behaviour. The behaviours were general in nature to provide an overview and collected from the vast amount of research in the area on honesty at work. Definitions used were:

- Unauthorised use of company resources - "Frequent use of company telephones for personal calls or the use of a company car for non-approved purposes".
- Absenteeism - "Persistent uncertified sick leave or other unauthorised absence".
- Lateness - "Consistent bad time keeping and general tardiness".
- Unauthorised breaks - "Taking long lunch or tea breaks without permission".
- Rule avoiding - "Disregard for explicitly stated organisational policies and procedures, disregard of health and safety rules etc."

- Theft - “Stealing of equipment or money from the organisation”.
- Slowing of work - “Conscious restriction of production or performance by slowing the work process”.
- Drug & alcohol abuse - “Being under the influence of drugs and/or alcohol whilst at work”.
- Damage to equipment - “Conscious action to damage the work environment”.
- Violence - “Physical injury or harm or threat of harm to a fellow worker or customer”.

Section 3 gave personnel managers a list of 10 different assessment methods and asked them to indicate (by placing the corresponding number) which method(s) were used to assess honesty and integrity, and conscientiousness. If a particular characteristic was not assessed, participants were instructed to write ‘none’.

It was decided that to promote response rates from a sample of personnel managers, the questionnaire design had to be relatively simple. Initially, a more complex design examining actual rates of behaviours was devised, but from correspondence with a personnel manager it was decided that the design was too complex and response rates would be low.

Participants

A random selection of 1000 personnel managers employed in organisations in various geographical locations around Britain was generated from the Personnel Managers' Yearbook (1994). The company who produce the yearbook performed the search and provided address labels. The initial large number of 1000 companies was selected on the basis of the expectation of a 25-30% response rate. In fact, the process yielded a 29.2% response rate. Of the 292 respondents 13 were unable to be used in the analysis because of non-completion or part-completion. Because of the anonymity of the procedure (intended to encourage openness in responses) it was not possible to follow-up non-responders.

In the remaining 279 organisations the number of employees ranged from 80 to 74,000 (mean = 3910). The organisations' turnover ranged from £6 million to £4.6 billion. Organisations were classified into industry sector using the Standard Industry Classification (SIC) codes from the Personnel Managers' Yearbook (1994). Out of those organisations who completed the surveys, 8 (3 %) were classified as construction, 75 (28%) manufacturing, 19 (7%) wholesale and retail, 21 (8%) transport/communication, 55 (20%) public administration, 57(21%) services, 13 (5%) financial, 18 (7%) health and 6 (2%) other. In comparison with national distribution figures, the variation of the sample on turnover and employee numbers, appear to be reasonably representative of organisations in the UK

Procedure

To insure complete confidentiality none of the addresses of the organisations mailed to were kept anywhere on file. Once the labels were obtained questionnaires were dispatched with a cover letter explaining the reasons behind the survey. A face sheet outlined that all information would be treated in strict confidence and that organisations need not identify themselves anywhere on the questionnaire (if organisations wished for feedback then a contact address was required). A freepost envelope was provided to promote responses. Managers were informed that there was no need to complete all the sections, yet once they had completed the sections they wished, the questionnaire should be placed in the pre-paid envelope provided and mailed.

Results

The frequency of dishonest acts

Ratings of 3 (frequent) and 4 (very frequent) were initially taken as a clear indication that dishonest behaviours are common in the workplace. Table 3.1 illustrates the ratings of frequency for dishonest acts by personnel managers. A small percentage of personnel managers gave ratings of frequent and/or very frequent for behaviours such as alcohol abuse (2%), damage to equipment (3%) and violence (2%). However, 31% of personnel managers rated absenteeism and 37% rated unauthorised use of company resources at the same level. Approximately 12% of managers rated theft in the frequent bracket.

A rating on the scale of 2 (not frequent) does not exclude the occurrence of dishonest acts and when taking this as the benchmark the percentages increase sharply. Over 80% of personnel managers rated absenteeism, lateness and unauthorised use of resources at this level and above, and over 70% rated unauthorised breaks and rule avoiding. Indeed, when looking at theft the percentage increases to 60.2%.

Table 3.1: Percentage of personnel managers who rated the frequency of 10 dishonest behaviours in the workplace (n=279)

Dishonest Behaviour	1 Not at all frequent	2 Not frequent	3 Frequent	4 Very frequent
Unauthorised use of company resources	10.4%	51.6%	33.3%	3.9%
Unauthorised breaks	26.2%	57.7%	14.0%	1.8%
Rule avoiding	26.5%	57.0%	14.0%	2.5%
Slowing of work	49.1%	42.7%	6.8%	1.4%
Violence	76.0%	21.5%	1.8%	-
Damage to equipment	68.5%	28.3%	3.2%	-
Drug and alcohol abuse	55.9%	41.9%	1.8%	-
Absenteeism	15.1%	54.1%	25.1%	5.4%
Lateness	13.3%	66.7%	18.3%	1.4%
Theft	39.8%	48.7%	9.3%	2.2%

Table 3.2 lists the mean ratings of the frequency of dishonest acts in rank order.

Violence is rated very low in frequency as are drug & alcohol abuse and damage to equipment. The unauthorised use of company resources and absenteeism are rated higher, in addition to persistent lateness, rule avoiding, unauthorised breaks, theft and slowing of work. To place behaviours in the scale points, mean scores were rounded up or down to the nearest whole number. For example a rating of 2.21 for absenteeism is

rounded to the nearest whole number of 2 which corresponds to the scale point of 'not frequent'. As is seen, all the behaviours are rated towards the infrequent end of the continuum.

Table 3.2: Mean ratings by personnel managers of the frequency of 10 dishonest behaviours

Rank	Mean	SD	N	Dishonest behaviour
<i>Not Frequent</i>				
1	2.31	.71	277	Unauthorised use of company resources
2	2.21	.76	278	Absenteeism
3	2.08	.61	278	Lateness
4	1.92	.71	279	Rule avoiding
5	1.91	.68	278	Unauthorised breaks
6	1.74	.71	279	Theft
7	1.61	.68	279	Slowing of work
<i>Not at all Frequent</i>				
8	1.46	.53	278	Drug & Alcohol abuse
9	1.35	.54	279	Damage to equipment
10	1.25	.48	277	Violence

Factor analysis

Principal components analysis using varimax rotation was carried out on the data in order to identify groups of behaviours as in the previous research (Slora, 1991). From the initial 10 behaviours, 3 components with eigenvalues greater than 1 were extracted. These factors accounted for 62% of the variance. Factor 1 was termed 'Counterproductivity'; Factor 2 was termed 'Workplace Abuse'; and Factor 3 was termed 'Time/property theft' (see Table 3.3 for factor loadings). These are closely

linked to property and production deviance concepts discussed in Chapter 2, yet here there is a third factor (time/property theft) as well.

Table 3.3: Factor loading for the dishonest behaviours on the three factors

Behaviours	Factor 1 Counter- productivity	Factor 2 Workplace abuse	Factor 3 Time Property Theft
Unauthorised use of company resources	0.793		
Unauthorised breaks	0.760		
Rule avoiding	0.696		
Slowing of work	0.485		
Violence		0.824	
Damage to equipment		0.747	
Drug and alcohol abuse		0.529	
Absenteeism			0.885
Lateness			0.678
Theft			0.618

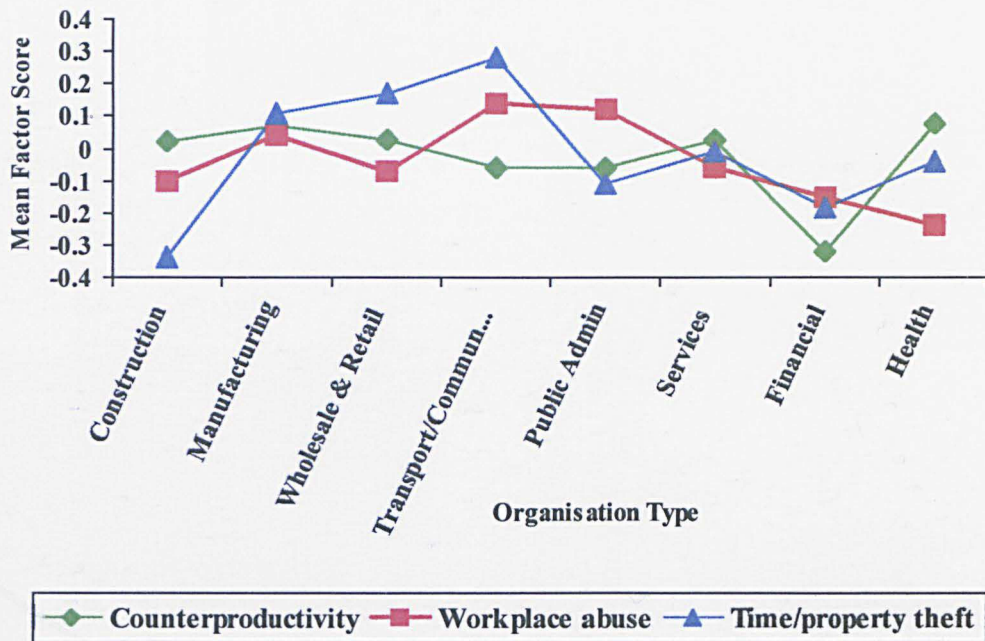
Note: Loadings below 0.4 were omitted

Looking back to Table 3.1, it can be seen that those variables loaded onto the abuse factor (violence, damage to equipment and drug and alcohol abuse) are characterised by very low rates of frequency, with only a small percentage of personnel managers (2-3%) rating them as 'frequent'. Rates for the other 2 factors are more spread out across the ratings than those for workplace abuse.

Factor scores were estimated by firstly standardising all the dishonest variables into z-scores. Next variables were weighted by their factor loading to produce a weighted score. Variable weighted scores were then summed to produce an estimated factor score. This procedure is outlined in Comrey and Lee (1992, pp.250-251). Scores were then analysed for differences across the 8 different industry sectors identified in the method (not taking account of those in the other category) by a one-way ANOVA (see Appendix 3 for summary tables). No significant differences were found for both counterproductivity and workplace abuse. A significant difference was found for time/property theft, $F_{(7, 258)} = 2.15, p < 0.05$). Yet post hoc comparisons using Tukey WSD indicated no significant differences between pairs of organisations at the 0.05 level.

Figure 3.1 shows the mean estimated factor scores across industry sector. The health sector scores lower than the other industry sectors on the workplace abuse factor but higher on the counterproductive factor. In addition, the transport/communication sector's mean factor score is the highest for both workplace abuse and time/property theft. The financial sector scores the lowest on the counterproductivity factor and the mean factor score for the construction group is the lowest on the time/property theft factor.

Figure 3.1: Comparison of mean factor scores across industry sector



The importance of honesty

The importance attached to honesty and integrity as well as conscientiousness was examined in relation to other characteristics. The mean ratings are presented in Table 3.4. Honesty and integrity is rated as the highest by personnel managers (3.81), with conscientiousness (3.53) third highest. In fact both honesty and integrity, and conscientiousness are rated on average as ‘very important’. Interestingly, these two characteristics are considered more important than evidence of general ability (3.25), vocational qualifications (2.68) and academic/school qualifications (2.58).

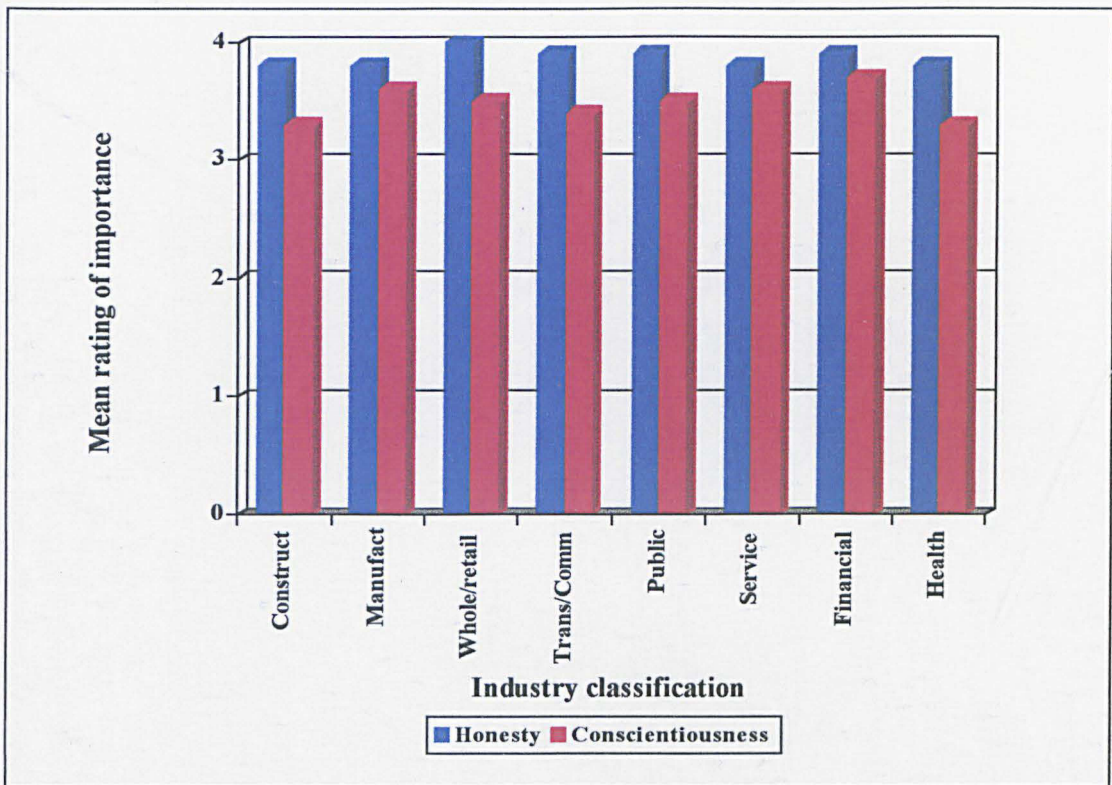
Table 3.4: Mean ratings by personnel managers of the relative importance of characteristics in employees, ranked from most to least important.

Rank	Mean	SD	N	Characteristic
<i>Very important</i>				
1	3.81	.43	279	Honesty and integrity
2	3.59	.53	279	Motivation and drive
3	3.53	.53	278	Conscientiousness
<i>Important</i>				
4	3.48	.58	276	Interest in the work
5	3.27	.59	277	Trainability
6	3.25	.58	276	Evidence of general ability
7	3.23	.57	277	General health
8	3.10	.68	274	Work experience related to the job
9	3.04	.63	271	General personality
10	2.68	.70	272	Vocational qualifications
11	2.64	.65	277	Other work experience
12	2.58	.68	273	Academic/school qualifications
<i>Not important</i>				
13	2.17	.84	272	Physical appearance
14	2.16	.78	274	Accent and speaking manner
15	1.88	.69	274	Other interests (hobbies, sport etc.)

Examination of the importance of these two characteristics across industry sector illustrated differences (Figure 3.2). All industry sectors rate honesty and integrity as 'very important'. Those in the construction, manufacturing, services and health sectors rated honesty and integrity on average as 3.8. Those in the transport/communication, public administration and financial sectors rate it on average as 3.9 and in the wholesale and retail sector honesty and integrity is rated a 4. Unlike honesty and integrity mean ratings of conscientiousness differ more across industry sector. Organisations in the

manufacturing, public administration, service and financial sectors all rate conscientiousness as very important (mean of 3.5 or above). Whereas, those in the construction, transport/communication and health sectors rate it on average as important. Yet, further analysis of these differences via a one-way ANOVA indicated that the differences were not significant at the 0.05 level (see Appendix 4).

Figure 3.2: Mean importance rating for honesty and conscientiousness across industry sector



Assessing for honesty

The most popular form of assessment technique used to assess honesty and integrity were references, with over 75% of personnel managers stating this to be the case (Table 3.5). The next most popular method is the interview, which is used by 66% of organisations for this purpose. Whilst 17.6% use personality questionnaires to assess for honesty and integrity, only 2.5% of organisations use honesty and integrity tests (this is on a par with group exercises). As regards the data on conscientiousness, the interview is the most used assessment method. Whereas 66% of organisations used the interview to assess honesty, 79% use it to measure conscientiousness. Once again references are widely used (65%) and personality questionnaires are used more (31% of organisations) for assessing conscientiousness than for honesty and integrity. What the table does not show is that various organisations used a combination of techniques to assess for honesty and conscientiousness. The combinations most often used included the use of interviews, references and application forms or interviews with personality questionnaires.

Table 3.5: Frequency of the use of selection procedures to assess for honesty and integrity, and conscientiousness (N = 279)

Type of assessment procedure used	<u>Honesty and integrity</u>		<u>Conscientiousness</u>	
	N	% of organisations using each technique	N	% of organisations using each technique
Interview	183	65.6%	220	78.9%
Interest Inventories	0	0.0%	4	1.4%
Personality questionnaires	49	17.6%	87	31.2%
Aptitude/ability tests	2	0.7%	26	9.3%
Work sample/Job simulation	3	1.1%	20	7.2%
Honesty and integrity tests	7	2.5%	6	2.2%
Group exercises	6	2.2%	20	7.2%
CV	19	6.8%	26	9.3%
References	217	77.8%	182	65.2%
Application forms	56	20.1%	63	22.6%
Other	16	5.7%	10	3.6%

Note the percentages do not total 100% because organisations were allowed to choose more than one selection method to assess for honesty and integrity, and conscientiousness.

Discussion

The frequency of dishonest acts

The extent to which dishonest acts in the workplace occur is a function of the type of acts committed. Certain acts such as absenteeism and unauthorised use of company resources are perceived to be more frequent than others, such as damage to equipment or violence. Approximately 37% of managers rated the unauthorised use of company resources as frequent or very frequent, whereas for damage to equipment the percentage

is 3%. The real difference may be even greater as the unauthorised use of company resources by its nature is likely to be harder to detect (and hence estimate accurately) than damage to equipment.

From the factor analysis a three-factor solution emerged which related well to the production and property deviance factors outlined by Hollinger and Clark (1982). There does appear to be a 'counterproductivity' factor as well as an 'abuse' factor. Here, a third factor emerged which combined absenteeism, lateness and theft. This was titled 'time/property theft' as both absenteeism and lateness involve a theft of time. However, this factor may well reflect the seriousness/acceptability angle of honesty/integrity testing. At one end there are those counterproductive minor acts (reflected by factor 1) at the other end there are the more serious, major behaviours (reflected as factor 2). Factor 3 may lie somewhere in between these two, as it encompasses both minor and major ranges within it. I has previously been stressed that there is a need to clearly distinguish between levels and types within these three behaviours, for example theft can be petty or grand (Chapter 2). Factor 3 in this case could incorporate those behaviours that range from minor to serious.

Overall, the more abuse-oriented acts are rated significantly lower in frequency than other types. This links with the findings of Hollinger (1991) and Hollinger, Slora and Terris (1992) where the admission percentages for property deviance (sabotage, violence, theft etc.) are lower than for production deviance (extra breaks, rule avoiding etc.)

The results suggest that the base-rates for dishonest acts are indeed low if the criteria used are that they must be frequent or serious. This agrees with the previous research on the prevalence of non-trivial theft (Murphy, 1987). Even though some personnel managers rate behaviours as frequent or very frequent, on average dishonesty rates are skewed towards the less frequent end of the continuum. However, as identified in the study by Wimbush and Dalton (1997), the low ratings could be a function of the method used for data collection and that through the use of other techniques the base rate may increase.

Yet, it should be born in mind, (Table 3.1), that the percentage of personnel managers who rated the behaviours occurring to some degree, from 'not frequent' to 'very frequent' was high. Taking this as the benchmark for assessing the level of dishonesty, then a more striking interpretation presents itself and one, which appears to increase the base-rates to a higher level. From this, the general rate of occurrence is in fact high, if the criteria used is that the acts can be either infrequent or less serious.

However from a methodological viewpoint, it may be argued that personnel managers are not necessarily the most appropriate people to survey. Murphy (1993) argues that many types of dishonest behaviour go undetected and that recognition of the occurrence of such acts is difficult. Indeed, it is estimated that only a small percentage (3-5%) of all dishonest employees are ever detected (Slora, 1989). Certainly, organisations with ineffective inventory controls would have a problem detecting whether theft is taking place and to what extent. Equally, how do managers in an organisation know that an employee who says they are taking a day off 'because of illness' is actually ill or not?

Nevertheless, personnel managers will have better knowledge than employees of certain dishonest acts in the workplace, especially those recorded on personnel files (such as absenteeism, lateness, and violence). In fact, ratings from personnel managers are just as interesting and important as ratings from employees, as they provide a different but equally valid perspective on a common problem. Arguably if no problem is perceived in an organisation by the personnel staff, then they will see no need for intervention or change. This, in turn may lead to more dishonesty by employees as the risk of detection would be reduced. Ratings of frequency from employees may be under-estimations in some areas. Those employees who have limited knowledge of the frequency of dishonest acts by other workers do not have the opportunity to view personnel files, unlike the personnel managers. A comparison with employee samples in the same organisations would have provided valuable information regarding the level of agreement on the extent of dishonest acts and provided insights as to where inconsistencies appear between managers and employees. However, due to the confidential nature of the survey this type of analysis was beyond the scope of the current study.

Another methodological issue relates to the problem of leniency or “the tendency to give ratings which are skewed in a favourable direction” (Smith & Robertson, 1993 p.45). In this case the ratings are skewed towards the favourable direction of the less frequent end of the continuum. One reason for this is that the admission of higher levels of dishonest acts may reflect badly on the organisation or on the personnel manager’s own abilities. Therefore, managers are willing to admit that dishonest acts go on in their

organisation, yet they respond leniently as regards the extent of these acts. Similarly, the results seem to show that the more abusive types of behaviours are rated as less frequent and, once again, these ratings may be biased by the presence of leniency. Against this is the fact that the study assured total confidentiality and there was no way of identifying respondent's organisations.

When looking at the effects of industry sector, the workplace abuse behaviours are consistently rated low across the different sectors. It appears that these specific acts are low regardless of the type of organisation. Again it could be due to the level actually being low or it may be due to the problems of detection. However, the data do appear comparable with the information received from studies in the US on the extent of property deviance behaviours (the abuse factor relates closely to property deviance). Still, it can be seen that on average the health sector scores lower on workplace abuse than do the other sectors. One reason for this could be accounted for by the increased consequences of their actions and the intended target. Penner, Summers, Brookmire and Dertke (1976) found in a study on return rates for money that subject's responses as to whether they would or would not return money were affected by estimates of harm done to a victim. When the cost is low then subjects were less likely to take the money. Consequently, acts of damaging equipment or alcohol abuse in a health setting are more likely to be detrimental to a patient rather than managers or the organisation. Therefore the cost to a victim is high.

Mean factor scores for time/property theft and workplace abuse are higher in the transport/communication sector than in other sectors. Further investigation of the higher

score is needed to find out why such differences occur. It may be due to increased opportunity for dishonest behaviour or inadequate regulations to control dishonesty. Care should be taken when interpreting the analysis across industry sector. Although it does seem at first that dishonesty could also be a function of type of industry, only tentative interpretations can be made from this data. Some sectors were represented by a fairly large number of organisations (such as the manufacturing, services and public administration sectors) others (construction, wholesale & retail and health sectors) were not. The results provide some initial revealing information but care should be taken not to generalise the results too far.

Importance of honesty and integrity

Ratings of the importance attached to honesty and integrity and conscientiousness echo those found by Bartram, Lindley, Marshall and Foster (1995). Personnel managers value honesty as the most important characteristic required in employees. Also highly regarded is conscientiousness (third highest in this case but second highest in the study by Bartram et al, 1995). The ratings for honesty and integrity do not appear to differ extensively across industry settings and all sectors value the characteristic as very important. On the other hand slight differences are seen for conscientiousness. On average some sectors perceive it to be 'very important' whilst others view it as 'important'. The difference in interpretation of the meaning of conscientiousness could explain this finding. Some managers may be rating work-conscientiousness (i.e. getting the job done) not moral-conscientiousness (i.e. following rules, codes of conduct). If

this is the case then perhaps managers in some sectors do not necessarily view work-conscientiousness as being as important as moral-conscientiousness.

Bartram et al. (1995) suggest that one explanation for the high ratings attained for honesty and integrity, and conscientiousness as well as for other 'personal' characteristics is that these attributes of employees are difficult to change. Training on the job can overcome deficits in qualifications and experience yet employers cannot expect to 'train' a dishonest person into becoming an honest one. In addition to this, the consequences for an organisation in selecting a dishonest individual may be far greater than selecting one who is lacking in competence. The cost in monetary terms can be quite considerable. Going back to the data from the British Retail Consortium (1994/95) the 30% of all costs that can be accounted for by staff theft amounts to £446 million.

The assessment of honesty and integrity

Most organisations employ references to assess for this 'very important' characteristic of honesty. It is straightforward to see why. If an employee has been caught performing a dishonest act in their previous employment then a reference from that organisation will highlight this. However, there is the whole issue once again of being caught. As outlined earlier many dishonest acts in the workplace go undetected. Therefore, the previous employer may be unaware of any dishonest actions and produce a positive reference. In addition, a job applicant may just simply leave the names off application form of those organisations where he/she has been caught committing a deviant act (Jones & Terris, 1991). Hence the prospective employer will be unaware of any

previous dishonest actions. A more worrying aspect is outlined by Bergmann, Mundt and Illgen (1990). They point out that employers in the US are reticent to divulge past employee performance because of the fear of litigation. This leads to only general, pay-roll type information being given by previous employers in references. Hence, once again, instances of dishonest behaviour may not be recorded and go undetected.

Also high on the list for both honesty and conscientiousness is the use of the interview. This again supports the findings by Bartram et al. (1995). The interview can be a useful tool in assessing for honesty, especially with its face-to-face design. Wilson (1988, as cited in Jones & Terris, 1991) reported the development of structured integrity interviewing, where applicants are asked to describe past behaviour or how they would respond in certain situations, as one application of this design. However, Jones and Terris (1991), in relation to employee theft, argue that there is no published research on the interview's use in predicting employee theft. They suggest that an interviewer is likely to rely on stereotypical judgements and find it difficult in determining if the applicant is telling the truth.

Only a small percentage of organisations (just over 2%) reported using honesty and integrity tests to measure honesty and conscientiousness. The small number of established honesty and integrity tests in the UK could account for this. In addition, managers may be unfamiliar with and possibly untrusting of such tests, a statement that is often levelled at personality tests in general. Support for this emerges from a study by Bartram, Lindley and Foster (1992) looking at the selection of young people by 286 medium-sized and large organisations. They found that honesty tests were used by only

2% of participating organisations at least a half of their time in selection. In addition, results indicated that honesty tests were rated as being second least understood as a selection tool.

One possible way forward is to examine honesty and integrity by using a combination of techniques such as references, personality questionnaires and direct observations rather than just one particular technique (Kroeck & Fraser, 1991). Indeed, this survey did find that although organisations use methods that may be problematic, they do use combinations of methods such as interviews with references and personality questionnaires to assess for honesty.

On average dishonest acts are perceived as being a widespread phenomenon, with the more serious acts having a low frequency of occurrence within organisations. Apparent contradictory findings of low base rates for non-trivial theft (5%) and high rates of dishonest behaviour from employee reports, can be reconciled by the present data.

Dishonest behaviour is widespread occurring to some degree in most if not all organisations, but the frequency of occurrence varies between organisations as a function of the type and severity of the acts.

Honesty and integrity is viewed by personnel managers as a 'very important' characteristic of employees. This appears to be consistent across industry sector. It is seen as more important than any of the other characteristics listed (such as general ability, academic qualifications and other interests). Conscientiousness is also seen as an important trait of employees, but there is more variation across industry sector.

The assessment of honesty and conscientiousness does not match up to their rated importance. References and interviews are most commonly used but there are many problems to their use, not least of which is the question of their validity as procedures for the assessment of these characteristics. As Bartram et al. (1995) concludes "...it is of particular concern that the methods of assessment used [to measure honesty and conscientiousness] are those which are least likely to provide good data."(p. 356).

The results from this survey coupled with previous research provides a justification for the need for some type of 'integrity test' which is able to identify individuals prone to act dishonestly. The need is there because certain acts of dishonesty occur within organisations (often to extensive levels); honesty/integrity is viewed as the most important trait within employees from a number of other work-related characteristics; and the assessment methods currently in use to examine honesty/integrity do not match up to the importance of such traits. Yet, the low base-rates for the more abuse-oriented acts would make it difficult for any assessment procedure to accurately screen out those people likely to engage in such behaviours. What it clearly illustrates is the importance of constant checks and collection of data regarding dishonest acts within the organisation. Arguably, if one organisation has carried out checks on behaviour and come to the conclusion that very little goes on in the organisation then it is questionable that the use of an integrity test will be of benefit. On the contrary, if a problem has been identified (in terms of frequency or cost) then integrity tests could be of benefit, especially, if the organisation is using other, less effective, selection methods.

This last point (and the third of the guidelines presented at the beginning) will be examined more closely in the following two chapters. Essentially, this survey has shown that a reasonable justification for using integrity tests can be presented by examining base-rates as well as judgements of how important such a concept is viewed. A value-laden judgement of the lack of usefulness of methods currently used was given and arguably organisations may feel that the methods they do use are effective – although if they were that effective then base-rates would be a lot lower. The following chapters build on this by providing a structure to the argument that integrity tests are more effective than other methods to assess for honesty and integrity.

Chapter 4: The psychometric effectiveness of honesty and integrity tests

There are two things to be considered with regard to any scheme. In the first place, "It is good in itself?". In the second, "Can it easily be put into practice?"

Jean Jacques Rousseau

From the previous chapter it was found that interviews and references were predominantly used to assess for honesty and integrity and that integrity tests were rarely used. It was also suggested that these methods do not match up to the importance placed upon honesty and integrity in employees. Further, the ITC Guidelines on Test Use propose that a competent test user should "assess the advantages and disadvantages of using tests compared with other sources of information" (Bartram, 2000). Within the next two chapters, a framework for carrying out this assessment is proposed that details a number of issues relating to test quality. This chapter maps the quality issues onto integrity tests and the following chapter employs the same approach in looking at other measurement tools that have been used to assess for honesty/dishonesty. The aim is to illustrate how integrity tests and other methods fare against the same quality issues as well as how the other methods compare with integrity tests.

Each method is discussed in terms of the 6 quality issues outlined by Bartram, Lindley and Foster (1990) and presented on the following pages. Clearly specifying the psychometric effectiveness of integrity testing in relation to these six aspects and then

comparing the analysis with other methods can obtain an overall assessment of the utility of an integrity testing system.

Scope

This aspect refers to the range of attributes covered and how specific or general the method is. The method may cover a detailed aspect of a specific attribute or a general overall picture.

Accuracy

The accuracy or reliability of a testing method examines the extent to which one can place reliance on a test-taker's score in terms of: Consistency (responses to items are related); and Stability (tend to get the same score over a number of trials).

Relevance

Often referred to as validity, this aspect is concerned with the extent to which a test measures what it claims to measure and the extent to which appropriate inferences can be made from a score on that test. Specifically, the focus is on criterion-related validity.

Fairness

Here, the concern is whether scores differ on the test for different ethnic, gender or age groups, which is not due to the relevance of the test. In other words whether test bias and/or adverse impact will be created. If differences between groups are true differences then the test is fair.

Acceptability

Will individuals such as test-users and test-takers co-operate in the testing process?

The focus in this aspect centres on the perceptions and thoughts surrounding the method on the part of those who will use it or be tested on it.

Practicality

Practical issues with the testing methods concerns questions of cost, length of time to administer, the type of equipment needed and whether specialist training is required.

In terms of the potential test user a cost-benefit analysis should be performed which weighs up the information gained from the test against the cost of using it.

Integrity tests

Scope

As outlined in Chapter 1, the scope of integrity tests depends somewhat on the type of test used. Overt integrity tests tend to be much more specific in their nature. They typically comprise sub-scales that measure specific attributes such as predisposition to theft, past theft and drug abuse. By contrast personality-oriented integrity tests measure more general concepts (wayward impulse, organizational delinquency) of employee dishonesty. They are more concerned with an overall measure of dishonesty, integrity, counterproductivity rather than just theft or drug abuse. In this respect, personality-based integrity tests have more bandwidth than their overt related counterparts, especially when scales are derived from responses to a sub-set of items on a general personality questionnaire rather than specific integrity tests.

Accuracy

Empirical investigation has produced favourable internal consistency reliability rates. Sackett, Burris and Callahan (1989) cite results of studies that show rates of 0.85 and above for the Personnel Selection Inventory (PSI, Terris, 1979), Phase II (Martelli, 1988) and the Reid Report (Ash, 1974). Further they cite the work of Hogan and Hogan (1986) who reported an alpha of 0.63 for the Hogan Reliability Scale on a sample of 90 students. Internal consistency rates were also positive for the Personnel Reaction Blank (PRB): 0.65 on a sample of 78 college females; 0.73 on 46 college males; 0.73 on 321 female office workers; 0.97 on 62 male delinquents; 0.95 on 49 female delinquents (Gough, 1972).

Test-retest rates are similarly high. Martelli (1988) found a correlation of 0.91 for the Phase II after a 3-week interval. Hogan and Hogan (1986) provide estimates of 0.76 (for a student sample of 90) and 0.9 (for an employee sample of 36) over a 4 week period (all cited in Sackett et al., 1989). Rafilson (1989) reports a test-retest coefficient of 0.91 on the PSI for 62 employees over a 1-week period. Hartnett and Terranova (1991) assessed the test-retest reliability of the PEOPLE Honesty Scale for 44 students and 74 job applicants. Results show $r = 0.89$ for students over 2 weeks and $r = 0.98$ for applicants over 12 weeks.

Previous research clearly illustrates that honesty/integrity tests are reliable both in terms of internal consistency and test-retest. O'Bannon, Goldinger and Appleby (1989, as cited in Murphy & Lee, 1994) report in their review a test-retest average of 0.88 and

Ones, Viswesvaran and Schmidt (1993) report a mean alpha of 0.81 and mean test-retest of 0.85. However, especially relating to the test-retest studies a number of criticisms emerge. Firstly, the time interval between test and retest is small in some of the studies (i.e. Martelli, 1988; Rafilson, 1989; Hartnett and Terranova, 1991) and this lends itself to the problem of practice effects. Secondly, small sample sizes for assessing reliability over time occur for some studies (62 in the case of the Rafilson study and 36 in the employee sample of Hogan & Hogan).

Faking

Another aspect, which will affect the reliability of the test, is the issue of faking.

Consider this scenario:

Applicants for a job are undergoing an assessment centre. The next exercise given to them is a type of questionnaire that assesses their honesty. Given that their responses to this particular questionnaire could affect their chances of obtaining employment, will applicants answer truthfully or not?

The problem of faking answers is considered to be a particular problem with honesty/integrity tests (Murphy, 1993), more so overt integrity tests than personality based tests because the individual is required to admit to previous behaviour or express attitudes to deviant behaviour. Ryan and Sackett (1987) have shown that groups told to 'fake good' answers to an overt integrity test scored on average higher than the total mean on both an attitude and admission scale. Yet, those responding as if they were applying for a job had similar results to those who were directed to respond truthfully.

Therefore, this illustrates that individuals are able to fake responses on integrity tests, in other words they know how to fake responses on such a test. However, even though those told to 'fake good' are likely to fake, if in the position of applying for a job they are likely to respond truthfully on an integrity test.

Lobello and Sims (1993) found that inmates instructed to fake good on a honesty/integrity test produced more favourable results on scales of Trustworthiness and Alienation than a group directed to answer truthfully. They concluded that more inmates would have been offered jobs than those who responded truthfully (who are the ideal candidates because they have responded honestly). Similarly, students have been shown to modify answers when directed to answer as though they were applying to a graduate school (May & Loyd, 1994). They argued that the answers were modified because something was at stake (i.e. going to graduate school). Similarly then, job applicants may modify responses because their chances of obtaining employment are 'at stake'.

However, the question is whether, under a given set of conditions, the degree of faking good is correlated with a trait of 'honesty', not whether scores can be changed by changing the conditions (i.e. directing the individuals to respond in a specific way). A tendency to fake good does not occur unless there are specific instructions to do so (Hough, et al., 1990; Ryan & Sackett, 1987). Indeed, even on many personality inventories individuals can distort responses when directed to (Hough et al., 1990).

Will people therefore admit to criminal activity? Ash (1987, as cited in Sackett et al., 1989) collected information on admitted involvement of criminal acts from 225,000 job

applicants. Results showed that 6.1% admitted theft in a previous job, 4.4% admitted committing a felony crime, 6.4% admitted minor criminal acts and 4.5% admitted frequent use of illegal drugs on work premises. Clearly, people (and remember this sample were job applicants) will admit to past deviant behaviours. Although, percentages appear to be low when equated into actual numbers the level is quite revealing: 13,725 admitted to theft; 9900 admitted to committing a felony crime; 14,400 admitted to minor criminal acts; 10,125 admitted to frequent use of illegal drugs. Also, these behaviours could be considered to be serious in nature and therefore the lower percentage levels endorses the findings that lower base-rates emerge when behaviours are serious or frequent (see Chapter 3).

Relevance

Research into the validity of honesty/integrity tests has used many different strategies, which have involved correlations with external criteria, time series designs and contrasted group designs. Generally, the results of the validity studies are positive towards honesty/integrity tests (see Sackett & Harris, 1984; Sackett, Burris & Callahan, 1989).

Correlation with External Criteria

Earlier work by Jones (1980) illustrated correlations of 0.41 between the PSI dishonesty scale and total estimated dollar stolen and 0.33 between this scale and number of times an employee arrived for work hung-over. Further research on 86 DIY centre employees

found correlations of 0.23 with mishandling cash, 0.35 with supervisor ratings of damage to property and 0.62 with absenteeism (Jones & Terris, 1983a).

Comparison studies between different integrity tests have also been carried out. Frost and Rafilson (1989) compared the Personnel Selection Inventory (PSI) with the Personnel Reaction Blank (PRB) on predicting on-the-job theft and counterproductivity. The PSI correlated higher with predicted theft ($r = 0.46, p < 0.001$) than did the PRB ($r = 0.1, p < 0.01$). Both the PSI ($r = 0.39, p < 0.001$) and the PRB ($r = 0.26, p < 0.01$) predicted counterproductive behaviour. Bernardin and Cooke (1993) conducted the first independent study that used predicted theft as the criterion. Data on the PSI and Station Employment Applicant Inventory honesty scales was collapsed for one analysis and this collapsed scale correlated significantly with terminations for theft ($r = 0.28, p < 0.01$).

Woolley and Hakstian (1993) undertook a more varied look at integrity test validity. They examined the criterion-related validity of an overt (Reid Report) and a number of covert (PRB, PDI-EI and HRI) integrity tests. A sample of 289 students rated their involvement in work and university-related deviance and a composite score of both aspects was devised. The Reid Report Honesty scale (RR Ho) correlated the most highly with the composite score (-0.49 for males and -0.47 for females) but correlations were stronger for work related deviance (-0.65 and -0.51) than for university related deviance (-0.39 & -0.40).

However, studies that use external measures as a criterion suffer from a number of problems. Self-report measures for example suffer from problems of social desirability and faking. The question as to whether an individual will own up to participating in

dishonest behaviours (especially if the study is not anonymous) is a debatable one. However, as seen in the data provided by Ash earlier, job applicants will admit to dishonest behaviour.

Further, those that use theft or other more serious forms of deviance as a criterion suffer from the problem of low detection rates. Many incidents of theft go undiscovered or thieves go to enormous lengths to cover up their tracks. Yet, even though low detection rates are still a problem within studies using theft as a criterion, they have improved somewhat with the increase in sample sizes dealing with 60-70 incidents of theft (Sackett, Burris & Callahan, 1989).

Time Series Design

Time series designed studies essentially collect information on shrinkage, losses or performance both before and after the introduction of a honesty/integrity test. These designs use the organisation rather than the individual as the unit of analysis. Brown and Pardue (1985) observed shrinkage rates in a drug store 3 years after the introduction of the PSI and found rates reduced from 3.4% to 2.4% of sales. Furthermore, the percentage of employees passing a polygraph exam increased from 42% to 64%.

Similarly, Brown, Jones, Terris and Steffy (1987) found terminations per month for theft, drug use or violence dropped from 0.2 in the 36 months prior to the introduction of the PSI to 0.11 in the 27 months after the introduction. Personnel Decisions Inc., (1985, as cited in Sackett et al., 1989) conducted a comprehensive study (n= 32,000) of large retail stores, assessing supervisor ratings 9 months prior to and 9 months after the

introduction of the PDI Employment Inventory (PDI-EI). The number of employees receiving the highest performance rating increased from 24% prior to the PDI-EI to 47.9% after testing. In addition, terminations for theft dropped from 2.5% to 1.3%. However, there was no information on the ratings and terminations for the 42 stores who did not use the PDI-EI.

Time series design studies provide a substantial amount of support for the validity of honesty/integrity tests. These studies, even though valuable, need to be interpreted carefully by a potential user of a honesty/integrity test. The lack of a control group is a central problem with many of the time series design studies. In this case results have been favourable for honesty/integrity tests being the causal factor in the reduction of shrinkage, theft rates etc. Yet, this data needs to be compared with comparable data from a control sample (theft rates), over the same time period, without the introduction of a honesty/integrity test. This comparison would enable the experimenter to observe if the change in theft/shrinkage rates can be purely attributed to the introduction of a honesty/integrity test.

Further, the positive effects over time that are illustrated in the research above may occur from the intervention itself rather than from solely the introduction of a honesty/integrity testing program. The famous Hawthorne studies of the 1920's and 1930's illustrated the effect of intervention of improving performance. The Hawthorne effect as it became known showed that being taken notice of was one important causal factor in the improvement of employee performance, more so than improved lighting or increased breaks etc. This could be happening with the time series studies on

honesty/integrity testing. It would be interesting to observe the results of a study when the honesty/integrity test was withdrawn.

Related to this criticism, Jones and Terris (1991) argue that one of the benefits of a honesty/integrity testing program is its ability to sensitise the workforce to issues of dishonesty. It verifies the organisations intentions, creates a climate that is unfavourable to dishonesty and serves as a warning that management are committed to combating dishonesty in the organisation. Perhaps then, it is not so much positive scores on a honesty/integrity test that predict job performance, rather it is the sensitisation of the group (in this case employees) to the issues of dishonesty and the increased attention that is being paid to them. This does not mean that in the end there is no need to use a honesty/integrity test because the test in itself is a contributory factor in the development of a 'honest work climate'.

Contrasted Groups

This method compares scores of those people who are known to be dishonest (criminals) with a non-criminal group. Results from a predictive validity study on 61 hired applicants found that the 6 caught for stealing scored significantly lower (more dishonest) than those not caught stealing (Terris & Jones, 1982). Further, juvenile offenders have been shown to score 1.4 standard deviations below the job applicant mean on the PDI-EI (Paajanen, 1987, as cited in Sackett et al., 1989). Borofsky (1992) looked at the validity of the Employee Reliability Inventory by comparing scores on the inventory across a number of groups:

- Group 1 - 104 people being treated for substance abuse and unable to function effectively
- Group 2 - 156 people who voluntarily sought or had been ordered to seek treatment for substance abuse
- Group 3 - A subset of a general group of job applicants (3863)
- Group 4 - 315 applicants for entry level Police Officer
- Group 5 - 642 applicants for Police officer and Sheriffs Officer
- Group 6 - 226 applicants for a security officer of a sensitive nature

The mean score on the inventory for group 1 was significantly poorer than the job applicant samples (groups 3-6). Group 2 scored more poorly than groups 4-6 on the inventory and worse than group 3 on all but 1 scale. Poor scores on the inventory indicate an increased likelihood of unreliable behaviours.

Using a white-collar criminal sample (people engaging in non-violent crime for financial gain by means of deception) and white collar employees, Collins and Schmidt (1993) reported that non-offenders scored significantly higher than offenders (1.55 standard deviations, $p < 0.01$) on the PDI-EI. Yet, they themselves believed that it was difficult to generalise these findings to pre-employment honesty/integrity testing because the study is concurrent and not related to job applicant scores. Also using the PDI-EI, Berman (1993) found a significant difference emerged between those who had engaged in involuntary turnover, voluntary turnover and those still employed. Higher mean scores (more positive) emerged for those still employed.

Although the results obtained for this type of criterion-related validation illustrate that integrity tests distinguish well between 'dishonest' and 'honest' groups, using criminals as a contrast group can create a positive bias in the tests favour, as it is easier to discriminate between criminals and non-criminals than between non-criminals themselves (Murphy, 1995). The aim of an integrity test is to discriminate within non-criminals and not between criminal and non-criminal groups. Even so, those studies that do not use 'criminal' samples still illustrate the ability of integrity tests to distinguish between those considered a risk to the organisations and those not.

Meta-Analysis

A couple of meta-analytic studies on integrity test validities have been undertaken. Initially, McDaniel and Jones (1988) performed a meta-analysis on 23 studies using the PSI and found an average corrected validity of the Honesty subscale of 0.5. A more comprehensive meta-analysis on 665 validity coefficients reported the mean true validity of 0.47 for honesty/integrity tests in predicting counterproductive behaviours and 0.34 in predicting overall performance (Ones, Viswesvaran & Schmidt, 1993).

Table 4.1 shows the mean true validity coefficients between different criteria (type of test, sample, method of study etc.) with job performance and counterproductive behaviours from the Ones et al., meta-analysis. The best estimate of true validity of integrity tests with the criteria is higher for the prediction of counterproductive behaviours than for job performance. Still, it is noticeable that integrity tests moderately predict overall job performance as well as substantially predicting counterproductive

behaviours. Looking at it in more depth, mean true validity estimates for overt integrity tests are stronger for predicting counterproductivity, whereas the opposite is seen for personality-oriented tests.

Table 4.1: Mean true validity estimates of integrity tests for predicting job performance and counterproductive behaviours (adapted from Ones et al, 1993).

Criteria	N	Mean true validity with job performance	N	Mean true validity with counterproductive behaviours
Integrity Tests	222	0.34	443	0.47
<i>Type of Tests:</i>				
Overt integrity tests	84	0.33	305	0.55
Covert integrity tests	138	0.35	138	0.32
<i>Method of study:</i>				
Predictive	79	0.37	138	0.36
Concurrent	135	0.31	295	0.56
<i>Sample:</i>				
Job applicant sample	43	0.40	183	0.44
Employee sample	135	0.29	153	0.54
<i>Job performance measure:</i>				
Supervisor ratings	153	0.35	-	-
Production records	10	0.28	-	-
<i>Measure of counterproductivity:</i>				
Self-report admissions	-	-	255	0.58
External measure	-	-	187	0.32
<i>Breadth of counterproductivity</i>				
Theft	-	-	152	0.52
Broad counterproductivity	-	-	290	0.45

Note: N = number of correlations

Yet, also important to note is that not only do integrity tests predict self-reported admissions of counterproductivity they also predict external measures. Indeed, examining the results on the breadth of the criterion it can be seen that integrity tests scores can substantially predict both theft and a broader measure of counterproductivity. Ones et al. (1993) argue that honesty/integrity tests predict a broader range of organisationally disruptive behaviours than just theft alone and that validities are generalisable across situations and settings.

Fairness

False Positives

False positive rates are one of many contentious issues within honesty/integrity testing. High rates are unattractive (Martin, 1989). The last thing a user wants is a scenario where a large proportion of honest applicants are incorrectly identified as dishonest because the screening process is attempting to select honest individuals. This aspect is especially important in honesty/integrity testing because of the implications of being rejected or in other words being labelled as dishonest.

Paradoxically, integrity tests may actually penalise those who are extremely honest in nature. For example, those who admit the slightest misdeed like taking a pen could well be classified as a thief. Those who do not own up to past misdeeds and hence are being dishonest could well be labelled as honest. Liliensfeld (1993) argues that punitive scales on integrity tests actually bias against those individuals who are forgiving and flexible.

As an example, Andrews and Lilienfeld (1993, as cited in Lilienfeld, Andrews, & Stone-Romero, R. (1994) found that a group of monks scored significantly lower (more dishonestly) than a group of college students on punitive scale and lower, although not significant, than a group of criminals. In actual fact the monks were more forgiving and less likely to want punishment to be meted out on an individual.

Murphy (1993) suggests that failure rates of 30 to 60% on honesty/integrity tests are common but if base rates are at 10% then at the extreme 50% of individuals will be improperly classified. However, percentage costs (average % of job applicants who performed acceptably but were identified by tests as a risk) can be higher for honesty/integrity tests (44%) than around the 30% seen in some personality inventories (Inwald, Hurwitz & Kaufman, 1991).

The whole question of false positive rates in honesty/integrity testing was examined more closely by Martin (1989). He concluded that to help to reduce false positives, applicants who failed a honesty/integrity test should be screened a second time on some other independent measure. However, "As companies reduce the number of... honest applicants who are rejected, they simultaneously expose themselves to more theft prone or dishonest employees" (p. 259).

Adverse Impact

Equal opportunity laws in both the US and Britain prohibit the use of tests in a manner that discriminates unfairly against some groups of the population (such as gender or

racial minority groups). Adverse impact in itself is not unfair but it provides the prima facie evidence for indirect discrimination. Indeed, problems have surfaced over the adverse impact of certain ability and aptitude tests on black minority groups. The question arises then as to whether honesty/integrity tests show adverse impact.

Qualitative reviews have suggested that no adverse impact is seen for integrity test scores (Goldberg et al., 1991, Sackett, Burris & Callahan, 1989). However, as Ones and Viswesvaran (1998) point out, studies looking at this issue have tended to confuse adverse impact with inter-group differences. Adverse impact relates to the use of the integrity test in occupational settings, whereas group differences focus on if a bias occurs within a scale. Yet by looking at group differences within an integrity test, information regarding the likelihood that the test would cause adverse impact (so long as selection decisions were based only on that specific test) can be obtained.

Studies examining inter-group differences have indicated that females score slightly better than males (Sackett & Harris, 1984) and Blacks slightly higher than Whites (Hartnett, 1991; Sackett & Harris, 1984). More recently, Ones and Viswesvaran (1998) examined group differences by age, gender and race on overt integrity tests in a sample of 724,806 job applicants. They argue that there was a need for a rigorous quantitative study as previous research looking at group differences: failed to concentrate on job applicants; examined only 1 integrity test at a time; used limited sample sizes; only compared Blacks with Whites. From their analysis they found that females scored 0.16 SD's higher on integrity tests (more positive) than males and that those 40 and over scored 0.08 SD's higher than those under 40. Further regarding the issue of race, Blacks and Asians scored 0.04 SD's lower than Whites, American Indians 0.08 SD's lower and

Hispanics 0.14 SD's lower than Whites. From this they argue that differences between age, gender and racial groups on integrity test scores are minor especially as values of 0.2 or lower are considered to be small (Cohen, 1977).

Previous research, which illustrates the lack of bias and by implication adverse impact within honesty/integrity tests, should help to allay the fears of Equal Opportunity Boards in Britain. These tests appear not to unfairly discriminate against age, gender or racial minority groups. Indeed, the statistical record of honesty/integrity tests, which illustrate their freedom from adverse impact, cannot be matched by any other selection technique (Arnold, 1991). He indicates that the Equal Opportunity Commission in the US agrees that honesty/integrity tests will not create unfair discrimination. However, Inwald (1988) argued that even though the empirical evidence suggests that honesty/integrity tests are free from adverse impact and bias there are likely to be cases where biases exist. The example described is that questions on marijuana use could be more biased against young Black males rather than middle-aged white males and females.

Acceptability

The co-operation of test-takers and test-users is essential in any testing process. Not only does the process rely on measurements of accuracy and relevance but also there is a need to gain acceptability by those who will be using the test or taking the test. On the face of it, it is hard to see how a test-taker will judge the use of honesty and integrity tests as acceptable. Imagine ones own reaction if faced with the possibility of being

assessed as honest or dishonest by a paper and pencil questionnaire! In this section acceptability is examined from a number of aspects:

- job relevance - is honesty a job relevant trait?
- invasiveness and privacy - are honesty tests an invasion of privacy?
- labelling - what effects are there on the test-taker by being labelled as dishonest?

Firstly, studies looking at reactions to honesty/integrity tests from student and employee samples are outlined, followed by a closer examination of privacy and labelling issues. Arguably, there is more of a need to examine reactions to integrity tests as it has been assumed that due to their controversial nature, reactions towards integrity tests will be negative (Ryan & Sackett, 1987). However, this assumption has not been totally supported from empirical investigations using a within-method design. Examining student reactions to an integrity test, Ryan and Sackett (1987) reported that most agreed it was appropriate for an employer to use the test and few stated that they would refuse to take it (10%). Over half of the respondents (59%) agreed that the test was sometimes an appropriate selection procedure, yet there was a general consensus of opinion that they would not enjoy taking the test. Respondents were split as to whether they viewed the test as an invasion of privacy or not. Using a job applicant sample, Jones and Joy (1991) reported that 82% of them had no objections to taking an integrity test and that those applicants who 'failed' the test were more likely to complain. In a second related study of 226 manager trainee applicants, 90% agreed to some extent that it was appropriate for an employer to administer the test and only 4% agreed that they would refuse to take such a test. In this case, the majority of the sample (69%) disagreed that the test was an invasion of privacy.

This within-method approach has been extended to look at the difference in perceptions of acceptability between overt and personality-based tests. Items on an overt integrity test have been viewed by employees to be more job-relevant, inoffensive and non-invasive than items on two personality-based tests (Jones, 1991). Similar positive views for an overt integrity test over a personality-based test were reported in a college sample (Whitney, Diaz, Mineghino, & Powers, 1999). In addition within this study, individuals who performed well on either test were more likely to view the test as fair and accurate.

From these single method studies, positive evaluations of the job-relevance (especially for overt integrity tests) and appropriateness of integrity tests have emerged. However, they do lack the ability to be generalised and compared to one another (Rynes & Connerly, 1993). In this case, multi-method comparisons where researchers investigate reactions to various methods of assessment have come to the fore. From these studies, it is not only possible to examine how integrity tests are viewed, but also how they compare to other (more traditional) methods of assessment. Rynes and Connerly (1993) assessed the reaction of 390 job seekers to 13 different selection methods. A clear absence of negative evaluations was seen for the honesty test, although evaluations were generally neutral. Similar findings were achieved by Stone and Stone (1990), where out of 12 other selection methods, honesty tests were ranked as 6th highest in terms of invasiveness. Kravitz, Stinson and Chavez (1996) found neutral views were expressed for an honesty test in relation to 16 other tests in terms of job-relatedness, invasiveness, fairness and appropriateness. In addition, a significant position effect emerged for the honesty test, being evaluated more positively when used for a managerial than a

production position. However, a more negative evaluation for honesty tests in terms of face validity and privacy has been reported (Steiner & Gilliland, 1996).

Privacy

Paper and pencil honesty/integrity tests have been criticised as unwarranted invasions of privacy (Libbin, Mendelsohn & Duffy, 1988, as cited in Miner & Capps, 1996). The problem arises that often honesty/integrity tests can include questions on items that do not appear to be job related (attitudes to religion or sex, family relations, private interests) and inferences about integrity are commonly made from individual responses to these items.

Murphy (1993) cites a review on the research and theory relevant to privacy in organisations that was carried out by Stone and Stone (1990). They suggested that there is some difference in an organisation's and an employee's point of view as to what is deemed to be private and what is deemed to be public and that assessing attitudes or inquiring into past misdeeds is likely to be perceived by some as an invasion of privacy. There does appear a need for organisations to be aware of this issue when assessing or inquiring about attitudes or past behaviour and some thought into the type of items to be included in a honesty/integrity test. The concerns over the invasion of privacy may have been exaggerated to some extent (Jones, Ash & Soto, 1990). They point out that there have been few serious attempts to challenge honesty/integrity tests on privacy related grounds. Arnold (1991) reports that up to 1991 test publishers have not received any formal complaints that honesty/integrity tests have violated privacy rights. He identified

only one case of an employee complaint but this was rejected in court because the court deemed “employee honesty is a genuine and job related concern for an employer.”

Arnold further argues that effective screening for integrity would help the organisation identify those individuals who could be a risk to the organisation, which in turn would reduce the need for the use of monitoring techniques (such as CCTV).

Labelling

The ethical problem surrounding the interpretation of a test score needs to be addressed especially as honesty/integrity tests deal with a very sensitive human trait, one which individuals value most in others (Sackett, 1994). Therefore, there is a serious ethical implication in labelling someone as ‘dishonest’. Once a person is labelled dishonest then they are “doomed to fail repeatedly” and that this would create unemployment, which is strongly related to crime and poverty, implying that the increased use of integrity tests would lead to more dishonest acts outside of work (Guastello & Rieke 1991). Yet, they fail to take account of the selection ratio in this aspect. If 1 place is required in a company and 5 people go for it, then 4 will be rejected regardless of whether an integrity test is used or not.

Being labelled as dishonest is seen as more serious than labels from other selection tests (Sackett, 1994). Camara and Schneider (1994) cite the work by the US Congress Office of Technology Assessment (1990), which concluded that 95.6% of people who fail honesty/integrity tests are wrongly classified as dishonest. An individual is likely to

suffer from problems if he/she has been wrongly labelled as dishonest or a risk to the organisation (consider how hurt and defensive people get when others think that they are lying). As a response to the labelling problem, Sackett concluded that organisations more often than not produce a generic letter of rejection along the lines of 'Sorry to inform you that we have not selected you for the position of We wish you all the success in the future'. Although feedback can be requested, generic rejection letters often do not mention individual scores on specific tests and there is certainly no mention of raw scores.

Generally, in terms of acceptability, although there are not strong positive views for the use of integrity tests neither are there strong negative views. Even so, issues such as privacy, job relevance and labelling have come to the fore and impacted on test-user's and test-taker's perceptions of the acceptability of such tests. However, these issues indicate more a lack of knowledge about integrity tests than attitudes from previous experience. Indeed, support for this premise comes from Bartram, Lindley and Foster (1992). In a survey of 286 medium and large organisations in the UK on the selection of young people, they found that only 2% used integrity tests and that generally they were viewed neutrally in terms of validity, fairness and practicality. However, integrity tests were second lowest (behind biodata) in terms of the percentage of organisations who felt that they had sufficient knowledge about such tests (75.4%). However, will increased knowledge of honesty/integrity tests lead to improved acceptability amongst test-users and test-takers.

Practicality

Being of paper and pencil design, integrity tests are bound to be lower in terms of cost and time than other methods of assessment. There is no need for expensive machinery in order to assess the individual, just basic materials and also the time to collect the data is just the length of the test itself. Without access to test publisher catalogues it is difficult to quantify time and cost issues exactly although the Human Resource Consultancy (1991) provide some practical information. They examined a number of unnamed integrity tests reporting the shortest taking 15 minutes and the longest 1h 15mins. Monetary costs average out at £15.00 per candidate. However, the information from the Human Resource Consultancy is not comprehensive and open to change if all publishers contributed their information on costs and time, in terms of a cost/benefit trade-off integrity tests appear to be beneficial to an organisation as weighed up against their cost.

Training of users

Another practical aspect is the extent to which test-users require and need training. As emphasised by the labelling issue, there is no doubt that care and consideration needs to be taken when interpreting and giving feedback on honesty/integrity test results. This is not necessarily a disadvantage of honesty/integrity tests, more it is a problem in the process of honesty/integrity testing. Honesty/integrity tests have a tarnished image. They are viewed as imitations of the polygraph especially as early on polygraph technicians and not psychologists developed them. Most of the earlier studies that show high validity scores were carried out by test publishers or representatives of test

publishers (although more and more independent psychologists are researching this area). These studies which consistently use phrases such as 'high validity' or 'high reliability' may not be fully understood by non-psychologists (Kay, 1991).

The problem is not so much with honesty/integrity tests themselves but the way they are marketed and the fact that they are allowed to be administered, scored and interpreted by unqualified individuals (Kay, 1991). He cites the analogy that a stethoscope in unqualified hands is useless and potentially harmful. Goldberg, et al. (1991) illustrated the lack of qualified honesty/integrity test users from a survey of the test publishers. They found that out of the publishers who responded only 5% required either a graduate degree or special licence for using such tests.

This aspect of training and qualification is an important issue. Allowing the use of honesty/integrity tests by untrained individuals is bound to present many problems (e.g. misclassification, unethical practice, and poor interpretation of the results). When someone is feeling ill they go to a doctor who will assess their symptoms and reach a diagnosis, they do not accept a diagnosis off an unqualified person. Similarly in a selection scenario, the applicant will believe that whatever the assessor reports is correct because after all the assessor should know. Assessors need to be fully trained to be able to interpret scores on a honesty/integrity test especially as the potential consequences of mis-labelling can be damaging for the test-taker as well as the test-user. The correct interpretation of test scores is perhaps the most important aspect of an integrity testing process, especially considering the labelling problem outlined earlier.

Table 4.2 highlights in note form the information pertaining to honesty and integrity tests in relation to the application of the psychometric quality framework. From applying this framework, the research has indicated that honesty and integrity tests are reliable, valid, fair and practical (although there is the issue of training) methods to use as a pre-employment screening device. The scope of the method depends on the type of test used, but honesty and integrity tests have the capacity to assess broad construct such as employee deviance or more specific ones such as employee theft. Although, such measures have favourable validity estimates, some methodological issues do emerge within the studies. However, meta-analysis and more independent research has shown these validity coefficients to be representative.

Perhaps one of the major problems associated with honesty and integrity tests revolves around their acceptability and some aspects of fairness. Even though, they do not show adverse impact against minority groups and are viewed neutrally, they can suffer from high levels of false positive rates and therefore labelling becomes a much bigger issue. In this sense they are not necessarily unfair from a technical perspective (adverse impact) they could be judged unfair from a more ethical/moralistic perspective (labelling and false positives). Does this mean that such a method of assessment even though the technical information is positive should not be used? Further, how good is the technical information and how well do they fare when placed against other, more traditional or more acceptable, methods of assessment? These issues will be discussed in the next chapter.

Table 4.2: Analysis of honesty/integrity tests in relation to the six psychometric qualities

Scope	Accuracy (Reliability)	Relevance (Validity)	Fairness	Acceptability	Practicality
Depends on the type of integrity test used. Overt tests are more specific and personality-based tests more broad	Generally high reliability levels reported. Meta-analyses have reported mean Alpha's of 0.81 and mean test-retest of 0.85.	Favourable validity coefficients reported. Meta-analyses report validity of 0.47 with counterproductive behaviour and 0.34 with job performance.	Reported not to show adverse impact. Suffers from the problem of high false positive rates.	Views of potential test-takers are neither positive nor negative. Potential issue of labelling.	Relative cheap in cost as they are paper and pencil design. Generally, not time consuming. Need to consider the training of test-users.

Chapter 5: The psychometric effectiveness of alternative methods to assess for honesty and integrity

“There is one way to find out if a man is honest, ask him! If he says yes then you know he’s crooked”.

Groucho Marks

From the previous chapter, honesty and integrity tests were shown to fare well against a framework of psychometric quality issues. In this sense, one could argue that from a technical point of view such tests are advantageous for use within pre-employment screening – especially as they have also been shown to predict overall job performance. Yet, there still remains the need to illustrate how useful these methods are in respect to other selection methods and this is the focus of this chapter.

Four other methods were chosen (polygraph, interview, biodata and references) on the basis of a literature search that indicated which methods have been used and also from the survey study in Chapter 3. As previously, each method is analysed in relation to the quality issues and then this is referred back to the information pertaining to honesty and integrity tests.

Polygraph

Throughout history there have been numerous attempts to identify dishonest individuals and traditionally these attempts have focused on the identification of a ‘Pinocchio response’ or the identification of physical reactions when an individual lies. The

polygraph is based upon the premise that a change in physiological response (such as heart rate, blood pressure, skin response etc.) indicates dishonesty. The procedure involves a comparison of the magnitude of the change in physiological activity from questions not related to an event to those that are. However, initially there appeared to be a belief that lying or deception has a specific pattern of response and it is this pattern that the polygraph detects. As Kleinmuntz & Szucko (1984, p.767) suggest; "The public, with the encouragement of contemporary polygraphy, tends to believe that lying produces a unique set of measurable physiological responses that characterise lying and only lying." There is a lack of empirical evidence to suggest such a specific pattern exists, but unless this is made clear (especially in the use of the polygraph) "the public" will carry on thinking that the detection of deception can be reduced to a unique set of measurable physiological responses.

Scope

As with integrity tests, the scope of the polygraph depends upon the type of test employed. Traditional control question techniques (CQT) and guilty knowledge tests (GKT) assess, if in a slightly different format, lying and only lying to a previous event. In employment screening this is not what is being assessed - prediction of dishonest behaviour is the goal not whether an individual is lying. Indeed, an event has to have occurred for these techniques to be of benefit, but in screening this again is not the case. Integrity tests are not looking at whether individuals have lied to questions, rather whether they will steal, take time off etc., in the future if employed.

The relevant control test (RCT), is perhaps more applicable to pre-employment screening. A number of relevant questions are administered (Have you ever stolen from your previous employer?) as well as irrelevant ones (Is the month July?). Test-takers are directed to answer 'NO' to all questions and the change in physiological responses across the relevant questions is used as the basis to determine honesty. In this sense it is almost an oral overt integrity test but using physiological responses as the criterion. Yet, once again, this is only assessing lying to the question and not whether the individual will steal if employed.

Even with the more applicable RCT technique, the polygraph measures lying to very specific events and not a broad concept of employee dishonesty. Therefore, the polygraph as a technique to identify employee honesty, dishonesty or integrity is limited in its scope. Unlike the integrity test, this technique can only assess if an employee has lied or is lying to often only one event. Yet, the concept of employee dishonesty is much broader than this technique can measure. Indeed, attempting to increase the scope of the polygraph may reduce its reliability and validity (Ben-Shakar and Furedy, 1990).

Accuracy

Measurement of the reliability of polygraph assessments has involved examination of the consistency of inter-examiner interpretations, inter-method consistency and stability of interpretations over time. Inter-examiner correlations of 0.86 between 6 examiners (Barland & Raskin, 1975) and 0.89 between two examiners (Honts, 1982, as cited in Gale, 1988) have been reported. Contrary evidence is reported by Kleinmuntz and Szucko (1984) where low inter-examiner reliabilities were found (mean of 0.43)

between the judgements of 6 polygraph examiners on 120 sets of charts. In terms of inter-polygraph method consistency (examining different physiological criteria on the same individual), Barland and Raskin (1976, as cited in Gale, 1988) found only slight and often no relationships between the different measures (all correlations less than 0.4).

Some results on the consistency of judgements between examiners do appear to be favourable towards the polygraph and comparable to the Alpha consistency levels (0.81) seen in integrity tests. Although, as the Kleinmuntz and Szucko study indicates these findings are not necessarily universal. Less of a positive note emerges for inter-method consistency, which perhaps shows the unreliability of physiological methods.

Stability of polygraph interpretations from actual criminal cases of seven examiners over a 3-month interval have yielded intra-examiner agreement ranged from 75-90% with a mean of 85% (Hunter & Ash, 1973). Barland and Raskin (1976) found intra-examiner reliability coefficients between 0.80 and 0.92 over a six-month period. Taking this on board, intra-examiner reliability appears to be at an acceptable level and again comparable to integrity test test-retest reliability (0.85). However, two points should be raised against this. Firstly, intra-examiner agreement may well be 'high' but if examiners are consistently interpreting the result wrongly, then it is not going to be valid. Secondly, technically, test-retest reliability is not being examined. In order for test-retest to occur a test-taker has to perform the test at occasion 1 and then at occasion 2 and scores are correlated. However, in the Barland study the polygraph examiner was judging the same chart on two occasions not two charts from the same person on two occasions. Arguably, the level of agreement should have been high as the same chart is used. Consider if it would be acceptable for a doctor to give a diagnosis on the basis of a

patient's chart at time 1 then at time 2 used the same chart but came up with a different diagnosis?

Relevance

A number of laboratory studies have been designed to examine the validity of the polygraph in the detection of dishonesty. Correa and Adams (1981) correctly identified all 20 subjects who were lying and all 20 who were telling the truth on a pre-employment questionnaire. Barland (1981, as cited in Carroll, 1988) found 86% of those who lied and 76% who told the truth were correctly identified. An overview of a number of laboratory studies assessing the validity of the polygraph have shown mean success rates at detecting dishonesty of 85.4% and for detecting honesty of 76.9% (Carroll, 1988). In itself, these detection rates are high and maybe acceptable to some people, yet they are not telling the whole story. Mean false positive rates were calculated at 23%, indicating that nearly a quarter of those test-takers that were honest were actually classed as dishonest, and mean false negative rates in the studies were 14.6%. Bradley, MacLaren and Carle (1996) highlight a further example of the false positive problem in laboratory studies. They found a correct classification rate for guilty participants on a GKT of 66% and on a guilty action test (GAT) of 70%. However, for the innocent participants, 63% were identified as guilty on the GKT and 37% on the GAT.

Results from field studies follow a similar pattern. Bersh (1969) had 4 attorneys judge the guilt or innocence of individuals just using case notes and not polygraph examinations, which were then compared with a polygraph assessment. Accuracy rates

for the detection of dishonest test-takers reached 93%, whilst rates for the detection of honest test-takers reached 92%. However, this study (which is used to illustrate support for the validity of the polygraph) has been criticised, chiefly by Carroll (1988). He argues that it is not conclusive to imply that the polygraph is valid from this study, mainly because the polygraph assessment was not of a 'blind' design (i.e. the assessor had access to the case files). Therefore, there is no indication of how much of an emphasis was placed on the case notes when the polygraph examiner was deciding on his or her judgement. It could be argued that all this study shows is inter-rater reliability. Horvath (1977) studied the judgements of 10 polygraph examiners on charts from 112 criminals and identified the percentage judged to be guilty and innocent against verified rates of guilt and innocence on what was termed 'person crime'. Out of those actually guilty, 78.6% were judged to be guilty and out of those actually innocent, 50% were judged to be innocent.

As with the laboratory studies, Carroll (1988) provides a synopsis of the data on field studies that only used a 'blind' methodology. Mean accuracy rates at detecting dishonesty were 83% (which is similar to those reported in lab studies), whereas equivalent rates for the detection of honesty were somewhat lower at 57%. Mean false positive rates are reported at a high 43% level and even false negative rates are not trivial at 17%.

The evidence presented on polygraph validity indicates that in the detection of lying they are a fairly valid tool, especially if combined with a number of other measurements (such as background checks). Indeed, Kircher and Raskin (1992) present combined results for the validity of the CQT that report approximately 90% of guilty subjects are

identified as guilty and 85% of innocent subjects are identified as innocent. Some methodological problems exist with studies but in general for detecting dishonest employees the polygraph is shown to be a valid tool. However, there are two issues that should be brought into the discussion at this point concerning validity. Firstly, this validity does appear to be at the expense of identifying honest people as dishonest to an unacceptable degree. The false positive rates in some studies appear to be quite high (evidence from Carroll shows them to be around 43%). This is equivalent to the 'extreme' false positive rate of integrity tests identified by Murphy. Secondly, the validity of the polygraph only relates to whether it can detect people when they are lying, it does not relate to the prediction of performance (dishonest behaviour) at work. Hence, even though the polygraph could be considered valid it is only valid at predicting lying to a previous event. Indeed, this second point is considered by Honts (1991) to be one of the larger problems associated with using the polygraph as a pre-employment integrity measure. Specifically, Honts suggested that there is a need for studies using a longitudinal design in order to examine the question of the prediction of future (rather than previous) behaviour.

More recently, some research looking at event-related brain potentials (ERPs) has been undertaken to observe its validity as a 'lie-detection' device. Essentially it used the guilty-knowledge approach to examine alterations in specific brain activity (specifically the P300, which relates to a positive change in voltage whose peak is obtained 300ms after presentation of a stimulus) to infer knowledge of information (Bashore & Rapp, 1993). Essentially, the notion is that the peak would occur at the specific time when an individual recognises a stimulus and attempts to conceal it. Bashore & Rapp, highlight that there is only a small amount of research looking at ERPs in this way and what there

is has shown some initial positive results. However, as was directed at the polygraph GKT, this ERPs approach is still only measuring lying to a previous event and there is still a question of whether it could predict performance over time.

Fairness

A search of the literature failed to find any studies that examined the issue of adverse impact in polygraph testing (unsurprising considering its lack of use as a selection tool). Therefore, the discussion regarding fairness will centre upon the misclassification rates obtained by the polygraph. It has been suggested that polygraph testing only offers a slight improvement on guessing and those who are innocent are more likely to be classified as lying (except on the GKT) than those who are guilty being classified as innocent (Blinkhorn, 1988). Lykken (1981) suggests that caution should be taken not to interpret arousal as an indication as deceit and physiological responses can arise from other factors like anger, surprise, guilt or fear.

As reported earlier, Carroll (1988) found mean false positive rates for laboratory studies of 23%, and for field experiments mean false positive rates were at an alarmingly high 43%. The impact of failing a polygraph assessment is arguably more negative than a low score on a honesty test. The polygraph uses a YES/NO criterion for passing or failing and failure indicates that the individual has lied, or is a liar. Barring those integrity tests that use a cut-off (although even here they do not imply that the person is a liar) there is no such black and white classification of a person. Rather integrity tests focus (or should focus) on the extent of a risk a person is to the organisation in terms of dishonesty. Integrity tests do not classify people as liars, more they attempt to give a

quantifiable measure of the level of dishonesty the employee may exhibit in future work performance. For example, high scorers on honesty tests are 'likely' to act in a non-counterproductive manner at work more so than low scorers. It does not state that a low scorer has 'failed the test'.

It appears that a test-taker undergoing a polygraph examination has to prove their innocence rather than the assessor trying to prove the applicant's guilt. This in itself will undoubtedly increase anxiety, which will lead to a poor polygraph assessment.

Although, this argument has also been levelled at integrity tests (Guastello and Rieke, 1991) it is stronger when aimed at the polygraph.

Acceptability

Surveys by Gallup (1984) and Amato (1993) as cited in Iacono and Lykken (1997) on members of the Society for Psychophysiological Research (SPR) has produced similar opinions on the use of the polygraph interpretations to determine whether a test-taker is telling the truth or not. In each survey around 60% of respondents considered it a useful diagnostic tool when used in conjunction with other information and approximately a third thought it questionable to use, and entitled to little weight. Further, Iacono and Lykken (1997) found that a sample of American Psychological Association (APA) members responded negatively to the use of polygraph assessments: only 30% thought that the CQT was based on scientifically sound principles; 20% thought the CQT was a standardised procedure; 72% thought that the GKT was based on scientifically sound principles; 22% thought that the RCT was based on scientifically sound principles.

Overall, the case for the use of polygraph assessments in pre-employment screening does not look too positive. A review by the US Congress Office of Technology Assessment (1983, as cited in Sackett, Burris & Callahan, 1989) produced unfavourable results towards pre-employment polygraph screening. From over 250 validity studies on polygraph use, all but 2 were in the context of criminal investigations rather than workplace dishonesty. They reported that the review “found evidence of polygraph validity only in the area of specific criminal incidents.... Even here findings about polygraph validity must be qualified” (p.5). A second review carried out by the APA (1986, as cited in Sackett et al., 1989) resulted in a resolution, which stated that the scientific evidence for the validity of physiological indicators in employment screening to assess deceptive behaviours is unsatisfactory.

From an UK perspective, a report by the British Psychological Society (1986) concluded, “In such circumstances, it is difficult to see how Members of the Society could engage in work as polygraphic interrogators and claim that their conduct is consistent with the Society’s current Code of Conduct” (p.93). They argue that the polygraph does not live up to issues in the code of conduct because it:

- uses a non-standardised procedure
- involves the invasion of privacy
- does not appear that participation is voluntary
- is difficult to maintain regulation in its use.

Further, multi-method studies have shown negative reactions to the polygraph in relation to its use in selection for management jobs (Harris et al., 1990) and in respect of its invasiveness (Kravitz, Stinson, & Chavez, 1996; Stone and Stone, 1990).

In the US, opposition from unions, American civil liberty groups and the APA led to increasing negative reaction against the polygraph as a pre-employment screening device. Possibly the last nail in the coffin occurred on December 17th 1988, when the Employee Polygraph Protection Act was introduced which prohibited private employers from requiring or using pre-employment polygraph exams.

Unlike honesty and integrity tests where reactions from test-users and test-takers are fairly neutral in terms of the acceptability of this technique, the polygraph suffers from distinct negative reactions. It is generally seen as an invasive, unscientific, unfair, inappropriate and non-job relevant technique in pre-employment selection. Indeed, the reliance on the physiological aspect is problematic in terms of employee selection. In any case a job applicant will be aroused to some extent when involved in a testing process and this may impact on polygraph scores.

Practicality

Unlike integrity tests, the polygraph requires more specialised and expensive machinery and the process is often more expensive and time-consuming as only individual testing can be employed and there is not the facility to use group testing. Indeed, Harris et al (1990) found that HR personnel judged physiological methods of selection (polygraph) as the most costly. In reality the polygraph would be impractical to use for any large-scale pre-employment screening where the ability to test larger groups at a single time would be advantageous. The time element is also a factor in terms of the interpretation of the polygraph. As no 'score' as such is produced from this method (typically a graph

is the output) then interpretation will take longer and be more subjective than a standardised 'honesty' score.

A high degree of training and skill is needed to design polygraph assessments and interpret the results. Taking the CQT as an example, the level of skill required to produce irrelevant items is very high. These items need to produce a physiological response in the test-takers but certain test-takers may become aroused on the relevant items purely because they are being accused of a crime. Therefore, the irrelevant items need to produce a strong enough response so as to overcome this problem.

In terms of practicality, the polygraph (especially for large scale pre-employment testing) is more expensive and time-consuming than integrity tests. For the training issue the polygraph requires at least a similar level of training, as regards interpretation, as do integrity tests. Although the type of training will differ the need to ensure appropriate interpretation and feedback of results is a central issue in both methods of assessment. The difference in training lies predominantly in the fact that generally integrity test users will not need to develop their own test to measure honesty as commercially available tests have been developed. Yet, a polygraph assessment procedure needs to be carefully devised as there are no 'off the shelf' generic tests. Indeed, an assessment, as discussed earlier, is specific to the event and therefore not easily transferable to another situation or organisation.

Interview

Surprisingly, even though there is a vast amount of research surrounding the use of interviews in selection there is a dearth of research looking specifically at 'honesty interviews'. Perhaps one reason for this might be related to the fact that many organisations use interviews as standard practice (this was seen to some extent in Chapter 2) and that these standard interviews could contain some elements that assess for honesty/integrity embedded within them. Therefore, organisations do not necessarily employ specifically designed 'honesty interviews'. Due to this lack of research the discussion regarding the quality issues of the use of the interview in selecting for honesty/integrity focuses on the research on interviews in general.

Wilson (as cited in Jones & Terris, 1991) proposed the development of 'structured integrity interviewing'. Typically, in these interviews, applicants are asked either to describe previous job behaviours or to respond to ethical scenarios. In describing previous job behaviours, applicants are encouraged to focus upon incidents when they felt that they were honest and those where they felt that they were dishonest. At the extreme, this approach could simply be the oral presentation of an overt integrity test. In this case it does beg the question why use the interview when it is too much like an integrity test? However, in terms of integrity interviewing a deeper discussion of the issues are encouraged. This deeper discussion may overcome the problem outlined earlier (when discussing integrity tests) of someone admitting to stealing and the item being only found to be a pen. Through integrity interviewing events such as this can be examined in more detail.

The use of scenarios can highlight aspects that have not yet occurred within an applicants previous job history and can examine the 'what would you do?' questions. Giving applicants ethical scenarios and examining their responses will give an indication of how they are likely to behave in that situation in the future. Unlike a patterned-based approach, this situational-based interview does not tarnish the applicant due to their previous behaviour. The basing of future decisions on previous actions does not allow for a person to change, although this argument can also be applied to overt integrity tests.

Scope

In general, the selection interview can and does assess a broad scope of attributes within employee selection. Indeed, the unstructured approach can potentially be extremely broad in its nature as the interviewer probes deeper and can go off in any direction based on candidate's responses. This does not necessarily mean that the structured interview (such as an integrity interview) is narrow in its scope. A skilled interviewer can obtain measures on a broad range of attributes (communication skills, assertiveness, teamworking etc.) using a structured format. Obviously, this style restricts the ability to tread new paths and is bound by the nature of the schedule, but if this is broad in its nature then there is no reason why the structured interview will not be broad in its scope. Emphasising past misdeeds may lower the coverage of the interview. It is questionable as to whether examples of past behaviours would be that varied across applicants. More likely the interviewer will obtain similar types of behaviours such as lateness or absenteeism. Using pre-defined scenarios allows the interviewer to obtain

information on a more varied amount of dishonest (or honest) behaviours and hence increase the scope of the method.

In reality, the level of scope as with integrity tests and the polygraph depends on type. However, it is probably far easier to tailor the interview in terms of its coverage to organisations than it would be to tailor an integrity test. For example, an interview schedule can be created which examines specifically employee theft if that was requested by an organisation, but in addition one could be designed that assesses a broader concept of conscientiousness, compliance or integrity. Overall, the selection interview has the potential above all other selection techniques to be the broadest in its scope. Yet much more than that, it is capable of being easily adapted to fit into organisational requirements. For integrity interviewing, so long as the schedule is designed appropriately, it can be broad and adaptable.

Accuracy

In terms of assessing the reliability of interviews, interrater reliability is predominantly used. Ulrich and Trumbo (1965) concluded that interrater reliability coefficients for interviews were between 0.62 and 0.9. A meta-analysis by Wiesner and Cronshaw (1988) reported mean reliability estimates of 0.78 for individual interviews. When examined further in terms of structure, reliability coefficients were higher for structured (0.82) than for unstructured interviews (0.61). A more recent meta-analysis by Conway, Jako and Goodman (1995) found mean interrater reliabilities to be 0.70 for all interviews. Reliability coefficients for panel interviews were greater (0.77) than those seen for individual interviews (0.53). Indeed, interrater reliability levels were higher

when the interview had multiple ratings, interviewer training and standardisation of questions.

In comparison to integrity tests consistency rates, interview reliability tends to be slightly lower, more so for unstructured interviews. However, interview reliability can be improved by increasing the structure of the interview and integrity interviewing would be of a more structured design. Only one study was found that actually examined the reliability of an integrity interview (Gerstein, Barke & Johnson, 1989). Test-retest coefficient over a 5-month period was 0.66 and over 24 hours 0.70. Clearly, this is lower than the mean rate of 0.85 seen for integrity tests.

Relevance

Like reliability, interview validity has been called into question, with validity coefficients of less than 0.5 generally the rule and more commonly they are less than 0.3 (Ulrich & Trumbo, 1965). Early meta-analytic studies illustrated mean uncorrected validity estimates of 0.13 (Dunnette, 1972, as cited in Cook, 1993), 0.19 (Reilly and Chao, 1982) and 0.14 (Hunter & Hunter, 1984). More recent meta-analyses have shown favourable corrected validity estimates of 0.47 (Wiesner & Cronshaw, 1988) and 0.37. Further analysis taking into account structure has produced mean corrected validity estimates for structured interviews of 0.62 (Wiesner & Cronshaw, 1988), 0.44 (McDaniel et al, 1994) and 0.51 (Schmidt & Hunter 1997). Anderson (1997) reports that mean validities from meta-analyses for structured interviews have been between 0.44 and 0.67 and for unstructured between 0.20 to 0.37.

The only study found examining the validity of an integrity interview (using both a concurrent and a predictive validity design) was by Gerstein, Barke and Johnson (1989). Concurrent validity with polygraph hit rates showed that 66% of those identified as honest via a polygraph were judged honest by the interview, whilst 74% identified as dishonest by the polygraph failed the interview. Using a predictive design with a criterion of fired for cash shortages (over a 2-month period) the interview correctly identified 63% of those fired and 65% of those not fired.

Clearly, the evidence suggests that structure moderates interview validities and when considering structured interviews, validity estimates in predicting job performance are positive – in fact better than the estimate for integrity tests (0.34). The implication for integrity interviewing (in terms of validity) is that due to their structure they may show good validity coefficients with job performance, and likely with supervisor ratings of honesty/integrity. The Gerstein et al. (1989) study does show positive findings for the validity of an integrity interview of structured design, yet false positive rates (classified by the interview as dishonest when honest) are around 33%. However, these are comparable (and sometimes better) than those found for integrity tests.

Fairness

Another issue directed towards the interview surrounds its apparent unfair discrimination towards gender and ethnic minority groups. Silvester and Chapman (1996) argue that a large amount of circumstantial evidence exists which supports the premise that the interview unfairly discriminates between gender and ethnic minority groups. Indeed, Arvey and Faley (1992) highlight numerous sources of bias (decisions

being reached very early on in the interview; interviewer ratings often linked to characteristics not essential in the job) present within the interview situation

In terms of gender bias empirical evidence exists which indicates that females are given lower evaluations than males (McIntyre, Moberg & Posner, 1980; McDonald & Hakel, 1985). However, it does appear that this is moderated by the type of job. Tosi and Einbender (1985) in their review of 21 studies examining gender bias, indicated that when interviewers were given more information about the candidate biased judgements were not made. Similarly, Heilman (1984) found highly job-relevant information produced less differential treatment of male and female applicants.

The research surrounding bias in terms of race is no so clear-cut. Ward, Zanna and Cooper (1974) reported different patterns of behaviours towards blacks as against whites for a sample of naive white interviewers. Haefner (1977) used ratings of resumes and illustrated a race effect only in interaction with gender and age. Yet previous laboratory studies have indicated a lack of bias (Wexley and Nemeroff, 1974; Rand and Wexley, 1975) and more favourable ratings for ethnic minority groups (Newman, 1978, as cited in Arvey & Faley, 1992; Mullins, 1982; Cesare, Dalessio & Tannenbaum, 1988). However, these studies have generally concerned themselves with artificial laboratory-based analysis and not examination of interview data in the real world. In their study of actual selection decisions for jobs in an amusement arcade, Parsons and Liden (1984) reported consistent discrimination against ethnic minority groups. More recently, Huffcut and Roth (1998) examined racial group differences from a meta-analysis of 31 studies with data on blacks and whites and 15 studies with data on Hispanics and whites. Blacks scored on average 0.25 SD's lower than whites and

Hispanics scored 0.26 SD's lower than whites in interview ratings. Group differences were higher for low structured than high structured interviews for all samples.

Wood (1997) suggests that there is a lack of research surrounding adverse impact issues related to the interview, specifically commenting on the fact that the interview is generally perceived not to suffer from adverse impact. In respect to integrity, again there was no research found looking at adverse impact or bias when honesty/dishonesty was the criterion. Even so, what information there is on adverse impact or bias on the interview itself does not compare with the overwhelming positive results found for integrity tests.

Acceptability

Interviews are renowned for their almost universal use in the selection process.

Robertson and Makin (1986) found in a survey of 108 organisations in the UK that 99% of the organisations reported using interviews in selection. Similarly, Bartram, Lindley and Foster (1992) report high levels of interview use with 94% of medium and large-sized organisations reporting using the interview at least half of the time.

Clearly from these surveys it is apparent that those involved in the selection process have favourable views towards the interview, if not why do so many organisations use them. Indeed, multi-method research has consistently shown that interviews are most likely to be used for selecting applicants (Harris, Dworkin & Park, 1990) and viewed the most positive in relation to other methods (Kravitz, Stinson & Chavez, 1996; Rynes & Connerley, 1993; Steiner & Gilliland, 1996).

In terms of acceptability the interview appears to be head and shoulders above integrity tests and the polygraph, in terms of both applicant and user attitudes. However, these positive evaluations may not actually generalise to integrity interviewing. Will applicant reactions be as positive for integrity interviews as they are for general interviews? If applicants know that the interview process is going to be assessing their integrity will such positive reactions emerge? In attempting to compare different selection methods of integrity in terms of acceptability, research would need to concentrate on explicitly stating that each method is to be used to assess honesty or integrity.

Practicality

Relative to other methods of assessment, the interview is time-consuming. The time element is not just a function of the session itself but also the time taken to interpret the sessions and arrive at some form of decision. Interview sessions can be similar in length as psychometric tests (30 minutes), but the time taken to code responses and arrive at some recommendations will be far greater than the time taken by an assessor to score a test and arrive at a finding. A further time-related issue centres on the ability to perform group testing. Unlike other forms of testing, interviews are predominantly one-to-one processes and generally not undertaken in a group setting. Obviously, this is going to increase the time taken to gather information on a group of applicants. For example, one could administer a personality-based integrity test to a number of applicants in one session, yet this will not be achieved by integrity interviewing. This aspect will also impact on cost as staff time will be higher than in paper and pencil integrity testing.

Training becomes increasingly important within interviewing, as there is a need to improve the reliability and validity of this selection technique. In order to reduce interviewer bias effects, training courses attempt to role-play actual interview sessions in order to maximise interviewer performance. However, although training impacts on the practicality of a technique, in terms of the interview no more training is required than one would expect to see for other selection methods – certainly for psychometric tests. Even though there would certainly need to be a more focused training course for the use of integrity interviewing, this level of training would also be expected if the assessor was employing an integrity test rather than an interview. In this respect the interview is not necessarily less favourable than the paper and pencil integrity test.

Biodata and References

Due to the comparable lack of research on these two methods, specifically in relation to honesty and more so for references, this section examines both biodata and reference/background checks together. Both assessment methods rely on the principle that past behaviour is the best predictor of future behaviour. In the case of reference/background checks previous employment history, personal character references and public records (criminal records, driving records) are all sources of previous behaviour. In terms of biodata, questions are asked concerning a number of aspects of the applicant's personal backgrounds and life experiences. Questions that distinguish between successful and unsuccessful employees are weighted to reflect the degree of importance and a total score is calculated by summing up the weights for the relevant items. Therefore a score represents how well an applicant has done on items related to success on the job.

Scope

The scope of the biodata is potentially quite large as weighted items can be developed that reflect 'pass/fail' on a broad range of constructs. Generally, they have been used to predict success on the job, but weighted item scales could potentially be developed that can predict narrow attributes such as theft-no theft or absenteeism-not absent, as well as broader concepts of honest-dishonest or compliance-not compliant. Obviously, this would mean that a number of different weighted item scales would need to be created and this would impact on the practicality of the method, more specifically the time and cost taken to develop these scales. However, the implication is that so long as the construct can be adequately defined and items can be generated and shown to predict the construct, then a biodata scale should be capable of being narrow or broad in its scope. Indeed a quote by Owens (1976, as cited in Gatewood & Field, 1998) provides support for this premise:

“One of the unmixed and conspicuous virtues of scored autobiographical data has been its clear and recognized tendency to be an outstanding predictor of a broad spectrum of external criteria” (p. 617).

References may also be large in terms of their scope as an organisation can assess a broad range of behaviours such as previous history of theft, previous history of absenteeism, perceptions of overall honesty. If character references and background checks are also used then this will increase the breadth, as an organisation will be able to obtain a more general and broader picture of the individual from a number of different sources.

As is seen consistently throughout the current discussion, scope is a function of the type of method, with each method capable of being narrow or broad.

Accuracy

Internal consistency coefficients for biodata frequently fall in the range of 0.6 to 0.8 (Hinrich, Haanpera and Sonkin, 1976), which is comparable to those obtained for integrity tests. However, internal consistency rates are affected by the heterogeneity of biodata items, in that items generally show low intercorrelations with each other and hence the internal consistency will decrease. As regards test-retest, Shaffer, Saunders and Owens (1986, as cited in Gatewood & Field, 1998) report estimates of between 0.6 and 0.9 (with a mean of 0.75) and generally, higher test-retest scores emerge for objective, verifiable items than for subjective, less verifiable ones. Although, test-retest rates are higher on average for integrity tests, the range seen for biodata is equivalent to that seen for integrity tests.

Little published research examines both the internal consistency and test-retest of references/background checks. Mosel and Goheen (1959, as cited in Cook, 1993) report interrater reliability coefficients to be generally less than 0.4. This rate is much lower than that obtained for integrity tests and even is below that obtained for the polygraph and unstructured interviews.

Relevance

Meta-analyses of biodata as predictors of job performance measures have produced favourable results. Mean uncorrected validity estimates of 0.35 are reported with job performance (Reilly & Chao, 1982) and 0.37 with supervisor ratings, 0.26 with promotion, 0.30 with training success and 0.26 with tenure (Hunter & Hunter, 1984). These are at a similar level to the mean validity estimates for integrity tests in predicting job performance.

In the literature only two published studies that examine the validity of biodata as a predictor of dishonest behaviour were found. Rosenbaum (1976) examined the prediction of theft from weighted application blanks from former employees caught stealing and not caught stealing in both a 'mass merchandiser' and a supermarket sample. In the first sample, 5 primary predictors (such as: weight 250 pounds or more; Detroit address; two or more previous jobs) and 2 lesser predictors (at present address less than 13 years, weight less than 130) were identified as potential predictors of employee theft. A cut-score of 2 correctly placed 75% of cases into honest or dishonest categories. Point-biserial correlations with cross validation samples were 0.47 and 0.48. For the supermarket employees 10 responses were weighted (such as: full-time work sought, not attending school, does not own an automobile, new employee is black, no middle initial). Taking a cut score of 5, 62% of the initial development sample would have been correctly placed in the caught stealing/not stole group. Point-biserial correlations with cross validation samples were 0.30 and 0.27.

McDaniel (1989) used the biodata technique in a sample of 700 army recruits in order to predict the criterion of “failure to meet minimum behavioural or performance criteria” - in essence discharges from the military. From factor analysis of 97 items a 7-factor solution emerged. A multiple correlation examining the 7 scales as predictors of the criterion produced a coefficient of 0.19.

Certainly, the results from McDaniel do not provide support for the use of biodata in predicting dishonesty over integrity tests. In the Rosenbaum study, higher validity levels are seen (0.27-0.48). Although these correlations at the highest level are comparable to the overall mean estimate of 0.47 found by Ones, Viswesvaran and Schmidt (1993), when using the same criterion of theft integrity tests show better validity estimates (0.52).

Validity data on references appears less compelling than those obtained for biodata. Mean uncorrected validity estimates have shown correlations of 0.14 with supervisor ratings (Browning, 1968, as cited in Gatewood & Field, 1988), 0.14 with overall job performance (Reilly and Chao, 1982) and 0.26 with supervisor ratings, 0.16 with promotion 0.23 with training success, 0.27 with tenure (Hunter & Hunter, 1984). However, there is little direct evidence to suggest that workplace dishonesty is reduced though the use of references. Indeed, a search failed to reveal any actual published papers looking at the validity of references as a predictor of a dishonesty criterion. Therefore, not only is there a lack of research data which would enable a comparison to be made between references and integrity test validities, also (as shown in the meta-analysis by Ones et al., 1993 in the previous chapter) integrity tests show stronger validity estimates as predictors of job performance measures than references.

Fairness

Before consideration of the previous research surrounding the fairness of the biodata, it is worth referring back to the Rosenbaum study. In that study one of the ten predictor items emerging out of the supermarket sample (as a predictor of theft) was 'new employee is black'. Clearly, this item would directly discriminate between an ethnic minority group and arguably it would be hard to convince a court that this aspect was job relevant. Indeed, also related to the Rosenbaum study, Pace and Schoenfeldt (1979) report that 'having a Detroit address' would likely result in adverse impact as more blacks lived in the city than the suburbs. They further argue that adverse impact can occur through the empirical process that biodata is validated, in that items highly correlated with age, gender, ethnicity can be selected by this empirical approach (as in the example of the Detroit address). Another such example comes from Siegal & Lane (1969, as cited in Gatewood & Field, 1988). They highlight a situation where discrimination could have occurred if equal weighting was given to the item 'How were you referred for a job with us' for both blacks and whites. A positive weight was assigned to this item for the response 'a current worker recommended me'. Yet, the organisation employed few black workers who were able to recommend them.

Owens (1976, as cited in Gatewood & Field, 1988) argued evidence points to the major dimensions of biodata being quite stable across cultures, age, race and gender. On the other hand, Reilly and Chao (1982) highlight a number of studies that reported significant racial and gender group differences in mean biodata scores. Saying that, they

also reported studies with non-significant race and gender differences. It does appear that biodata could, primarily because of the blind empirical nature that these scales are created, potentially suffer from adverse impact.

Once again the data on references is sparse. In their meta-analysis, Reilly and Chao (1982) found only one study (Bartlett & Goldstein, 1976) that reported data on adverse impact. In this study, 1.9% of black applicants received negative references as against 0.9% of white applicants ($X^2=13.46$, $p<0.1$). This result was moderated by the fact that the acceptance rate of the black sample was 99% of that of the white sample.

In terms of adverse impact and bias there is relatively little empirical evidence to make a response either way for both biodata and references. Much more research needs to be undertaken that uses a dishonesty measure as the criterion in order to consider fully the fairness of both these methods of selection. At least with integrity tests there is empirical evidence to show their lack of test bias (and ultimately to adverse impact) and as with all the previous methods, biodata and references cannot match integrity tests in terms of fairness.

Acceptability

The acceptability of biodata has focused upon two aspects: perceptions of invasiveness and the job relevance of the items. In terms of job relevance, biodata scales, because of the way they are constructed, consistently lack face validity and are often perceived to have low job relevance as compared to other selection methods (Smither et al., 1993). They contain a wide variety of background/life history items that on the surface appear

unrelated to the job in question. Although these items (through a process of weighting) may distinguish between successful/unsuccessful applicants their relevance to the job in question can be vague at best. Davey (1984) argued that biodata items are related more to emotional/social adjustment (such as number of siblings, number of close friends and parent's income) than to the job tasks.

Some of the items obtained in the Rosenbaum study give prime example of the lack of job relevance. Although certain items (not attending school, two or more previous jobs, full-time work sought) could be seen to be job relevant (especially using theft as the criterion) others would need an extreme stretch of the imagination (no middle initial specified, does not own an automobile, does not wear eyeglasses). However, looking back to the McDaniel study even though items may appear to be lacking in face validity, when factor analysed the 7 scales that emerged (including school suspension, employment experience, quitting school) show some level of job relevance.

Invasiveness is another criticism meted out to biodata scales. Sharf (1994, as cited in Mael, Connerley & Morath, 1996) suggested that biodata may come under more scrutiny in terms of invasiveness than other selection methods. In a study of 248 personnel managers, Hammer and Kleinman (1988) reported 39.5% of the sample would not use biodata because they felt them to be an invasion of privacy. In contrast, Stone, Stone and Hyatt (1989, as cited in Mael et al., 1996) found that applicant blanks (forms of biodata) were judged the least invasive out of 12 other selection methods. Mael et al., (1996) found items that generated the most negative responses in terms of invasiveness involved aspects of sexuality, religion, and physical/mental health. Interestingly, in terms of items directly relevant to honesty: 8% of a professional sample

and 18% of a student sample rated 'Fired for a bad job' as invasive. Also, transparent, verifiable and negative items were seen as less invasive. The authors suggest personal, religious and political items all impact on perceptions of invasiveness, whereas those directly related to negative events are not necessarily perceived as invasive.

In their survey of 108 organisations within the UK, Robertson and Makin (1986) found that 96% of organisations used references at some point in the selection process. This survey indicates that references are a widely used and acceptable part of the selection process. Further, multi-method studies illustrate the favourable ratings given to references (Kravitz, Stinson & Chavez, 1996; Rynes & Connerley, 1993).

Although the criticisms relating to job relevance and invasiveness have been levelled at integrity tests as well as biodata, the evidence from survey research seems to imply that test-takers do not generally find integrity tests unacceptable on these two counts. The same cannot be said for biodata, although views of items related to counterproductivity are not viewed as negative as those relating to religion, sexuality and political beliefs. References are clearly seen as an acceptable selection measure, more so than integrity tests. Integrity tests have neither strongly positive nor negative views, whereas references are perceived in a highly positive light. Also, one could infer that individuals would know that a reference is on some level going to examine their previous behaviour at work and hence they will have some knowledge that it could be used to examine their honesty.

Practicality

In the first instance, both methods would appear to be highly practical ways of assessing individuals. With respect to biodata, the ease of collecting data is a strong point as scales can be sent out with application forms and, since applications forms are used widely as an initial sifting mechanism, the cost of collecting additional data is small. Further, as they are paper and pencil design, there is no need for expensive equipment (such as required by the polygraph). On the other hand, Cook (1993) argues that biodata scales do not “travel” well in that they generally do not generalise well to other situations/occupations/jobs. Because scoring keys are developed for specific criterion in a specific job within a certain organisation, they tend not to transfer to other jobs and organisations – for other jobs new scoring keys would need to be developed and validated. This obviously has time and cost implications. However, Rothstein et al. (1990) have illustrated that developing biodata scales on large samples across multiple organisations increases the generalisability of the scales.

Regarding references, no specialist equipment is required, there is no need for specific training to be administered and information can be obtained via written and verbal means. In addition, often it can be the responsibility of the candidate to obtain written references, rather than the employing organisation. However, references cannot be used if the applicant does not have a previous employment history, response rates (especially mail-based) from employers can be poor, and, as discussed in Chapter 3, references can be lenient or just bland personnel data in order to reduce the possibility of litigation.

Biodata scales could be considered as a more practical alternative to integrity tests, so long as they are developed on large samples across multiple organisations. A fully reliable and valid biodata scale will be 'administered' at the initial sift phase (with the application form) and hence an individual rejected without costing the organisation too much in terms of time and money. In addition, training will be more in terms of developing the scales rather than interpreting the findings. The same argument can be given for references, but they suffer more from a reduction in response rates.

Table 5.1 highlights the main points raised for the alternative methods of assessing honesty in the workplace in relation to the psychometric qualities. Perhaps the most striking aspect is the lack of research on these other methods (except the polygraph) in the honesty domain. Yes, certain methods on some of the quality issues have been shown to be positive (such as the interview on acceptability and scope, biodata on validity and reliability and references on practicality), but the dearth in research makes it difficult to compare these methods with integrity tests. Where there has been comparable research, the evidence shows that these methods are similar at best to integrity tests. Given this finding and the previous chapter's comparison of integrity tests to the quality issues, a reasonable argument based on psychometric evidence can be put forward to illustrate the effectiveness and utility of paper and pencil integrity tests as predictors of honesty/dishonesty in the workplace. Integrity tests are shown to be reliable, valid (although there are some methodological issues with some studies), fair, practical and (in terms of personality-based tests), broad in their scope. They are generally viewed neutrally in terms of acceptability.

Perhaps the most persuasive argument for using integrity tests comes from research by Schmidt and Hunter (1998). They examined 85 years of empirical findings in personnel selection. Specifically, they presented the validity of 19 selection procedures from meta-analytic studies. Four of these are examined within this and the previous chapters (integrity tests, interviews, biodata and references). The strongest validity coefficient reported with overall job performance was with General Mental Ability (GMA) tests (0.51), with a high coefficient also reported for structured interviews (0.51). The coefficient for integrity tests (0.41) was larger than those for biodata and references. However, when analysing the incremental validity of GMA scores combined with a second predictor in predicting job performance, the most gain was seen for GMA and integrity tests (a 27% increase in validity). A 24% increase emerged with structured interviews, a 12% increase with reference checks and a 4% increase with biodata. Therefore, not only do integrity tests outperform the other measures outlined in this chapter, they also in combination with GMA tests are better predictors of job performance than the combination interviews with GMA, references with GMA and biodata with GMA.

Table 5.1: Analysis of other methods used in integrity testing in relation to the six psychometric qualities

Method	Scope	Accuracy (Reliability)	Relevance (Validity)	Fairness	Acceptability	Practicality
Polygraph	Very specific as this method only examines lying to a previous event.	Good interrater reliabilities (around 0.8) Low levels reported for inter-method reliabilities. Methodological problems with stability studies.	Favourable validity levels but only in predicting lying to a previous event. Lack of studies looking at predicting future behaviour.	No studies on adverse impact. Suffers from problems of high false positive rates.	Negative reactions from potential test-takers. Perceived to be an invasion of privacy. Not acceptable for pre-employment screening.	Needs specialist mechanical equipment so can be costly. Time consuming to obtain and interpret data. High degree of training required.
Interview	Potential for a large scope. Can be specific or general.	Adequate reliability levels reported (0.7). Does improve for structured interviews.	Traditionally reported to be low in validity. Recent meta-analyses report higher validity levels, especially for structured. Lack of evidence for integrity interviewing.	Need for more systematic research. Some research has indicated bias against gender and ethnic minorities.	Considered to be the most acceptable method for both test-takers and users.	Can be time-consuming and costly. Interviews require training to accurately interpret interview data.
Biodata & References	Can be both specific and general	Biodata shows good consistency and test-retest (0.6-0.9). Lack of evidence on references, but interrater reliability is low (0.4)	Biodata shows strong prediction with job performance. Using dishonesty as the criterion, moderate levels emerge. Low validity seen for references	Lack of empirical research on both methods. Evidence of adverse impact in biodata does emerge. The possible bias in items is an issue. Some findings on references but little to comment on.	Biodata suffers from perceptions of invasiveness & job relevance of items. References are perceived to be acceptable by both applicants and users.	Ease of data collection, lack of equipment and no need for training go across both. Biodata scales could be more practical than integrity tests. References have low response rates and leniency biases.

Chapter 6: Underlying personality traits related to honesty and integrity in the workplace.

“Men (sic) are disposed to live honestly, if the means of doing so are open to them”

Thomas Jefferson (1817)

So far, this thesis has suggested that there is a need to control for dishonest behaviour in the workplace, because base rates can be relatively high and honesty and integrity are considered important within employees. The source of control specifically focused upon in the thesis is the use of a pre-employment assessment method that is able to screen out those applicants likely to be a risk to an organisation in terms of engaging in dishonest behaviour. Chapters 4 and 5 highlighted the effectiveness of integrity tests as a device for fulfilling this need, especially when compared to other (more traditional) methods. By its definition an integrity test (more so a covert integrity test than an overt test) assumes that the construct of honesty/integrity is related to specific, definable and measurable trait(s) within an individual, and by assessing for such a trait or traits one can identify those more likely to act in a dishonest manner in the workplace.

Building on this, the next factor to address revolves around the issue of to what extent is personality related to honesty/integrity and more specifically, which traits can be used in assessing for dishonest behaviour in the workplace? By examining the personality traits that underlie the construct of honesty/integrity, one will be able to obtain a much richer understanding of the concept itself. This in turn should help in answering as to what

exactly integrity tests are measuring and if this is consistent with those personality traits that relate to actual dishonest behaviour.

Lilienfeld, Andrews and Stone-Romero (1994), argue that the relationship between honesty tests and personality is important for 3 reasons:

- The need to establish the construct validity of integrity tests, because honesty should be related to certain established traits
- The need to examine the extent to which integrity tests possess incremental validity further to that obtained by personality variables
- The need to reduce the selection of individuals on the basis of personality traits that are irrelevant to dishonest behaviour but nevertheless may be assessed for in integrity tests.

Keeping these 3 points in mind, the current chapter focuses on reviewing the research on construct validation of integrity tests in order to identify those established traits that honesty/integrity should be related to. Further, a discussion of the literature surrounding personality and actual dishonest work behaviour is presented followed by 2 research studies on this issue. This is done in an attempt to measure the extent to which integrity test-personality trait relationships are consistent with actual behaviour-personality trait relationships. By being able to identify consistent patterns of correlations, the construct validity of integrity tests would be established and the problem of selecting individuals on the basis of personality traits irrelevant to dishonest behaviour will be reduced.

Relationships between integrity tests and personality

Much of the initial research focused upon the relationship between integrity tests and the 16PF. Specifically, the suggestion that 16PF scales of C (Affected by feelings or Emotional Stability), G (Expedient or Conscientiousness), N (Forthright or Shrewd) and Q3 (Undisciplined or Controlled) were those most likely to be strongly related to integrity (Moore and Stewart, 1989). They based this argument on the fact that these four traits appear to relate closely to the definition of personal integrity produced by McFall (1987). As a reminder, McFall suggested that personal integrity requires support for some consistent principles that an agent considers to be right even in the face of temptation to go against them (as outlined in Chapter 2). If an integrity test could be considered to possess construct validity, then it should relate to the scales on the 16PF highlighted above (Moore & Stewart).

Predicted relationships between Personnel Selection Inventory (PSI) and Reid Report (RR) scores and 16PF scales C, G and Q3 have been reported (Jones & Terris, 1983b; Kochkin, 1982, as cited in Moore & Stewart, 1989). In both studies, those high in honesty/integrity tended to be more stable, conscientious, self-controlled, assured and relaxed than dishonest individuals. The predicted link with scale N was not found. Further, in both studies significant correlations were found for scales which Moore and Stewart deemed should be unrelated to integrity, these being E (submissive/dominant); I (Tough/tender minded); L (Trusting/Suspicious); O (self-assured/apprehensive); Q1 (Conservative/experimenting) and Q4 (relaxed/tense).

Strong criticisms have been levelled at the above 2 studies predominantly by Guastello and Reike (1991). They re-calculated the RR-16PF correlations seen in the Kochkin study after correcting for faking good and found no significant correlations were seen between RR scores and 16PF-C, G and Q3. However, this re-calculation supported the relationship between RR scores and 16PF-Q4, I, Q1 and E. Similarly reductions also emerged in the Jones and Terris study.

Logan, Koettel and Moore (1986) assessed the construct validity of the Phase II profile and found support for the relationship between integrity test scores and 16PF-C and I. Although, they argued that the size of correlation coefficients from these 3 studies do not adequately allow a construct validation of honesty. However, no substantial evidence is seen for the link between scale N and dishonesty, which goes against the initial predictions of Moore and Stewart. Yet, as Logan et al themselves point out the relatively low correlations could be down to methodological problems (such as sample homogeneity, different instructions and different subject goals).

At first glance the results of the correlations between the 3 integrity tests and the 16PF do not appear encouraging. The data implies that there is not a consistent pattern of specific traits relating to integrity test scores. If all the correlations are quoted across the 3 studies then integrity test scores were related to 9 different traits on the 16PF, which would undoubtedly increase the problem previously outlined of selecting on traits irrelevant to dishonest behaviour but assessed for in integrity tests. Indeed, Moore and Stewart cast doubt on integrity tests in terms of achieving construct validity.

Specifically, they suggest that such test may just serve as a general personality measure rather than a measure of honesty/integrity.

Yet, on closer inspection some consistency does emerge in the type of traits associated with integrity tests scores. However, it must be stressed that this consistency is illustrated on a post-hoc basis. Just examining the descriptions of the 16PF scales C, O and Q4, a common theme of emotional stability, anxiety and tension occurs. Therefore, these scales could be grouped under a higher-order factor of Emotional Stability. Once grouped it can be shown that individuals who score in the dishonest region on the different integrity tests tend to be more anxious, troubled by feelings, evasive of responsibility, moody, apprehensive and conscious of criticism, which are arguably different facets of low stability. Similarly, this approach can be used to explain 16PF scales G, Q3 and Q1. The themes of conscientiousness, traditionalism, rule-bound, controlled and opposed to change, in these scales appear to suggest a latent 'Conventional' factor may encompass them all. From the studies, individuals who score high in honesty/integrity tend to be high in this 'Conventional' factor.

Even though scales are only intuitively combined and no statistical combination of 16PF scales using the data was attempted, the aim here is to introduce the idea that specific traits may be related to, in the first instance, integrity test scores and further to behaviour in general. Arguably, the problem with using the 16PF is that there is the potential for 16 separate correlations with personality traits to occur and the need is to narrow the focus down into more explicit traits which will be more beneficial to work with.

In their development of a personality-based integrity scale (Reliability), Hogan and Hogan (1989) suggested that dishonest acts are part of a larger organisational delinquency syndrome. By examining felon – non-felon differences on a number of specific personality traits, they found delinquency to be a function of four themes: hostility to rules, thrill-seeking impulsiveness, social insensitivity and alienation. Further construct validation with the Californian Psychological Inventory (CPI) showed that employee Reliability corresponded to conscientiousness, attention to detail, rule compliance and social maturity whilst low Reliability related to aggressiveness, hostility, self-indulgence, unhappiness and impulsivity.

Also, using the CPI, Collins and Schmidt (1993) found large differences between white-collar offenders and non-offenders on the Socialization (So), Tolerance (To) and Responsibility (Re) scales of the CPI and an integrity test. Non-offenders tended to be dependable, rule abiding, trusting and responsible. In these studies, a common thread of responsibility, conscientiousness and reliability runs through an honest individual at work. Indeed, Collins and Schmidt propose a discriminating function between offenders and non-offenders of ‘Social Conscientiousness’. The rationale behind this relates to the scores of non-offenders being higher on conscientiousness scales whilst offenders score higher on social extraversion (popularity with others and participation in group activities). They further hypothesise that this popularity and participation may lead to higher level jobs and provide the temptation and opportunity for white-collar crime. These 2 studies, as well as providing support for the conscientiousness and stability aspects of integrity tests, also imply that extraversion may be a function of integrity test

scores (and dishonest behaviour). Specifically, those likely to be delinquent at work are also likely to seek thrilling experiences and be impulsive.

One aspect that consistently rises from the research into the relationship between integrity tests and personality is the importance of conscientiousness. Murphy and Lee (1994) suggest that conscientiousness is the best single predictor of scores on integrity tests (although they argue that conscientiousness and integrity are not identical and therefore cannot be used interchangeably). In Chapter 3, in relation to personnel managers' ratings, it was suggested that perhaps there is a difference between work conscientiousness (getting the job done) and moral conscientiousness (following rules). Moral conscientiousness would seem to relate stronger to integrity. Further research supports the notion that conscientiousness plays a central role in the prediction of scores on integrity tests, but that conscientiousness and integrity are not the same concepts. Hogan and Brinkmeyer (1997) factor analysed scores from 2168 job applicants on the Reid Report and the Reliability Index. A 4-factor solution was produced which was then subjected to structural equational modelling with the 4 factors as manifest variables and conscientiousness specified as a latent factor. The resulting chi-square analysis provided a good fit for the model that the construct examined by integrity tests can be captured by a general conscientiousness factor. Additionally, Reid Report scores were correlated highly with the Prudence and Adjustment scales of the Hogan Personality Inventory, measures of conscientiousness and stability. Notable correlations (around 0.3) were also seen between the integrity test and Ambition and Likeability.

A more extensive construct validation using 4 different integrity tests and 3 personality tests (CPI, 16PF and NEO-PI) was undertaken by Woolley and Hakstian (1992) on a sample of 289 university students. Moderate to strong correlations were found between the personality-oriented integrity tests and CPI scales of So, Re and To ($r = 0.16$ to 0.78), yet consistently lower relationships emerged with 16PF-C, G and Q3. Although these correlations were moderate, they were generally smaller than those with the CPI. This should not be a surprising result as 2 of the integrity tests are based upon and developed from the CPI. Correlations between the NEO-PI scales and integrity tests illustrated that against the researcher's predictions, conscientiousness did not appear as the most significant correlate of honesty. Rather, Agreeableness occupied this role, correlating relatively high with most of the integrity tests. Further, notable negative correlations existed between 3 integrity tests and Neuroticism, whereas weak correlations were seen with Extraversion and Openness.

Using a factor analytic procedure on the integrity tests and personality scales, Woolley and Hakstian identified the largest factor to contain a construct of 'Socialized Control' which runs throughout the personality-based integrity tests. They suggest that high scorers on this factor tend to have internalised the rules of society, are mature and stable with a sense of responsibility. On the other hand low scorers tend to be less mature and stable, more carefree and likely to take more risks.

Relationship of integrity tests to the Five-Factor Model

The discussion so far has focused upon the relationship between integrity test scores and specific personality traits as measured by various personality tests. From this discussion, it is clear that various personality traits underlie the concept of honesty/integrity in the workplace. What is also clear is that those traits related to honesty/integrity are part of higher-order factors. Indeed, there appears to be evidence that links honesty/integrity to at least 4 of the 'Big-5' dimensions and that conscientiousness is the strongest factor. By applying the five-factor framework to this discussion, one is able to add more structure to the debate on what underlies concept of honesty. In other words, can the Big-5 personality dimensions adequately capture the concept of honesty/integrity?

By far the largest investigation of integrity - Big-5 links was carried out by Ones (1993, as cited in Sackett & Wanek, 1996). Firstly, responses from a student and an employee sample were obtained on 7 integrity tests and 2 personality measures. Correlations between a linear composite of the integrity test measures and linear composites of the Big-5 personality scales indicated a strong relationship with conscientiousness (true correlation of 0.91). In addition, notable correlations were also found between integrity and agreeableness (0.61) and integrity and stability (0.50). Secondly, using a meta-analytic procedure, similar findings to the first investigation emerged. True score correlations of 0.42 were seen between conscientiousness and integrity, 0.40 between agreeableness and integrity and 0.33 between stability and integrity. The same pattern appeared for both overt and personality-based integrity tests, although the personality-based integrity test correlations were slightly higher.

From these studies, Ones concluded that integrity does not just tap the conscientiousness dimension. Indeed, a further study, where conscientiousness was partialled out of the integrity-job performance relationship, indicated that conscientiousness only partially explains the validity of integrity tests as a predictor of job performance (Murphy and Lee, 1994). Ones suggested that integrity taps a higher order factor that includes conscientiousness, agreeableness and stability. Interestingly, these 3 traits have also been shown to be a higher-order factor from factor analysis of the Big-5 traits (Digman, 1997). Digman suggested that this higher-order factor represents a socialization process such as impulse control, conscientiousness, reduction of hostility and aggression and neurotic defence.

An interesting additional supporting study to this argument, which fits in well here although not focusing on an integrity test, was undertaken by Savran, Ones, Balci & Deniz (1997). They examined the personality aspects of integrity from a sample of 100 Turkish university students via the Adjective Checklist (Gough & Heilbrun, 1983). Students were asked to use the checklist to describe what they thought traits of honest and dishonest people were. Results indicated that high integrity was conceptualised by high emotional adjustment, high conscientiousness and high agreeableness.

Not only at a statistical level but also at a conceptual level one can see why an honest person would score high on these factors. Taking conscientiousness, as previously discussed, one would expect a rule-bound, compliant, orderly, reliable, non-impulsive and conscientious individual to score highly on measures of honesty/integrity. These individuals are unlikely to go against formal organisational procedures, likely to turn up

to work on time and complete designated tasks, therefore unlikely to be dishonest at work. Similarly, a dependent, diplomatic, co-operative, non-hostile and non-competitive person who is liked by others is arguably unlikely to engage in dishonest behaviour at work. Rather than trying to work against organisational rules they will be more likely to comply and co-operate with them. High stable people are mature, calm, show restraint in avoiding difficulties, do not tend to give up and unruffled. One would then expect these individuals not to get over-emotional and frustrated and become alienated.

Going back to the 3 points outlined by Lilienfeld et al (1994) at the beginning of this chapter, one can conclude that the concept of integrity as measured by integrity tests appears to be a function of high conscientiousness, stability and agreeableness. There is some support for extraversion, specifically in terms of thrill-seeking and impulsiveness. However, what is the case in practice? In other words, so far the focus has been on integrity as measured by pre-employment tests and no research has been mentioned on the relationship between personality and actual dishonest behaviour in the workplace. If integrity tests capture honesty as a function of 3 of the Big-5 personality traits then the question remains; are they measuring dishonest behaviour in the workplace or some other concept? What should also be addressed is the relationship between personality and actual behaviour and if this is consistent with those found between integrity tests and personality.

Personality and actual behaviour

Interestingly, previous research focusing on the link between personality and dishonest behaviour at work is not as abundant as the research on integrity test – personality relationships. Early work by Sinha (1963) illustrated the importance of anxiety in absenteeism rates in a sample of 110 employees. Results indicated a significant positive correlation ($r = 0.39, p < 0.001$) between the Manifest Anxiety Scale and total number of days each worker was absent during the year. Bernadin (1977) found significant negative correlations between 16PF scales C, G and a positive correlation with Q4 and frequency of absences in 109 sales employees. After further regression and calculation of a usefulness index, factors G and Q4 were found to account for 73% of the variance in absenteeism scores.

Absenteeism as the criterion was also used in a study by Ferris, Bergin and Wayne (1988) in a sample of 152 public school teachers. Personality was assessed using the 16PF, and absenteeism by calculating the number days absent in the previous year. They found a positive correlation between Independence (a composite scale of the A, E, F, H, and Q2 scales) and absence ($r = 0.25, p < 0.01$). A non-significant negative correlation between ability to control anxiety and absence was also seen.

This research shows some similarities with the research on integrity test scores and personality. Once again, the relationship of conscientiousness and stability to dishonest behaviour is identified. However, this previous research suffers from the fact that the absenteeism measure employed did not explicitly look at unauthorised periods of

absences. Rather, absenteeism was defined as number of days off, or frequency of occurrence and not sectioned into authorised, long-term, unauthorised etc. Therefore, these studies do not allow any conclusion to be made as to the traits linked to unauthorised absence at work, perhaps different traits are related to this dishonest manifestation of behaviour than to a global absenteeism measure. Further, only one type of work behaviour is examined and there is no mention of other dishonest acts.

Taking these criticisms on board, the focus needs to be on the link with personality and dishonest acts in the workplace. Early research by Venables (1955, as cited in Cooper & Payne, 1966) on 210 bus company trainees found that 18 subjects who were later discharged for dishonesty showed characteristic extroverted behaviour on a training task (notice here that extraversion was not explicitly measured). Taylor (1966, as cited in Cooper & Payne, 1966) found a positive correlation ($r = 0.23$) between extraversion and unauthorised absences in 149 oil refinery workers. Further, Cooper and Payne (1966) reported significant positive correlations between extraversion and non-permitted absence frequency (0.16, $p < 0.05$); extraversion and non-permitted absence total days (0.15, $p < 0.05$); and extraversion and lateness (0.19, $p < 0.05$). In addition, significant relationships emerged between neuroticism and unauthorised absence frequency (0.19, $p < 0.05$), unauthorised absence total days (0.16, $p < 0.05$) and lateness (0.15, $p < 0.05$).

More recently, Sarchione, Cuttler, Muchinsky and Nelson-Gray (1998), reported conscientiousness to be the strongest predictor of various dysfunctional job behaviours in a sample of law enforcement officers. Judge, Martocchio and Thoresen (1997) examined the relationship between the Five-Factor Model of personality and absences

“...excluding scheduled holidays, vacation, bereavement, jury service & military leave” (p.749). A positive correlation was reported between extraversion and pre-survey absence (0.31) and post-survey absence (0.26). In addition, results indicated a negative relationship between conscientiousness and pre-survey absence (-0.24) and post-survey absence (-0.23). Even though small, the relationship between agreeableness and the absence measures changed direction. For pre-survey the correlation was 0.20, and for post-survey it changed to a negative relationship (-0.13). From a hierarchical regression on the variables, with post-survey absence as the dependent variable, hours worked, subjective health, age and number of dependants as the control variables and the Big-5 traits as predictor variables, personality accounted for 18% of the variance above that accounted for by the control variables. Extraversion was found to positively predict absence and conscientiousness to negatively predict absence. Further analysis examined specific facets of these two general traits. For extraversion, those facets notably positively correlated with post-survey absence were excitement seeking and gregariousness. Those facets of conscientiousness with notable negative correlations with absence were deliberation, dutifulness and self-discipline.

Even though the research on relationships between personality and actual dishonest behaviour is not as extensive as that seen for integrity tests, a similar pattern of correlations emerge. Similar to this research, engagement in dishonest behaviour is a function of conscientiousness and stability. However, there does not appear to be the support for agreeableness as a correlate of actual behaviour. Rather, more support emerges for extraversion, which is not seen as strongly in integrity test-personality trait research. Perhaps then dishonest behaviour in the workplace is a function of

conscientiousness, stability and extraversion and integrity tests measure a slightly different concept.

In order to examine the relationship between admissions of dishonest behaviour and personality, and to examine further the concept of honesty/integrity, two studies were carried out. Both studies use self-reported measures of dishonesty, even though they differ in the types of behaviours. A five-factor framework is applied to the study in order to examine the relationship in a more structured manner. In addition to different self-reported measures used, the studies use different samples and different personality tests in order to examine the generalisability of the findings. Based on the findings from previous research, one-tailed hypotheses were applied to this analysis. Specifically, it is expected that conscientiousness and stability would relate negatively to dishonest behaviour and a positive relationship would be seen with extraversion. As both studies are examining actual behavioural criteria and not integrity test scores, it is also expected that there would not be a significant relationship with agreeableness.

Study 6.1: Relationship between personality and intention to act dishonestly

The aim of this first study in this chapter was to examine the personality predictors of dishonest intent as measured by a scenario-based criterion scale. Personality was examined using the Five-Factor Model, specifically four of the five. The criterion measure provided a subjective measure of on-the-job behaviour as scenarios were designed to cover real-life working contexts and therefore provide an indication of what participants would do if faced with that situation.

Method

Participants

Sixty full-time/part-time and night class students, and 100 full-time Maltese police personnel participated in this study. Of this sample 109 (68%) were male and 49 (31%) were female. The age range was 18 to 67 with a mean of 33.2 and a standard deviation of 10.9. All of the student sample (except one who did not respond) were employed or had been employed at some time. From this, 38% stated that they had experienced mainly full-time employment; 33% part-time and 27% temporary.

Questionnaires

Firstly, participants completed an 11-item scenario questionnaire. Each item outlined a scenario that they could face in an employment setting and then presented 2 choices of

action. One choice could be considered to be an ‘honest’ option and the other a ‘dishonest’ option. Participants were instructed to respond as if they were faced with the events described at the current time and to choose which action they would have taken by ticking the appropriate box. From this, participants were asked to indicate (on a scale of 1 to 5) how strongly they favoured their chosen course of action. If they were absolutely certain of their choice they should rate a 5 if they were unsure then rate a 1. The favourability scale of 1 to 5 was placed underneath each choice of action. Participants could only respond on the scale that was underneath their chosen course of action.

Example: Break time

You have just started working in a factory. You notice that the other employees keep going for long breaks. You have been taking the correct amount of time on your breaks so far. The other employees have begun to encourage you to start taking longer breaks than contracted. The little extra time out of the factory would be pleasant. Should you carry on with the same amount of break-time as you have been taking or do as the others do and take longer breaks?

<i>A</i>	<i>Carry on</i>	<input type="checkbox"/>		<i>B</i>	<i>Have longer</i>	<input type="checkbox"/>			
5	4	3	2	1	1	2	3	4	5

The favourability rating was taken as the measure of intent to act dishonestly. To score this scale participants were given a score on each scenario from 1 to 10. This was derived from combining the two 5-point rating scales into one 10-point scale. Scores ranged from a 10, which would have been obtained from participants rating a 5 to the dishonest choice, to a 1, which was obtained from participants rating a 5 to an honest choice. For example taking the scenario above, if a participant chose to ‘have longer’ and rated the favourability as a five they would score 10 on this scenario. On the other

hand if they chose to 'carry on' and rated this a five they would score 1. If they chose to 'have longer' and rated this a three they would score 8 (see Appendix 5 for further scenario examples).

Scores on each scenario were computed and a total score obtained, with a range of 11 to 110. High scores on this indicated a favourable rating to the dishonest behaviour, and hence a strong intention to act dishonestly. For the Maltese Police sample, the content and description of the scenarios remained unchanged, but the instructions on how to complete the items were translated into Maltese as well as given in English.

Participants were also given the ICES Personality Inventory to complete (Bartram, 1994; 1998). The ICES consists of 4 major scales, 8 minor scales and a Social Desirability scale. The 4 major scales map onto four of the Big-5 personality factors (Independence, Conscientious, Extraversion, and Stability) and are factorially distinct. The 8 minor scales are conceptually distinct and are designed to provide richer descriptions of personality differences.

Independence (I) refers to the extent that an individual is single-minded and determined to win at one end as against likeable, diplomatic and submissive at the other. In this respect it reflects the agreeableness factor in that a person scoring low on Independence would be high in agreeableness. The Competitive minor scale (I1) focuses on the single-minded/co-operative dimension and the Assertive scale (I2) on the outspoken/conflict avoidance one. Conscientious (C) assesses traits such as rule abiding, moralistic, traditional, organised and dependable. The two minor scales are Conventional (C1),

which examines the conventional/flexible dimension, and Organized (C2), which examines the orderly/creative one. Individuals scoring high on the Extraversion (E) trait tend to be sociable, outgoing and often seeking excitement, whereas low scorers are content to be alone in familiar surroundings. The minor scale of Group-oriented (E1) reflects the extent that an individual needs approval and support off other people and the Outgoing (E2) minor scale reflects the extent an individual is talkative, impulsive and the centre of attention. Stability (S) examines whether an individual tends to be relaxed and stable at one end as against anxious, easily upset and irritable at the other. The minor scale of Poised (S1) examines the extent to which an individual can easily shrug off criticism and cope with adversity and the Relaxed (S2) minor scale reflects the extent an individual tends to be untroubled and not anxious. The Social Desirability scale indicates the level an individual has been frank in their responses. A high sten score of 9/10 is usually considered an indicator of a possible distorted profile.

Comparative studies with other personality inventories (NEO-PI, EPQ, Hogan, EPQ, BPI: see Bartram, 1998) have shown that the ICES scales capture most of the 'Big Five' variance associated with such instruments. Alpha coefficients for the ICES major scales are: Independence (0.76), Conscientious (0.71), Extraversion (0.85) and Stability (0.78). Test-retest coefficients over a one-week interval range from 0.69 to 0.84.

Procedure

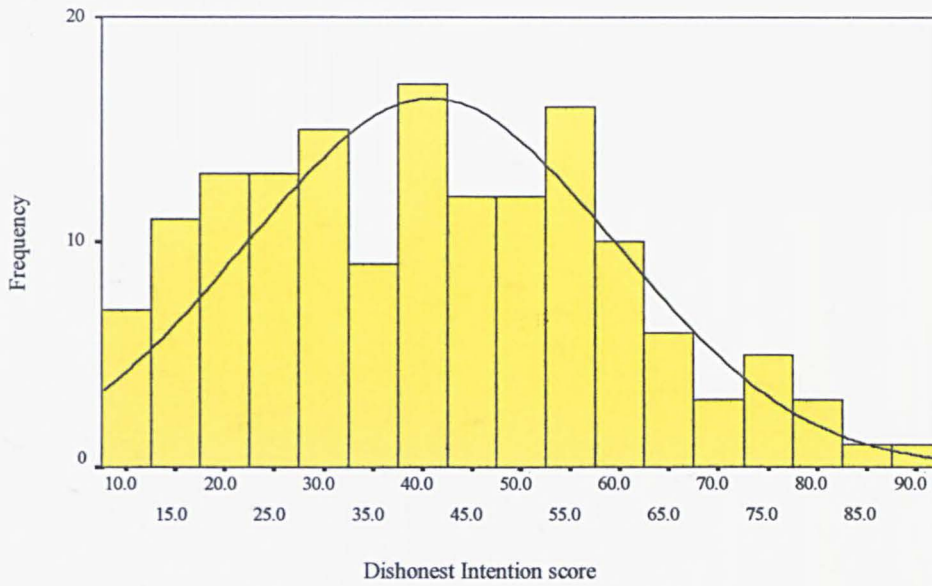
Confidentiality was assured as nowhere on the questionnaires were names requested, although certain demographic information was required. Participants were informed that

they could withdraw from the study at any time they wished and not be penalised in any way. Once questionnaires had been completed all materials were placed in envelopes and sealed. Participants in the student sample were also requested to give details of the type of employment experienced most (full-time, part-time or temporary). This was to establish that all the candidates had experienced some form of employment because the scenarios were based around events in a working context.

Results

Reliability of the intention to act scale

The 11 scenario scores were computed to obtain a total intention score. An alpha reliability coefficient of 0.80 was achieved for the 11 item-scale. The mean of the scale was 40.88 with a standard deviation of 18.71. The possible range of the scale was 11 to 110 and in this study an actual range of scores from 11 to 89 was found. Using a histogram (Figure 6.1) the scores were shown to be fairly normally distributed.

Figure 6.1: Histogram with normal curve of dishonest intention scores

Correlations between intention to act dishonestly and personality

Table 6.1 illustrates the Pearson product moment correlations between intention to act dishonestly and the major scales of the ICES. As can be seen the strongest correlation is a negative correlation between dishonest intention and Conscientiousness (-0.60, $p < 0.001$). Those who score highly on intent to carry out the dishonest acts, tend to score low in Conscientiousness.

Table 6.1: Correlations between the major scales of ICES and intention to act dishonestly scale scores

	Intention	Independ	Conscient	Extrav	Stability
Intention		-0.02	-0.60***	0.24**	-0.17*
Independ			0.10	0.22**	-0.07
Conscient				-0.33***	0.05
Extrav					0.08
Stability					

* p<0.05 ** p<0.01 ***p<0.001 (one-tailed)

Although not as strong, a significant negative relationship was produced between intention and Stability (-0.17, $p < 0.05$) and a significant positive correlation with Extraversion (0.24, $p < 0.01$). Independence however, was not significantly related to intention.

Correlations between intention and minor scales of the ICES

Table 6.2 highlights the relationship between the minor scales and Social Desirability and intention was also examined (see Appendix 6 for a correlation matrix of all variables). As before, the results produced a strong negative correlation between the conscientiousness trait and dishonesty. A stronger correlation is seen for Conventional (C1) than for Organized (C2), although both are highly significant. A low scorer on Conventional tends to be a flexible and innovative with a casual attitude to rules and regulations. A low scorer on Organized tends to be creative, spontaneous, focused on the overall picture rather than details and disorganised.

Table 6.2: Correlations between ICES minor scales and intention to act dishonestly scale scores

	I1	I2	C1	C2	E1	E2	S1	S2	SD
Intent	-0.05	0.01	-0.60***	-0.47***	0.22**	0.22**	-0.19**	-0.12	-0.51***

p<0.01 *p<0.001 (one-tailed)

I1 = Competitive; I2 = Assertive; C1 = Conventional; C2 = Organized; E1 = Group-oriented; E2 = Outgoing; S1 = Poised; S2 = Relaxed; SD = Social Desirability.

A significant negative correlation was observed between Poised (S1) and intention, but not so for Relaxed (S2) and intention. A low scorer in Poised tends to be irritable, easily upset, have difficulty coping with criticism and tend to view the world as hostile and threatening. A similar significant positive correlation was found for both the subscales of Extraversion. For Group-oriented (E1) and Outgoing (E2) a moderate correlation of 0.22 was found between them and intention.

Social Desirability was strongly negatively correlated with intention, which may indicate that participants were presenting a frank impression of themselves. However, typically socially desirability scales correlate highly with conscientiousness (in this case $r = 0.62$, $p < 0.001$) and this could be producing the large correlation with intention. Therefore a partial correlation between Social Desirability and intention partialling out Conscientiousness was calculated. The result showed that after controlling for Conscientiousness, a significant negative correlation (-0.20 , $p < 0.01$) between Social Desirability and intention still occurred.

From the correlational analysis, those who are likely to intend to engage in dishonest behaviour in the workplace tend: to have a casual attitude to rules and regulations; to be

disorganised; to be irritable and view the world as hostile; to seek excitement and be impulsive; tend not to conform to socially accepted views.

Hierarchical regression

A hierarchical regression analysis was conducted to investigate the degree to which the major scales of the Prevue ICES predict intention to act dishonestly after controlling for the effects of background variables. Only the major scales were chosen because of the effect of multicollinearity in using the minor scales. The cases:variables ratio was 22.9, and analysis of residual scatter plots indicated that the assumptions of normality, linearity and homoscedasticity were upheld. At the first stage background variables of age and gender were entered. At the second step, the personality scales were entered and the R^2 calculated.

Estimates from the regression equation predicting intention to act dishonestly are illustrated in Table 6.3. The background variables accounted for 18% of the variance in dishonest intention scores (adjusted $R^2 = 0.163$), with age having a significant negative effect on intention. This indicates that younger participants tended to be higher in dishonest intention than older participants. Although not significant, females tended to be higher in dishonest intention than males.

Table 6.3: Hierarchical regression predicting intention to act dishonestly

STEP (variables)	R ²	R ² ch	beta	p
1. Age	0.175	0.175***	-0.329	<0.001
Gender			0.155	ns
2. Conscientiousness	0.404	0.229***	-0.418	<0.001
Social desirability			-0.190	<0.05
Stability			-0.110	ns
Extraversion			0.072	ns
Independence			-0.047	ns

*** p<0.001

At the second stage, the personality traits accounted for a further 23% of the variance in intention to act dishonestly, after controlling for background factors. A significant beta-weight for Conscientiousness (-0.42, p<0.001) and Social desirability (-0.19, p<0.05) was produced. Non-significant beta-weights emerged for the other personality traits. From this, overall intention appears to be a function of low Conscientiousness (casual attitude to rules, unorganised, spontaneity) and low social desirability (not conforming to socially accepted views). Overall, personality and background variables accounted for 40% of the variance.

Prediction of property and production deviance

Based on the definition of Production and Property deviance by Hollinger and Clark (1982) outlined in Chapter 2, the 11 scenarios were re-scored into these two deviance types. The production deviance scale consisted of 5 scenarios such as taking longer breaks, clocking someone else in and arriving late for work and had an alpha coefficient of 0.71. The property deviance scale consisted of 6 scenarios such as incorrectly setting up machinery, copying a computer package and stealing from a company, with an alpha coefficient of 0.67. The correlation between production and property deviance was 0.60 ($p < 0.001$).

Using the same method as described for total dishonest intention, a hierarchical regression technique was used to examine the degree to which the ICES scales predict intention to engage in production deviance acts after controlling for age and gender.

At the first step the background variables accounted for 13% (adjusted $R^2 = 0.117$) of the variance and as before age had a significant effect on production deviance intent (-0.27 , $p < 0.01$). Personality accounted for a further 23% of the variance in intention to engage in production deviance acts. A significant beta-weight occurred for Conscientiousness (-0.49 , $p < 0.001$) and Stability (-0.16 , $p < 0.05$). Unlike before there was no significant effect for social desirability. In this case, intention to engage in production deviance appears to be a function of low Conscientiousness and low Stability (anxiety, suspiciousness, emotional, irritability).

Table 6.4: Hierarchical regression predicting intention to engage in production deviance

STEP (variables)	R ²	R ² ch	beta	p
1. Age	0.129	0.129***	-0.269	<0.01
Gender			0.150	ns
2. Conscientiousness	0.355	0.226***	-0.491	<0.001
Social desirability			-0.053	ns
Stability			-0.161	<0.05
Extraversion			-0.063	ns
Independence			-0.093	ns

*** p<0.001

Table 6.5 illustrates the regression coefficients for the prediction of property deviance. Once again background variables of age and gender were entered in the first step and accounted for 15% of the variance (adjusted R²= 0.140) in property deviance intention scores. Like previous analysis, age had a significant effect on property deviance intention (-0.32, p<0.001). Personality accounted for a further 20% of the variance in property deviance intention scores, with Conscientiousness (beta = -0.28, p<0.01), Social Desirability (beta = -0.28, p<0.01) and Extraversion (beta = 0.18, p<0.05) having a significant effect on property deviance intention scores. The results of this analysis suggests that property deviance intention is a function of low Conscientiousness, low Social Desirability and high Extraversion (excitement seeking, impulsive).

Table 6.5: Hierarchical regression predicting intention to engage in property

deviance

STEP (variables)	R ²	R ² ch	beta	p
1. Age	0.152	0.152***	-0.317	<0.001
Gender		0.009	0.129	ns
2. Conscientiousness	0.351	0.199***	-0.280	<0.01
Social desirability			-0.277	<0.01
Stability			-0.048	ns
Extraversion			0.176	<0.05
Independence			0.000	ns

*** p<0.001

Throughout all three hierarchical regression analyses the results indicate that, although there is an effect of age on dishonest intention, there is a significant separate effect of personality once age and gender have been partialled out. Interestingly, the results suggest that there is a different pattern of effects of personality depending on the type of dishonest behaviour under investigation. Whereas there is a significant effect of Conscientiousness and Social desirability on an overall measure of intention and Conscientiousness across all behaviour types, there are separate effects of Stability on production deviance and Extraversion on property deviance. A fuller discussion of these results will be given later on, especially in consideration of the results obtain from a second study.

Study 6.2: Personality and admissions of previous dishonest behaviour

To further examine the relationship between personality and dishonesty a second study was designed which looked at self-reports of previous dishonest behaviour and the relationship with personality traits as measured by the Hogan Personality Inventory (HPI). The HPI was used as it has within it a scale of Agreeability, and therefore the relationship between it and dishonesty can be studied further. In addition, the HPI comprises Homogenous Item Composites (HIC's) that break down elements of traits into more specific forms. This will allow a more detailed examination of the links between traits and dishonest behaviour.

Method

Participants

Twenty-eight production workers and 37 fire fighters (total sample of 65) of which 92% were male participated in this study. The age of the sample ranged from 20 to 54 with a mean of 31.3 years and a standard deviation of 8.3 yrs. The majority of the sample were classed (using the classification on the Hogan Personality Inventory) at operative level (70.8%), with 18.5% at general manager level and 3.1% at senior management level (the rest being missing values).

Questionnaires

The Hogan Personality Inventory (Hogan and Hogan, 1995) was used because it measures all of the Big-5 traits. It comprises 7 major scales:

- Adjustment - “Measures the degree to which a person appears calm and self-accepting or conversely, self critical, and overly self-reflective” (p.14).
- Ambition - “Measures the degree to which a person is socially self-confident, leaderlike, competitive, and energetic” (p.14).
- Sociability - “Measures the degree to which a person seems to need and/or enjoy interactions with others” (p.14).
- Agreeability - “Measures the degree to which a person is seen as perceptive, tactful, and socially sensitive” (p.14).
- Prudence - “Measures the degree to which a person is conscientious, conforming, and dependable” (p.15).
- Intellectance - “Measures the degree to which a person is perceived as bright, creative, and interested in intellectual matters” (p.15).
- School Success - “Measures the degree to which a person seems to enjoy academic activities and values educational achievement for its own sake” (p.15).

In addition, the HPI has 6 Occupational scales of Service Orientation, Stress Tolerance, Reliability, Clerical Potential, Sales Potential and Management Potential. Each scale comprises Homogenous Item Composites.

In order to examine dishonest behaviour, initially, it was hoped that a more objective behavioural measure could be obtained from this sample, but the organisations were unwilling to allow such objective information like absenteeism records or number of times disciplined to be divulged. Therefore, it was decided to use an 8-item behaviour scale, which asked respondents to admit to whether they have or have not engaged in a number of dishonest behaviours in the previous year. These behaviours were: Taken unauthorised time off work; Arrived for work late; Used telephone or mailing facilities for personal use; Disregarded company rules and regulations; Left work early without permission; Intentionally worked slow; Taken company equipment or property without permission; Taken longer breaks than allowed.

Procedure

Participants were asked to complete the HPI before completing the 8-item behaviour scale. All information presented by participants was treated in the strictest confidence, as such there was no need to mention names anywhere on the questionnaires. Once all had been completed, participants were then asked to place all materials in an envelope and to seal it.

Results

As the cases to variables ratio is small it would be inappropriate to perform any multiple regression techniques. Hence, the data are presented in terms of correlations between the personality traits and total behaviour score.

Admission levels for the 8 dishonest behaviours

Table 6.6 indicates the number of participants that admitted to engaging in or did not engage in each of the 8 dishonest acts. Some of the acts have a fairly high admission rate (arriving for work late, disregarding rules, taking longer breaks) whilst others (taking equipment, leaving work early) have low admission rates. The largest admission rate was found for using telephone and mailing facilities for own personal use, where 61.5% of the sample admitted to doing it in the previous year. In contrast to this, only 17% of the sample admitted to taking company equipment or products in the previous year. The pattern of results follows a similar pattern with those found in the personnel managers survey, that is the more serious the less frequent.

Table 6.6: Admission rates for the 8 dishonest behaviours

Behaviour	YES	%	NO	%
Unauthorised time off work	16	24.6	48	73.8
Arrived for work late	32	49.2	32	49.2
Used telephone and mailing facilities for personal use	40	61.5	24	36.9
Disregarded company rules and regulations	32	49.2	32	49.2
Left work early without permission	13	20.0	51	79.7
Intentionally worked slow	16	24.6	48	73.8
Taken company equipment/products without permission	11	16.9	53	81.5
Taken longer breaks than allowed	37	56.9	27	41.5

Point-biserial correlations of HPI scores and dishonest behaviours

Correlations between HPI scales and each of the dishonest acts were analysed. Only those scales from the HPI that are predicted to relate to dishonest behaviour are reported. The behaviours were coded into 0 = NO and 1 = YES, and point-biserial correlations computed (Table 6.7). Prudence was negatively correlated with all the behaviours, although the relationship with lateness and use of facilities is negligible. Significant negative correlations emerged between Prudence and unauthorised time off (-0.26, $p < 0.05$), disregarding rules (-0.32, $p < 0.01$), intentionally working slow (-0.35, $p < 0.01$), taking equipment of products (-0.31, $p < 0.01$) and taking longer breaks (-0.35, $p < 0.01$). These results indicate that those people who admitted to the behaviours indicated above tend to score lower on Prudence than those who did not carry out the behaviours. A low score on Prudence corresponds to a lack of conscientiousness and dependability and non-conforming behaviour.

Table 6.7: Point-biserial correlations between HPI scales and dishonest behaviours

Behaviour	HPI Scales				
	Prudence	Adjustment	Ambition	Sociability	Agreeability
Unauthorised time off	-0.26*	0.21	0.11	0.15	0.07
Late for work	-0.06	-0.05	-0.04	0.14	0.16
Used facilities	-0.07	-0.24*	0.16	0.04	-0.01
Disregarded rules	-0.32**	-0.04	-0.03	0.05	-0.24*
Left work early	-0.13	-0.14	0.01	0.21	-0.07
Worked slow	-0.35**	0.08	0.16	0.33**	0.03
Taken equipment	-0.31**	0.04	0.06	0.28*	-0.05
Taken longer breaks	-0.35**	-0.10	0.03	0.27*	-0.16

* $p < 0.05$ ** $p < 0.01$ (one-tailed)

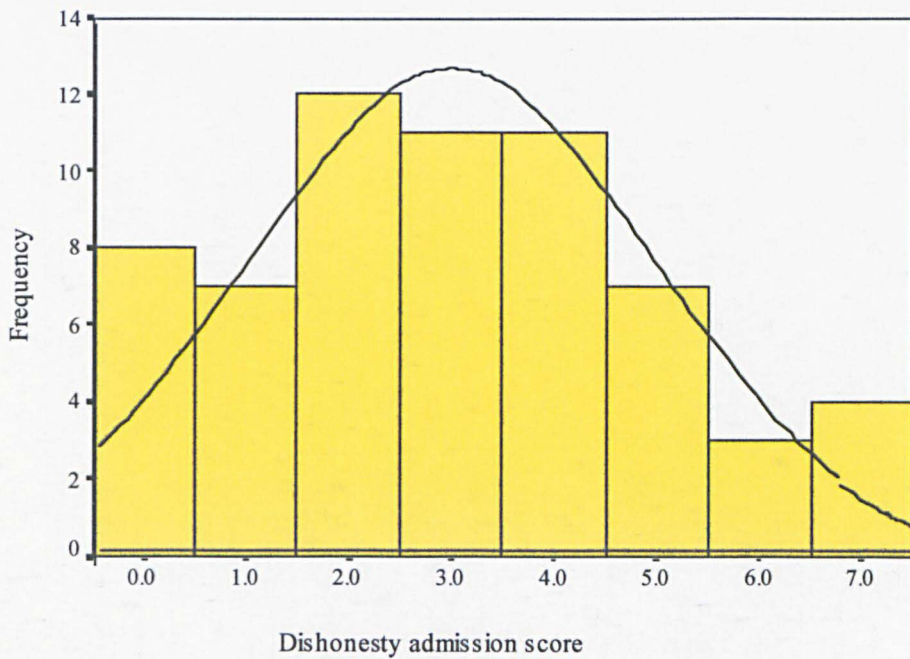
Correlations between Adjustment (equates to Stability) and most of the behaviours are small and non-significant at the 5% level. A significant relationship is seen with using telephone or mailing facilities for personal use, yet a moderate positive correlation emerged between Adjustment and unauthorised time off (the opposite direction to that expected). Ambition did not relate significantly with any of the behaviours and this equates to the results found with dishonest intent and Independence in the previous study. Sociability positive relates to all the behaviours; with significant relationships seen with intentionally working slow (0.33, $p < 0.01$), taking equipment or products (0.28, $p < 0.05$) and taking longer breaks (0.27, $p < 0.05$). Those who admit to engaging in these acts in the previous year tend to be more outgoing, more enjoying of interactions with others and more sociable than those who did not engage in the acts in the previous year.

Looking at the relationship between Agreeability and dishonest behaviours, only small and inconsistent relationships existed. The only significant coefficient is seen with disregarding rules ($-0.24, p < 0.05$).

Reliability of the behaviour scale

For the behaviour scale all 'Yes' responses were scored a 1 and all 'No' responses a 0. Then total scores were computed across all 8 items. High scores indicated a high level of admissions to dishonest behaviour in the previous year. The coefficient alpha of the behaviour scale was 0.66 with a mean of 3.00 and standard deviation of 1.98.

Figure 6.2: Histogram with normal curve for dishonesty scale scores



Correlations of HPI scales with reported dishonest behaviour

Table 6.8 illustrates the correlations between the measure of reported dishonest behaviour and scales on the HPI (see Appendix 7 for a correlation matrix of all variables). One-tailed analysis was used to examine if the similar relationships obtained in the previous study would be obtained using a different measure of personality and of dishonesty. As expected, a highly significant negative correlation was seen with the Prudence scale (-0.42, $p < 0.001$). This scale is similar to the ICES-Conscientiousness scale, where individuals with high scores on Prudence tend to be "...reliable, thorough, dignified.... and responsible. They are conscientiousness and attentive to detail, readily follow organizational procedures..." (HPI Manual, 1995, p.42). In addition, a significant positive correlation is found with Sociability (0.32, $p < 0.01$). This scale equates to the Extraversion aspect of ICES. High scorers are "...outgoing, gregarious, attention-seeking, and impulsive..." (HPI Manual, 1995, p.41). From this data, an individual who reports higher levels of dishonest behaviours at work tends to score low on conscientiousness and high on extraversion, however unlike the previous study no support is seen for the relationship with Adjustment (Stability). Further, no support was found for the relationship between Agreeability and reported dishonesty, here only a small negative relationship emerged.

Table 6.8: Correlations between HPI and dishonest behaviour scale

	HPI Scales				
	Prudence	Adjustment	Ambition	Sociability	Agreeability
Dishonest scale	-0.42***	-0.06	0.10	0.32**	-0.07

** $p < 0.01$ *** $p < 0.001$ (one-tailed)

Correlations between HIC's and overall dishonest behaviour

As introduced earlier, the HPI consists of a number of Homogenous Item Composites. These are small clusters that in turn make-up the main HPI scales. Table 6.9 presents only the significant correlation coefficients between HIC's and self-reported dishonesty in the workplace in the previous year (see Appendix 8 for a complete correlation matrix).

Table 6.9: Correlations between HIC's and dishonesty

HIC's and HPI scales	Dishonest Behaviour
Adjustment:	
Empathy	-0.28*
Trusting	-0.22*
Sociability:	
Experience seeking	0.23*
Exhibitionistic	0.30**
Entertaining	0.25*
Prudence:	
Moralistic	-0.35**
Mastery	-0.25*
Virtuous	-0.31**
Avoids Trouble	-0.32**

*p<0.05 **p<0.01 (one-tailed)

Certainly, the strong relationship with the conscientious aspect of personality is seen once again. Out of the 7 HIC's that comprise the Prudence scale, 4 were significantly related to reported dishonesty. Those people who scored low in dishonesty (did not

engage in a large number of behaviours in the previous year) tend to adhere to conventional values (Moralistic), to be hard working (Mastery), to be a perfectionist (Virtuous) and to profess to high integrity (Avoids Trouble). A significant negative relationship is seen between Empathy (emotional identification with others) and Trusting (not paranoid or suspicious) and dishonesty. This indicates that those who score high in reported dishonesty tend to have less emotional identification with others and be more suspicious than those who scored low on dishonesty. Looking at the Sociability scale, it appears that high dishonesty scores relate to a preference for variety and challenge (Experience Seeking), exhibitionistic tendencies (Exhibitionistic) and being Entertaining.

Discussion

Previous research on integrity-test personality relationships and personality-dishonest behaviour relationships has indicated that the concept of honesty/integrity is a function of conscientiousness, stability, extraversion and agreeableness. The research outlined here extends this notion to the examination of self-reported dishonest behaviour using different criteria and different Five-Factor Model personality tests.

In support of previous research (Hogan & Brinkmeyer, 1997; Ones, 1993; Judge et al, 1997), results from study 1 demonstrated that conscientiousness was the strongest predictor of various types of intended dishonest behaviour. The highly significant relationship indicates that those who are more likely to carry out dishonest behaviours tend to be more spontaneous, innovative, careless and with little regard for traditional

approaches. Indeed, from the Prevue ICES manual it is reported that “...their lack of conscientiousness can result in counter-productive behaviour...” (Bartram, 1998 p.E-1:7). Further, correlations with HPI-Prudence were also the strongest of the other personality traits, indicating once again the importance of conscientiousness in the prediction of reported dishonest behaviours in the workplace. Therefore, this analysis appears to suggest that the prediction of intended and reported dishonest behaviour in the workplace should be based around the construct of conscientiousness.

However, close inspection of the minor scales of ICES and the HIC's from the HPI, specifically in relation to conscientiousness, reveal it may not be entirely appropriate to suggest that dishonesty is a function of a global conscientiousness dimension. A stronger relationship emerged between ICES Conventional (C1) and dishonest intent than for Organized (C2), although both are still significant at the 0.1% level. Conventional relates specifically to a rule-bound, moralistic, reliable and traditional persona, whereas Organized relates more to an orderly, planning-oriented, organised and structured lifestyle. Arguably, those who are low in the Conventional sub-scale of conscientiousness correspond more closely to what would be expected in a dishonest person than those low in Organized. Specifically, descriptions of low Conventional scores, such as casual attitudes to rules and regulations, unlikely to follow traditional methods and cutting corners would be easily attributed to dishonest behaviour in the workplace. Indeed bringing in the results from the HPI-Prudence HIC's, those significantly correlated with self-reported dishonesty were similarly those concerned with adherence to conventional values, hard working and avoiding trouble.

Characteristics inherent in the ICES-Organized trait include creativity, spontaneity, a lack of attention to detail and a lack of organisation. It can be seen why these characteristics would relate to a dishonest intention score, (i.e. missing appointments so being late, not turning up somewhere because of a lack of organisation, not completing tasks), but here it is more a case of 'carelessness' than dishonesty. A study by Rabinowitz et al (1993) is a useful example of the role of 'carelessness' in dishonest behaviour. They reported that 70% of the customers did not return the change when overpaid by a cashier. Yet of this group, 63% did not count the change given to them by the cashier – hence they were more careless than dishonest.

This is where careful interpretation of the relationship between personality and integrity or dishonesty needs to occur. One cannot use blanket statements to say that anyone scoring low in conscientiousness will tend to be dishonest in the workplace, rather the focus should be on the individual lacking in the conventional aspects of conscientiousness and not necessarily those who are disorganised.

Work by Raymark, Schmit & Guion (1997) provides further illustration of the breakdown of conscientiousness and its usefulness in this case. They present a study looking at a job analysis technique that examined personality predictors of job performance. At the development stage the research team sorted a number of items into 5 stacks (equated to the Big-5 personality traits) which was considered to be too broad so further narrowing down of traits was conducted. From this 12 homogeneous clusters were obtained (basically sub-scales of the Big-5). Of interest here is the breakdown of Conscientiousness into: General Trustworthiness (leads one to be trusted by others and

demonstration of honesty and fairness); Adherence to work ethic (tendency to follow instructions and accept company goals, policies and rules); and Thoroughness & attentiveness to detail (carry out tasks with attention to detail, meticulous approach to task performance). Trustworthiness and adherence to rules are arguably those related more closely to honest/dishonest behaviour than thoroughness. The first two correspond to the conventional, moral aspects of work behaviour and the third to the organised aspect.

The argument currently proposed implies that the organised aspect of integrity test scores is actually irrelevant to dishonesty, yet assessed by integrity tests. Organisation does not relate to dishonesty but rather it predicts carelessness in the workplace. In this case, are integrity tests in general actually assessing for a trait irrelevant in dishonest behaviour? The answer to this is no, as there is still a strong correlation seen for Organized and dishonest behaviour intent. The organised element of conscientiousness is still an important correlate of dishonest behaviour, and therefore should be considered (even though less strongly than the conventional aspect) within integrity testing. The issue that needs to be addressed is that even though a disorganised individual may engage in dishonest behaviour, it may not be due to an inherent disregard for rules. Rather, these individuals may just be disorganised and careless and not actually intend to act in a dishonest manner. Certainly, tending to score low in this trait does open it up to the fact that the individual may be lackadaisical in his/her approach to work, miss appointments, arrive to work late etc.

The relationship between intended and reported dishonest behaviour and stability was also corroborated from the two studies. A moderate, but nevertheless significant, negative correlation emerged between ICES-Stability and dishonest intent (-0.17, $p < 0.05$). Those scoring low in Stability tend to be "...suspicious of new people and situations. Sensitive and emotional...anxious and irritable and may find it difficult to cope effectively" (Prevue Assessments Manual, 1994). Even though the HPI-Adjustment scale did not notably correlate with self-reported dishonest behaviour, the two Adjustment HIC's of Empathy and Trusting did. Coupled with the slightly higher relationship between ICES-Poised and dishonest intent, it suggests that individuals who are likely act in a dishonest manner in the workplace tend to be irritable and easily upset, suspicious, have difficult coping and have low emotional identification with others.

On examination of the hierarchical regression however, Stability did not significantly predict overall dishonest intent, rather it significantly predicted production deviance. Stability appears to be a stronger predictor of behaviours such as absenteeism, lateness, slow work practices and taking long breaks than it does of theft, violence, unauthorised use of resources and damage to equipment. Initially, this result could be possibly explained in terms of organisational withdrawal. Due to work pressures and their inherent inability to cope, such individuals may withdraw from the organisation (absent, late or leave) in order to cope with their stress. However, further analysis of the correlations with the sub-scales of Stability does not show support for the idea of withdrawal. Findings indicate a stronger negative correlation for Poised (S1) than for Relaxed (S2) and dishonest intent. Those low in S1 tend to have difficulty coping with

criticism, are easily upset and tend to view the world as hostile and threatening.

Therefore, the notion that an inherent inability to cope with stressors may lead to what would be classed as dishonest behaviour does not necessarily bear out with this relationship. In fact this would suggest that these individuals are not actually being intentionally dishonest, they just cannot cope.

More probably, the result reflects the findings of Hogan and Hogan (1989), in relation to the fact that individuals likely to engage in dishonest behaviour tend to be unhappy and alienated (one of the themes within their concept of Organisational Delinquency). This is supported from the analysis with the Adjustment-HIC's of Empathy and Trusting. From this analysis, dishonest individuals are likely to have a low emotional identification with others and be suspicious of others. Therefore, they would be prone to becoming alienated and unhappy at work.

Although the ICES does not specifically have an agreeableness factor within it certain attributes (such as co-operation, likeable, diplomatic and sensitive) of agreeableness are present in low ICES-Independence. The relationship between Independence and dishonest intent was very small and little evidence was found for this as a predictor of either production or property deviance. In addition, HPI-Agreeability (as well as the HIC's that compose the scale) did not significantly correlate with overall reported dishonest behaviour. In actual fact, the lack of evidence to illustrate the role of agreeableness in dishonesty is not inconsistent with research into actual behaviour-personality links. This research has also failed to find a consistent relationship even though construct analysis of integrity test scores show this trait to be a component.

Agreeableness could be one of those traits irrelevant to dishonest behaviour, which is assessed for within integrity tests.

More likely, agreeableness is a component of prosocial behaviour and therefore integrity tests tend to measure more a concept of 'good employee behaviour' than of honesty/integrity. Prosocial behaviour can be seen as a form of agreeableness, because characteristics within it (such as generous, kind, helpful and considerate) overlap with those used to describe aspects of the agreeableness trait (Graziano and Eisenberg, 1997). As discussed in Chapter 2, this thesis takes the view that workplace honesty/integrity and prosocial behaviour are not on the same continuum and that someone who acts in a prosocial manner can also be low in integrity. In fact, one of the examples from the scenarios presented in study 1 is a good illustration of this fact. It centres on whether an individual would clock another workmate in (acting prosocially) even though that would mean going against organisational rules (dishonest). This 'confusion' in itself is not a problem because if the scale identifies well behaved employees then surely that is a benefit for an organisation. The issue is more to do with how the test is defined, is it an integrity test or a good behaviour test? This issue will be discussed further in the next chapter when the concept of employee honesty/integrity will be re-defined.

Support emerges for the relationship between dishonesty and extraversion. A significant positive correlation between ICES-Extraversion and dishonest intent as well as between HPI-Sociability and reported dishonesty was found. Those scoring high in dishonest behaviour tend to be sociable, outgoing, attention seeking and impulsive. Indeed, looking more in-depth at the links between the Sociability HIC's and dishonesty it is

clear that seeking attention or sensation are the integral characteristics. Those high in dishonesty tend to be high in Experience seeking, Exhibitionistic and Entertaining.

The hierarchical regression analysis indicated that ICES-Extraversion did not significantly predict overall dishonest intent or production deviance, rather it significantly predicted property deviance. Arguably, these property deviance behaviours of theft, sabotage and claiming more money than entitled may be more exciting and risky to those who crave it. Going back to the study of personnel managers presented in Chapter 2, with the exception of theft, it was found that the more serious forms of dishonest behaviours were judged as occurring less and were grouped together into one factor. This 'serious' tag could be just what the risk-taking, excitement seeking, impulsive person may be looking for and this may explain why Extraversion significantly predicted property deviance as against production deviance.

One personality relationship seen in study 1 yet not reported in the workplace literature (although it has been reported by Thorpe, Pittenger and Reed, 1999 in school cheating), was social desirability and dishonesty. Specifically, those individuals high in social desirability tended to score low in dishonesty. Initial interpretation of this would seem to suggest that scores were biased by social desirable responses. However, even though often used as a lie scale, a social desirability scale requires a much deeper analysis than just a lie-did not lie decision. Specifically, the ICES-SD scale description does document that individuals who score high in this scale know what is socially expected of them and some high scorers are genuinely 'good people'. By implication a low scorer on SD (hence tending to be high in dishonesty) tends to lack socially desirable attributes

and not conform to socially accepted views. Thorpe et al., (1999) suggest that a social desirability scale if considered a personality measure (rather than just a lie scale) measures the degree to which an individual wishes to avoid disapproval – hence individuals will not act dishonestly in order to avoid the disapproval of acting in this way.

Integrity tests, by measuring a general latent factor of conscientiousness (as seen in previous studies by Woolley and Hakstian, 1992; Ones, 1993; Hogan & Brinkmeyer, 1997) would appear to be a valid predictor of dishonest behaviour in the workplace. Throughout both the studies in this chapter, conscientiousness is the strongest predictor of various different types of dishonest acts. Unlike previous studies, a variety of dishonest behaviours were examined here, which adds weight to the notion of a broad factor across numerous dishonest behaviours. However, the global factor of conscientiousness should not be made out to be the only trait within integrity testing and dishonest behaviour.

Firstly, as Camara & Schneider (1995) point out and as already raised in this discussion, integrity tests better reflect traits such as conformity and conventionality than a general conscientiousness trait. This is also upheld in relations to actual behaviour. Secondly, a personality dimension of honesty/integrity is a higher-order factor of conscientiousness, stability and extraversion, with each trait making an important contribution to the prediction of dishonest behaviour in the workplace. Interestingly, the results obtained in this chapter in relation to the second point above correspond to the Organisational Delinquency construct proposed by Hogan and Hogan (1989). They suggested that

Organisational Delinquency reflects four themes of: hostility towards rules and authority, thrill-seeking and impulsiveness, social insensitivity, and alienation. These themes are reflected strongly in the conventional, stability, extraversion and social desirability traits found to relate to dishonest behaviour in these studies. In fact these factors have also been shown to link to various measures of general delinquency (Heaven, 1996; Krueger, Schmutte, Caspi and Moffitt, 1994; Rigby, Mak and Slee, 1989). So then, is the construct under investigation delinquency?

The research in this chapter has looked at the relationship between personality and dishonest behaviour using different five-factor personality tests and various intended and reported dishonest criteria. Furthermore, the majority of the samples used are working adults and all have working experience. In relation to the three issues raised by Lilienfeld et al. (1994) presented in the introduction, dishonest behaviours are linked to conscientiousness (specifically conventionality), stability (alienation, suspiciousness), extraversion (thrill-seeking, impulsiveness) and social desirability. Therefore, any other traits assessed for within integrity tests are irrelevant to dishonest behaviour and should be not assessed for. The issue about incremental validity will be addressed in the following chapter.

Perhaps the most visible criticism of both studies presented in this chapter is their reliance on self-report measures of dishonesty in both studies. Self-reports are notoriously open to bias and, as highlighted in Chapter 4, self-report behaviour correlations with integrity tests are higher than those seen with objective measures (Ones, Viswesvaran and Schmidt, 1993). Also, as was considered with the survey data

(Chapter 3), leniency may have occurred in responses. This could be applied here especially as individuals were having to comment on their own dishonest behaviour whilst at work, something very sensitive and potentially open to conflict. Yet, saying that, this was counteracted by the anonymous nature of the studies that intended to produce accuracy in responses.

Chapter 7: Development and psychometric effectiveness of a personality-based scale based on the Five-Factor Model

“Most bosses know instinctively that their power depends more on employees’ compliance than on threats or sanctions.”

Fernanda Bartolme

It is clear from Chapter 6 that the Five-Factor Model of personality provides a useful framework for the development of a personality-based integrity scale. In both studies and from the majority of previous research outlined in the previous chapter, conscientiousness was shown to relate strongly to actual behaviour and integrity test scores. Clearly, any integrity scale based on the Five-Factor Model must have a strong conscientiousness component. Further, Stability was also seen to negatively correlate with dishonest intention (and some aspects of self-reported behaviour) and this trait has also been shown to be an underlying function of integrity test scores. Therefore, although not as strong, an integrity scale needs to tap into the stability trait. Similarly, Extraversion emerged as a correlate of intention and self-reported admissions, with this finding also apparent in previous research, although not so in integrity test research. Moreover, little support was found for the role of agreeableness from both studies and there is a distinct lack of support for this trait’s relationship with actual behaviour in the previous literature.

A negative relationship emerged between ICES Social Desirability and intention, which was still present when Conscientiousness scores were partialled out. Although not technically a Big-5 measure, social desirability is often part of a five-factor personality

questionnaire. Within the discussion of Chapter 6, it was suggested that social desirability could be considered as a personality trait rather than just a lie scale (Thorpe, Pittenger & Reed, 1999). In particular, the ICES-SD scale can indicate someone who “will be very certain of what is expected of them and what is proper in social situations...a high SocDes score can also be obtained by someone who is being honest...” (Bartram, 1998 p. E-1:10). These latter aspects of social desirability are key in the measurement of honesty/integrity in the workplace.

Consequently, a scale based on the composite scores of Conscientiousness, Stability, Extraversion and Social Desirability scales from the ICES Inventory was created. A rationally weighted composite based on the beta coefficients obtained from the hierarchical regression analysis carried out with dishonest intention as the dependent variables and ICES traits as the independent variables was devised. The sample of police personnel and students used in this study became the developmental sample for scale development. Cross-validation of the scale was carried out by using the data obtained from the second study in Chapter 6, with self-reported admissions of dishonesty at work in the previous year as the criteria. As well as completing the Hogan Personality Inventory (HPI), the sample of fire fighters and production workers completed the ICES.

Definition of the construct

Before any analysis can be undertaken, a definition of the construct based on the Five-Factor Model is required. As discussed in Chapter 2, there are a number of definitions

that try to capture the concept under investigation. The common element of these definitions is the fact that behaviour goes against that considered acceptable by an organisation (individuals do not comply with rules). Looking at the data obtained from the Five-Factor Model analysis, once again there is a large component emphasising the lack of rule following/conscientiousness in relation to dishonest behaviour. In addition, the work on organisational citizenship behaviours (O'Reilly & Chatman, 1986; Organ, 1988; Smith, Organ & Near, 1983) illustrates that the construct is more akin to OCB-Compliance than OCB-Altruism. As was argued in Chapter 2, altruism is not a function of honesty in the workplace and this is supported from the previous chapter, as no significant relationships were seen with agreeableness, which could be argued to relate strongly to altruistic tendencies (such as co-operation, friendliness and pleasantness). So in this sense, by acting 'honestly' individuals will not necessarily act altruistically. They may behave in a positive manner, but this may just be carrying out those behaviours that are expected of them and not going beyond their roles and responsibilities.

What also seems clear from the research presented so far, is that employee 'honesty' is not necessarily a function of moral and ethical principles that a definition of honesty requires. Rather, it relates more to a dependable, rule-following and conventional nature that does not necessarily involve always telling the truth, but requires some personal beliefs of what is right or wrong. Honesty itself is an extremely difficult concept to define and is heavily value-laden. Most individuals have told lies and even cheated at something in their life, but this does not indicate that they will be absent from work, steal from their organisation or not follow rules. Honesty captures a more moral and ethical nature not whether an individual will follow organisational rules. Even so, these

two aspects would be strongly related, but the suggestion is that an integrity test does not assess for an individual's level of honesty, rather it examines a more job-related trait of adherence to rules.

Consequently, if conscientiousness appears to be the most prominent factor and all Five-Factor Model personality tests assess for this trait, why not just use tests of conscientiousness? Why is there a need to develop specific integrity tests? Well, as highlighted in the previous chapter, integrity is also a function of high stability and low extraversion, specifically a trusting and low risk taking nature. So, it is not sufficient just to state that integrity equals conscientiousness (although this trait plays a big part), the concept is much broader than this. It also incorporates not taking unnecessary risks, not being impulsive, being able to control ones excitement levels, being untroubled and not suspicious in nature and knowing what is expected of oneself. Intimated in the previous chapter, these traits are reflected within a concept of delinquency, so is it sufficient to say that integrity tests are aiming to measure delinquency?

Personally, this word is too emotive to be used within a working framework and conjures up images of rampaging juveniles smashing windows or stealing cars. If honesty as a concept is value-laden, then surely delinquency would suffer from the same criticism. The concept of organisational delinquency posited by Hogan and Hogan is in the right direction and does cover the same personality traits as seen in this chapter. The author agrees with their position that this concept is a syndrome where extreme scores are held by those individuals likely to "...run afoul of public authority" (p.277) and that scores are normally distributed with those moderately antisocial likely to engage in

dishonest behaviours at work. As a result, delinquent individuals are not expected to make it to an integrity testing system in the first place because, arguably, the selection system's initial screening methods (such as a background check, application form or reference) or other factors (HM prisons for example) will sift these individuals out. However, once again the delinquency label is too contentious (what would be worse, being labelled dishonest or labelled a delinquent), especially if those engaging in dishonest behaviour in the workplace are only 'moderately delinquent'. As there is a need to move away from honesty as the concept under investigation, there is also a need to distance honesty/integrity testing from the label of delinquency.

A more acceptable working definition would combine the elements suggested by Murphy (1993) with those proposed by Robinson and Bennet (1995) as discussed in Chapter 2. It would encompass the notion of personal belief in the actions, a deviation from accepted acts, the effects on the workplace and divert away from emotive descriptions. Therefore, the concept proposed in this thesis, which is under investigation by integrity testing, is one of Employee Compliance. This concept is defined as:

“Complying with rational beliefs that direct the employee to resist the temptation to intentionally engage in behaviours that deviate from those considered acceptable by explicitly stated formal organisational rules and procedures. Engagement in such behaviours will have detrimental effects on organisational productivity and workforce attitudes”

The use of the phrase "...intentionally engage in behaviours" is stressed because there needs to be an intention to be non-compliant in some way. Those behaviours that may result in financial loss but which were not intended to be against the acceptable behaviours are not necessarily dishonest (such a mistakenly giving too much change), rather they could be classified as carelessness (see Rabinowitz et al., 1993 in Chapter 6). The term "...acceptable by explicitly stated formal organisational rules and procedures" permits it to be organisation specific. Those behaviours considered unacceptable by one organisation may not be viewed similarly by another organisation. An example would be the strict rules that one organisation lays down regarding the late arrival of employees as against the employment of flexi-time by another. Certainly, the first organisation has a policy against late arrivals whereas such a policy would be difficult to enforce by an organisation that employs flexi-time. There is one proviso on the use of organisationally acceptable behaviours, that of ensuring acceptability is classified by the formal organisation. Formal is meant to imply the explicit rules and procedures of the organisation as opposed to the norms and beliefs of the informal workgroups on the acceptability of behaviours often which are deviant to the organisation (this will be examined further in the next chapter).

Akin to the definition from Murphy this operational definition also considers the aspect of irrational beliefs that may underlie non-compliant behaviour. It takes account of those employees who carry out certain behaviours with a rational belief that it is right (again going back to the secretary example outlined in Chapter 2). Also, this aspect takes account of those individuals who carry out dishonest acts because of their impulsive,

excitement seeking, risky nature as well as due to their untrusting, suspicious, anxious nature.

In addition, linked to the interpretation by Robinson and Bennet (1995) this new definition illustrates the effect not only on the organisation itself, but also on the members of that organisation. Previous US research has estimated losses as a result of theft to be at the lowest \$4 billion and at the highest \$200 billion annually (Murphy, 1993) and in the UK the gross value of retail store staff theft is estimated at £446 million (British Retail Consortium, 1996). Furthermore, employee morale, motivation and attitudes may be affected. For example, other employee's work has to be covered whilst they are absent, or tight security procedures which impinge on an employee's privacy rights are set in place (e.g. CCTV) to try and catch the minority who are engaging in theft.

Initial development of the Employee Compliance scale

As illustrated in study 1 from Chapter 6, four of the ICES personality traits (Conscientiousness, Extraversion, Stability and Social Desirability) significantly predicted dishonest intent (either overall deviance or production and/or property deviance). The composite scale was based on the standardised beta weights obtained from the hierarchical regression in this study. In order to obtain a more complete scale, in that it assessed for a variety of behaviours, it was decided to take an average of the beta weights for the ICES scales across the criteria variables of overall intention, production deviance and property deviance. This analysis also reflected the stronger

weights seen for Stability on production deviance and Extraversion on property deviance (Table 7.1).

Table 7.1. Standardised beta weights for ICES scales in predicting dishonest intention (n=160)

Standardised beta weights	Overall intention	Production deviance	Property deviance	Average
ICES Scales				
Conscientiousness	-0.418	-0.491	-0.280	-0.396
Stability	-0.110	-0.161	-0.048	-0.106
Extraversion	0.072	-0.063	0.176	0.062
Social Desirability	-0.190	-0.053	-0.277	-0.173

Beta weights were first converted into whole numbers (multiplying by 1000) and then rounding to the nearest ten (e.g. the weight for Conscientiousness would be 400). Next, through a further rounding down to the nearest whole number using a common denominator (50), the following rationally weighted composite (Equation 1) of the ICES main scales was devised. A high raw score on the scale indicates low Compliance:

$$\text{Equation 1: Compliance scale} = (1 \times E) - (8 \times C) - (3 \times SD) - (2 \times S)$$

In order to avoid confusion, in that from the above composite a high score means low Compliance and it would be less confusing if a high score indicated high Compliance, the weightings of the scales were turned around. From this, Compliance becomes a function of high Conscientiousness, Social Desirability and Stability and low Extraversion.

This produced a composite of:

$$\text{Equation 2: Compliance scale} = (8 \times C) - (E) + (2 \times S) + (3 \times SD)$$

The weighted equation placed more emphasis on the Conscientiousness scale of ICES, this is due to the consistently high correlations between conscientiousness and intended and reported dishonesty shown not only in the two studies in Chapter 6, but also the previous research into personality and integrity tests as well as actual deviant behaviour. Similarly, the weighting applied to Stability is also born out of the previous research. The relatively smaller weighting applied to Extraversion reflects the positive relationship seen in both the Maltese/student and fire-fighter/production worker samples. The weighting applied to Social Desirability arises from the relation seen in study 1, Chapter 6.

From the discussion in Chapter 6, it emerged that different sub-scales of the main ICES traits were more strongly related to dishonesty. For example there was a stronger link between Conventional (C1) and dishonesty than between Organized (C2) and dishonesty. To reflect this, the ICES composite scale was adapted to endorse the strength of relationship between the ICES sub-scales and dishonest behaviour. In order to do this the initial weights from the main scales were re-apportioned to the sub-scales; in this case the weights for the two sub-scales always add up to the weight applied to the main scales.

Equation 3:

$$\text{Compliance scale} = (5 \times C1) + (3 \times C2) - (0.5 \times E1) - (0.5 \times E2) + S1 + S2 + (3 \times SD)$$

The new version of the rationally weighted scale presented in Equation 3, reflects the stronger relationship between Conventional (C1) and dishonest intent than Organized (C2), as well as the similar correlations between the Extraversion and Stability subscales and dishonest intent and the role of Social Desirability. Equation 3 posits that Employee Compliance is a function of high conventionality, organisation, poise, relaxation and social desirability as well as low group-orientation and sociability.

Standardisation of the Compliance scale

Standardisation sample

The sample used to devise sten scores for the ICES Employee Compliance scale was the same one used in the Phase III standardisation for the ICES Personality Inventory (Bartram, 1998). The sample size was 516 and consisted of 265 females and 251 males, with a mean age of 37.3 years (SD=10.37). The majority of the sample were White (80.6%), with 9.3% Black, 6.8% Hispanic, 2.1% Asian and 1% Amerindian. Job titles included senior/assistant managers, secretary, sales representative, bank teller and insurance agent.

Sten conversion

From the initial sample, only those individuals whose first language was English and who were White or Black (due to the small numbers of other ethnic groups) were used

within the standardisation analysis (N=458). Percentiles equating to standard ten scaling were calculated for the Compliance scale. Raw scores relating to each percentile were rounded up to the nearest whole number. Table 7.2 shows the raw score intervals for each sten score.

Table 7.2: Raw score intervals for standardisation to sten scores

Sten	Raw score intervals	
	Min	Max
1	<219	219
2	220	243
3	244	261
4	262	279
5	280	303
6	304	323
7	324	349
8	350	366
9	367	382
10	383	>383

From this conversion, sten scores were calculated and the mean taken. Sten Compliance had a mean of 5.52 and standard deviation of 1.97 (range 1 to 10). This is almost identical to the mean of 5.5 and SD=2 required in scaling to a sten format.

Reliability of the Compliance scale

Internal consistency of the scale was calculated using a formula devised by Mosier (1943). The formula was specifically devised to calculate the reliability of a composite

scale by examining the reliabilities, the dispersions and the intercorrelations of the component scales. As with the standardisation of the scale, internal consistency using this formula was carried out on the Phase III standardisation sample. The resultant analysis produced a reliability coefficient of 0.86.

Test-retest reliability of the Compliance scale was examined using the ICES test-retest sample (Bartram, 1998). The sample consisted of 114 working adults, of whom 62% were male and 37% female (missing data on one individual). Ages ranged from 20 to 67 with a mean of 37.8 and standard deviation of 9.0. Time between re-testing was an average of one week. From this analysis, the resulting test-retest coefficient produced was 0.92.

Criterion validation of the Compliance scale

Initial validation on the developmental sample

Initial validation of the ICES Employee Compliance scale was assessed by examining the relationships with the dishonest intention, production deviance intent and property deviance intent scores. Pearson product moment correlations, with one-tailed hypotheses were used.

Table 7.3: Correlations between the ICES Employee Compliance scale sten scores, ICES-C, dishonest intent, age and gender (n=160)

	Overall Intention	Production deviance	Property Deviance	Age	Gender
Sten Compliance	-0.63	-0.57	-0.56	0.50	-0.48
Sten Conscientiousness (C)	-0.60	-0.57	-0.51	0.49	-0.46

All correlations significant at $p < 0.001$

The rationally weighted scale strongly correlates with overall intent as well as both production and property deviance intent, providing initial evidence of the criterion-related validity of the composite scale. Those who score high on Compliance are less likely to show intent to engage in a number of forms of dishonest behaviours in the workplace. A positive correlation with age emerged from this analysis indicating that older participants tended to score higher on Compliance than younger participants.

Additionally, a negative relationship with gender was found, which suggests that males scored better (more Compliant) than females.

Even though, the correlation between Compliance and overall intention is higher, there is also a similar relationship between Conscientiousness and overall intention.

Therefore, it could be argued that little added value occurs by combining scores into a Compliance scale. It is not totally unexpected to obtain a high correlation with Conscientiousness, as it is the major component of Compliance. However, Table 7.3 illustrates that a stronger relationship occurs for Compliance and Property deviance than for Conscientiousness. This could imply that Compliance might relate to a broader

range of dishonest behaviours than Conscientiousness alone. Perhaps with more objective criteria, a greater difference between the two constructs in correlating with dishonest behaviour could emerge.

On a conceptual level, it has previously been argued that the concept under investigation is not just conscientiousness. Yes, it is a major factor within a concept such as Compliance, but researchers are measuring something more than conscientiousness. Surely by stating that the concept under investigation is just conscientiousness, researchers will be inappropriately defining what it is they are trying to assess.

The previous validity analysis was calculated using the sample from which the scale was developed. In order to examine if the scale is robust and can generalise to another sample, a cross-validation was carried out on a separate sample.

Cross-validation with study 2 sample

As well as completing the Hogan Personality Inventory (Chapter 5), the sample of fire fighters/production workers also completed the ICES and this allowed for a cross-validation of the Employee Compliance scale using a different sample and different criteria. In this case the criteria were self-reported involvement in 8 dishonest behaviours as well as a composite scale score based on responses to the 8 behaviours. Correlations between the ICES Compliance sten scores and self-reported involvement in dishonest acts are presented in Table 7.4.

Table 7.4: Correlations between self-reported involvement in dishonest acts and ICES Compliance sten scores (n=64)

Self-reported admissions	ICES Compliance
Overall composite	-0.40**
Unauthorised time off	-0.33**
Late for work	-0.07
Used facilities	-0.17
Disregarded rules	-0.32**
Left work early	-0.07
Worked slow	-0.30**
Taken equipment	-0.15
Taken longer breaks	-0.31**

** p<0.01 one-tailed analysis

As predicted, Compliance correlated negatively with self-reported admissions of all the types of dishonest behaviour and the overall composite measure. Validity coefficients show a strong relationship between the scale and the composite score of self-reported dishonesty (-0.40, $p < 0.01$). Those scoring high on Compliance tended to engage in less reported dishonest behaviours in the previous year than those scoring low on the scale. Although the scale correlated negatively with all self-reported measures, point-biserial correlations were significant for just four of the individual items: Taking unauthorised time off; disregarding company rules and regulations; intentionally working slow; taking longer breaks than allowed.

Construct validation of the Compliance scale

Criterion-related validity coefficients are favourable towards the ICES Employee Compliance scale as a correlate of dishonest behaviours in the workplace. However, there was also an opportunity to examine the construct validity of the scale using the data from the Hogan Personality Inventory (HPI). Not only was the relationship between HPI scales and the ICES scale examined, but also the relationship with the Hogan Reliability Index (HRI). After all, the HRI is designed: “To identify people who are honest, dependable, and responsive to supervision” (Hogan and Hogan, 1995, p.69). As Employee Compliance is a rationally weighted composite of Conscientiousness, Extraversion and Stability, it was predicted that a positive correlation with the HPI scales of Prudence (which measures conscientiousness) and Adjustment (which measures stability) and a negative correlation with Sociability (which measures extraversion) would occur. Results highlighted a strong positive relationship with Prudence (0.52, $p < 0.001$) and a strong negative relationship with Sociability (-0.40, $p < 0.01$). However, very little relationship emerged with Adjustment (Table 7.5).

Table 7.5: Correlation coefficients between sten Compliance and HPI scales (n=64)

Hogan scales	Compliance scale
Prudence	0.52***
Adjustment	0.06
Ambition	0.03
Sociability	-0.40**
Agreeability	0.02
Reliability	0.26*

* $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$

The significant correlation with Reliability is in the hypothesised direction, as a high scorer on Compliance should score high on Reliability. This provides further construct validation support for the Compliance scale.

Fairness of Compliance: Group differences on sten Compliance

As the scale has not been used in the selection of individuals, there are no studies of adverse impact to examine if the scale is being used fairly. In this case, 'fairness' was examined in terms of bias. In order to examine potential bias, one way ANOVA's were carried out with sten Compliance on the Phase III standardisation data to look if significant differences emerge for gender, ethnic group and age (see Appendix 9). Table 7.6 illustrates mean scores on Compliance for gender, ethnic groups and age, F-values and d-values (effect sizes). The d-values express the differences between groups in standard deviation units. Age was re-coded into 'below 40 years' and '40 years and above' in order to make a direct comparison with the research of Ones and Viswesvaran (1998).

No significant differences were seen on Compliance between males and females.

However, there was a significant race and age effect, with Blacks scoring higher than Whites and those 40 and over scoring higher than those lower than 40. The d-values showed that females scored 0.08 standard deviation units worse (less compliant) than males, Blacks scored 0.47 standard deviation units better (more compliant) than Whites and those 40 and above scored 0.27 standard deviation units better than those below 40.

Cohen (1977) suggested that effect sizes of 0.2 are small and of 0.5 medium. Applying this to the findings, the gender effect and the age effect can be considered small, whilst the race effect can be considered medium.

Table 7.6: Analysis of gender, ethnic group and age differences on Compliance

Group	Mean	SD	F	p	d
Female (n = 226)	5.44	2.03			
Male (n = 232)	5.60	1.91	0.77	ns	-0.08
White (n = 411)	5.43	1.99			
Black (n = 47)	6.28	1.56	7.88	<0.01	-0.47
Under 40 (n = 248)	5.28	1.99			
40 & above (n = 210)	5.80	1.91	8.01	<0.01	-0.27

d-values are calculated by the difference between the means for one group and the other group divided by the pooled standard deviation of the 2 groups. For example ($M_{\text{female}} - M_{\text{male}} / SD_{\text{pooled}}$).

Acceptability of the Compliance scale

Acceptability was not directly examined in this thesis, however a paper currently in review has looked at the acceptability of the Employee Compliance scale using a multi-method approach (Coyne and Vallance, in review). It would be beneficial to outline this study here and comment of the findings. Students (n=52) were asked to judge the fairness, job-relevance, appropriateness and invasiveness of the Compliance scale in relation to 5 other methods of assessment (interview, references, biodata, polygraph and overt integrity test). In addition, job title (retail manager or assistant) and relevance (reference to honesty in the job description or no reference to honesty) were manipulated. Subjects read descriptions of the methods, then read their specific job

description (e.g. manager with reference to honesty, assistant with no reference to honesty, etc.) and then were asked on 7-point Likert scales to judge each method. Reference to honesty included such aspects as 'punctual and reliable', 'conscientious' and 'cash handling'. Ratings on the 4 criteria were combined into a composite acceptability rating and compared across methods and between experimental conditions. Results indicated that overall the Compliance scale was judged neutrally and ranked 4th out of the 6 methods (the interview was ranked 1st, most acceptable, and the polygraph 6th). Yet, when the job title involved components of honesty the Compliance scale was judged more favourably, in fact it was viewed more acceptable (rating of slightly agree) and ranked 3rd out of the 6 methods. Therefore, when the test can be shown to be more job-relevant (e.g. the job requires an individual to be honest) the Compliance scale becomes a more acceptable method of assessment in relation to fairness, job-relevance, appropriateness and invasiveness.

Discussion

The discussion of the results from the development of the Employee Compliance scale is structured in a similar format to the literature discussion of the psychometric effectiveness of integrity tests (scope, accuracy, relevance, fairness, acceptability and practicality) presented in Chapter 4. The ICES Employee Compliance scale will be judged against these criteria, in relation to integrity tests in general and in relation to the other methods of assessing honesty and integrity presented in Chapter 5.

In terms of scope, the Compliance scale being a personality-based test based on the Five-Factor Model and measuring a concept of Employee Compliance is broad. It does not examine one specific aspect of deviant workplace behaviour (such as theft) but a broader concept of complying with rules, that may encompass the behaviour of theft but also others such as absenteeism and rule breaking. Indeed, closer inspection of the validity data shows that the scale is strongly related to various types and classifications of behaviour. The scale was developed with the intention of capturing a number of behaviours or classifications of behaviours, which is why the beta weight averaging criterion was employed. As a result, the Employee Compliance scale (like other personality-based integrity tests) assesses a general overall picture of employee intended and reported dishonest behaviour in the workplace.

However, even though correlations were in the predicted direction, the ICES scale did not correlate significantly with the behaviours of being late for work, using organisational telephone or mailing facilities, leaving work early without permission and taking equipment or property without permission. Perhaps one reason for this was that these behaviours outlined might have not been defined effectively enough to elicit their dishonest nature. For example, it may be considered acceptable (by the organisation) to use the phone or mailing facilities once or twice and hence it would not necessarily be considered dishonest. Also, in a similar vein, the behaviours of arriving late for work and leaving early do not take account of the reason why an individual engaged in this behaviour. Perhaps there were plausible reasons why, that were not of an intentional dishonest nature. In this case, the correlations with Compliance would be reduced as some of those individuals who are closer to the compliant end of the scale

(and would be predicted not to engage in the behaviour) may have carried out the behaviour, but not in an intentionally dishonest manner (e.g. it could be due to the car breaking down or being called away urgently). Therefore, the lack of significant correlations with some of the self-reported behaviours may be a result of ambiguity in the definitions of the criteria used rather than to do with issues with the predictor.

Regarding internal consistency, the Mosier (1943) formula was employed as this specifically examines the reliability of a composite scale from knowledge of the dispersions, inter-correlations and reliabilities. The resulting reliability coefficient of 0.86 is analogous to coefficients reported in the previous literature on integrity tests (Ash, 1974; Martelli, 1988; Terris, 1979, as cited in Sackett, Burris & Callahan, 1989), (O'Bannon, Goldinger & Appleby, 1989, as cited in Murphy & Lee, 1994) and Ones, Viswesvaran and Schmidt, (1993). Yet this result is more favourable than consistency rates seen on other methods (see Chapter 5). The test retest coefficient of 0.92 corresponds with those found for integrity tests in general (the mean here being around 0.88) and is stronger than those seen for the integrity interview (Gerstein, Barke & Johnson, 1989) and biodata (Shaffer, Saunders & Owens, 1986, as cited in Gatewood & Field, 1998). However, as was levelled at the research on integrity tests in general, the time between test and retest is short and more information of the Compliance scale's retest reliability over longer periods is required.

The issue of faking integrity test responses was discussed in Chapter 4 under the heading of accuracy. This aspect is not examined explicitly within the thesis, partly due to the criticism of the methodology used in those studies that have tried to examine

faking. However, as reported in Chapter 4, overt tests are more prone to faking than personality-based tests (Murphy, 1993) and that a tendency to fake good does not occur unless there are specific instructions to do so (Hough et al., 1990; Ryan & Sackett, 1987). As the Compliance scale is a personality-based test and as it is derived from a general personality test, it is expected that the issue of faking will not be so much of a problem as it is considered to be for integrity tests in general. Rather, faking will be more a function of how much an individual distorts his/her responses on the personality test, which then becomes a personality test faking issue. Additionally, in a selection situation there will not be specific instructions to fake responses. In fact, the opposite occurs, as candidates are required to answer truthfully.

Validity was examined using the 'correlation with external criteria' approach; in this case intended and self-reported involvement in dishonest behaviour. Concurrent validity coefficients are extremely favourable towards the ICES Employee Compliance scale in relation to a number of different reported behaviours as well as overall deviant behaviour. Relating these results to the meta-analysis (Ones, Viswesvaran & Schmidt, 1993) presented in Chapter 4, the Compliance scale is shown to be comparable. In Chapter 4, only mean true validity estimates are reported (after correction for artefacts) and in order to make a direct comparison with Compliance scale validity, the mean observed correlations and 90% credibility levels are compared. Ones et al., obtained a mean observed correlation of 0.22 for personality-based tests with dishonest behaviours, with a lower 90% credibility value of 0.20. In this thesis the ICES Compliance scale has been shown to be much higher with coefficients of -0.63 and -0.40 produced for overall dishonest behaviours. Compliance scale validity coefficients are also stronger than those

obtained by Ones et al for the criteria of broad counterproductivity (0.32) and, for the development sample, with the criteria of self-reported admissions (0.41). For the cross-validation sample the correlation of -0.40 for overall self-reported involvement in dishonest behaviour is comparable to the mean observed correlation seen in the meta-analytic study.

The Employee Compliance scale, in terms of validity, is not only shown in a positive light when compared with integrity tests in general, but also when compared with other forms of measurement. Validity coefficients are better than those seen for biodata and references and are on a par at least with structured interview coefficients (although there is a lack of specific integrity interview data to make a direct comparison). In this sense, it can be argued that the ICES Employee Compliance scale is a valid measurement of a broad concept of employee compliance, it compares favourably with integrity tests in general and in most cases it performs better than alternative methods of assessing for integrity/honesty/compliance. One proviso would be that at present there is no predictive validity evidence for the scale and as shown by Ones et al, concurrent validity estimates are higher than predictive validity estimates.

Inter-group differences were examined in order to assess any bias in the Compliance scale. Although there are gender and race-related discrimination laws in the UK there is currently no statutory age-related discrimination law. However, age was also considered in the inter-group difference analysis. Even though males scored slightly higher on Compliance, no significant difference on the sten scale score was seen for gender. There was a significant effect of race (with Blacks scoring higher than the Whites) and age

(those 40+ scoring higher than those <40). Looking at the d-values in direct comparison to the Ones and Viswesvaran study (although they used far bigger samples), gender differences were shown to be less but age and race differences were higher (Ones found gender differences of 0.16, race of 0.04 and age of 0.08). The gender and age difference can be considered small if using the 0.2 effect size rule of thumb specified by Cohen (1977). The race effect is much higher (0.47), but Cohen still only considers this a medium effect. However, there were far more Whites in the analysis than Blacks so these mean differences could be biased and a less biased result could emerge if the Black sample were similar in size to the White sample. Still, this data provides preliminary evidence to show that the ICES Compliance scale is unlikely to show a bias against gender and only a small effect of age. A bias may occur for race. In terms of adverse impact issues, it is not the scale itself that can be considered fair. It is the use of the scale that is either fair or unfair. Bias on a scale could indicate that its use might cause adverse impact on minority groups. However, data on the Compliance scale indicates that its use is not likely to be the cause of any adverse impact on minority groups. In fact, use of the scale would reduce rather than increase adverse impact.

In comparing this with the previous literature on integrity test bias, once again results on the Compliance scale are positive. Certainly, the evidence that the Black sample scored slightly higher than Whites is supported by previous research (Hartnett, 1991; Sackett & Harris, 1984) and so is the age effect (Ones & Viswesvaran, 1998). The scale, as akin to other integrity tests, is shown in a positive light in terms of inter-group fairness and as already commented on in Chapter 4, the strongest advantage that integrity tests in general have over other methods is the statistical evidence showing their freedom from

adverse impact. In comparison with other methods in relation to fairness, use of the ICES Employee Compliance scale can be considered an excellent alternative.

Although, the acceptability of the scale was not directly examined within this thesis, the empirical study outlined previously (Coyne & Vallance, in review) had looked at this issue. From this research, evidence clearly pointed to the fact that so long as the job description involved some element of honesty, the ICES Employee Compliance scale was judged to be a reasonable method in terms of fairness, job-relevance, appropriateness and invasiveness. Overall, the results obtained in the research project followed the pattern seen in previous research (Kravitz, Stinson & Chavez, 1996; Rynes & Connerley, 1993; Stone & Stone, 1990), of integrity tests being rated neutrally, interviews and references rated positively and polygraph rated negatively. However, the interesting aspect was that when the Compliance scale became more job-relevant it was judged in a more positive light and it was considered a better option than an overt integrity test. Interviews and references are still considered to be the most popular methods, even when the job involves an element of honesty, but the ICES scale was ranked third in popularity when honesty was a component of the job. From this, it seems that the Employee Compliance scale is considered an acceptable method of selection, so long as the individual can see the relevance of the need to assess for compliance in the job.

Being of paper and pencil design the practicality of the Compliance scale is another of its benefits. Certainly, if an organisation is already using the ICES Personality Inventory within its selection system, it can obtain scores for compliance without having to re-

administer another scale (remember the Compliance scale is devised from a re-scoring of the ICES Personality Inventory scales). In this sense time and cost factors are reduced although it is assumed that a separate cost will be applied in order to obtain a report on an individual's level of compliance.

Training is the other practicality issue and as there is a need to take care in interpreting such a controversial concept (even though it is not honesty, it is envisaged that some individuals will feel that their 'honesty' is being measured) training should be central to the use of this scale. Certainly, as it is based on a personality test an individual in the UK should have at least the British Psychological Society's level B (intermediate and then trained on the ICES) qualification. With a small addendum to the ICES training course looking at Compliance in particular, this training would be sufficient. This has obvious time and cost implications that will impact on the practicality of the method. However, these training issues are a function of alternative selection methods as well and therefore should not be considered solely a problem with integrity tests. In fact, arguably, more training is required to interpret polygraph outputs and to devise and implement integrity interviewing.

Overall, the ICES Compliance scale can be considered a reliable, valid, fair, acceptable and practical method of assessing a broad construct of Employee Compliance. Its psychometric properties are positive and at the least comparable but most of the time better to the literature on integrity tests in general. It is also shown in a more favourable light than alternative methods on many aspects. However, there are a number of issues with the current analysis and these will be discussed in more detail below.

Firstly, the question needs to be posed of whether total compliance is an ideal or not. On the face of it one could assume that an organisation would want to employ those individuals who were compliant especially as they are less likely to engage in dishonest behaviour. But is this the case in practice? As the scale has been developed from a Big-5 personality measure (and construct validated with another personality measure) it allows for a discussion of personality characteristics of a low and high compliant person based on where they score on the personality traits that comprise the Compliance scale. For example, an individual scoring high in Compliance would be reliable, attentive to detail, not impulsive, not a risk taker, trusting and able to cope with pressures. The ideal person perhaps, but consider the fact that due to their personality they will also tend to be inflexible, reserved, conforming, low in spontaneity and may lack innovation. On the other hand a low compliant person may well be a risk-taker, impulsive and likely to engage in dishonest behaviours but they will also tend to be creative, flexible, outgoing and innovative. There will be certainly some occupations where the need to be creative, innovative and perhaps bending the rules are assets, so being conventional and rule-directed is not an ideal. For example, the advertising or sales industry would require an individual with a flexible, impulsive, outgoing, and anxiety-driven nature. It is through this nature that these types of individuals obtain sales orders or promote products for the organisation. Indeed, recent work by Robertson, et al., (2000) reported that managers rated high on promotability tended to be rated by supervisors as flexible, innovative, motivated and persuasive.

Another good example of the type of individuals who would be missing from an organisation if only those high in Compliance were selected are those termed 'The Champions of Technological Change' (Howell & Higgings, 1993 as cited in Greenberg & Baron, 1993). They tend to be innovative and risk-taking but they are active and enthusiastic promoters of technological change and in this age of rapid advancements in technology there is a need for individuals and organisations to adapt and change.

Greenberg and Baron argue that only individuals and organisations that are capable of adapting to change can be expected to carry on in a profitable existence, and those that dig their heels and resist change will not. Even though these types may be more likely to act in a dishonest manner, it is hard to see how an organisation will function without them.

The overriding factor emerging from this part of the discussion is the need for a trade-off between the job role and Compliance on the job. For certain jobs, compliance would be an essential characteristic (such as cashier, security personnel, safety system operators) however, for others high compliance would actually be detrimental (innovative workers, entrepreneurs and managers). So, there is a trade-off in getting the right individuals for the job but accepting that they may engage in some forms of dishonest behaviour, essentially by not following the rules. Hogan and Hogan (1995) support this notion, by suggesting that there is a need to identify job type in relation to measures of integrity. For jobs requiring rule adherence and attention to procedures those with positive scores on integrity tests should be considered further. Yet, for creative, imaginative, flexible jobs those scoring positively on integrity tests will be a disadvantage.

The crux of the argument here is that an individual's Compliance score should be considered in relation to the job in question and not as an absolute. This approach is common to all forms of testing, where an individual's profile is compared (or at least should be) to competencies, skills or traits required on the job. Perhaps integrity tests have suffered from the assumption that organisations wish for moralistic and honest employees and no consideration has been directed to the issue of what organisations actually need their employees to be in relation to the job itself. Returning to the survey data presented in Chapter 3, this seems to be the case. Here, honesty and integrity was viewed as the most important characteristic required in employees, but do the organisations actually want totally honest/compliant individuals for all jobs?

A way to get around this, which can be done fairly easily on a personality-based measure, is to move away from a honest/dishonest cut-point and to assess the level of Compliance an organisation requires via a benchmarking process. The ICES scale has the capacity to use this process especially as it has been developed using a norming approach and as benchmarks are obtained on the ICES Personality Scale itself. This process requires managers, employees, etc. to complete a questionnaire (Job Description Survey) identifying those traits they feel are required in the job. The items assessing the traits are directly relevant to the personality scales. Analysis of responses on the survey produces a benchmark (in terms of placement on a sten graph) and an individual's score on the personality can be compared to this benchmark. There is no reason why this system cannot be adapted for the Compliance scale, as it is based on the same scales that the benchmarking process is based on. All it would need is a re-scoring of the items on

the survey that are directly relevant to the scales used to create the Compliance scale. Then an individual's score on Compliance would be compared with an organisational benchmark, rather than just an absolute compliant/non-compliant comparison. In this sense an individual would be screened out not because it is viewed that he/she is not compliant, but rather they do not fit the requirements of the job. This would certainly reduce the issue of labelling and potentially increase test-taker and test-user acceptability. Organisations will be selecting on the basis on job/competency fit, rather than making moral judgements about an individual's honesty. This methodology ensures that an individual's level of Compliance is tailored to the requirements of the job/role. The implication of course is that some organisations would actually want to employ those people considered to be non-compliant and a risk by the ICES scale for certain jobs. This means that they are suited to the role (from a personality perspective) but they may also not comply with rules and regulations. So even though honesty and integrity is considered the most important concept in employees, is it actually the most important trait in certain jobs? Will screening out on this basis mean that an organisation does not employ the best person for the job?

Secondly, regarding the validation of the definition, the research assumes that the criterion behaviours examined are actually 'against the formal rules of the organisation' as the definition specifies. Now, one is assuming that theft, absenteeism and lateness is but perhaps some of the other behaviours are not necessarily formally defined (leaving early, taking longer breaks and using organisational resources). Therefore in order to test the definition exactly a study would need to examine the relationship between Compliance and behaviour that is against formal rules.

On a third issue, although the scale has been developed and validated on a sample of working adults (the intended population for the scale) the criteria used to validate and develop were self-reported behaviours. Self-reported measures are open to bias and perhaps more so when considering involvement in dishonest behaviour. In addition to this, the Ones et al's meta-analysis (1993) illustrated that integrity test validity coefficients for self-reported behaviours are higher than for objective measures and hence relationships in this analysis may be inflated. Currently, the Compliance scale has not been validated against any objective measures of dishonest/deviant behaviour and this is a clear disadvantage.

Finally, so far throughout the thesis and especially in this chapter, Employee Compliance has been considered just a function of individual differences. The role that situational/organisational factors play in dishonest behaviour have not been considered. Although, Compliance is a function of personality, it cannot be considered the only factor. Perhaps it is the main factor, but certainly not the only one. The following chapter recognises this fact and provides a discussion of the role the situation plays in dishonest behaviour. It culminates in a laboratory study that not only examines the situation, but also takes account of the need for an objective measure and the need to test the definition more explicitly.

Chapter 8: Personality and situational influences on Compliance

“It is hard to believe that a man (sic) is telling the truth when you know that you would lie if you were in his place”

H. L. Mencken

Throughout this thesis the trait element of dishonesty, or as defined in the previous chapter Employee Compliance, has been the central focus and with good reason. The information presented so far has illustrated that Compliance is a higher order factor of three Big-5 personality factors and that this construct gives an indication of those individuals who are likely to and have engaged in various dishonest behaviours in the workplace. What has not been examined and discussed yet, is the impact the situation and specifically the organisational situation plays in promoting or reducing dishonest behaviour in the workplace. After all, is there any point in using a valid, reliable and fair pre-employment measure to select those unlikely to act in a dishonest manner if, when in the workplace, these individuals are then ‘persuaded’ by situational influences to act in such a way?

The personality versus situation debate is not new to psychology and therefore such a debate was always going to play a part in the area of integrity in the workplace. If personality variables are the most important then integrity testing will hold sway; if situational variables are the most important then controlling the situation and not the person is the best approach; if both are important then a multi-method approach in controlling employee dishonest behaviour is the ideal (Murphy, 1993). Trevino and Youngblood (1990) highlight that in terms of ethical decision making one approach is the ‘bad apples’ argument, which proposes that unethical behaviour is down to those

individuals lacking in a personal moral character, or one could say Compliance. Conversely, there is the 'bad barrels' argument, which implies that "...something in the organizational environment poisons otherwise good apples" (p.378). However, in their research work, Trevino and Youngblood examined the notion of a multi-influence perspective of both individual and situational influences, or as they define it 'bad apples in bad barrels.' Interestingly, through their study they only found partial support for this multi-influence hypothesis in predicting ethical behaviour. Through a path analysis of individual differences measures (locus of control and cognitive moral development) and organizational measures (reward or punishment), they found that both individual differences measures directly influenced ethical decision-making. No support emerged for the direct effects of either reward or punishment. Reward did influence ethical decision making indirectly through a participant's expectation of the outcome of their actions. Those who were given a reward had higher expectations that the organisation supported ethical behaviour (outcome expectancies) which then led to more ethical decisions. Yet, their results highlighted more the influence of individual differences variables than organizational (situational) variables. However, they did rely on subjective measures of ethical decision making behaviour rather than objective measures.

This chapter examines previous research on the role of the situation within dishonest behaviour and culminates in a laboratory study where two aspects of the situation are manipulated in a controlled environment. Further, as was suggested in Chapter 7, the validity of the Employee Compliance scale will also be examined in relation to objective measures of behaviour that go against explicitly stated rules. Finally, the

interaction between the situation and personality is assessed in order to observe the importance of both these aspects in predicting employee dishonest behaviour.

Early work by Porter and Steers (1973) highlighted four categories of factors relating to employee turnover and absenteeism. Organizational-wide factors include aspects such as unhappiness with pay and promotion and organisational size. Immediate work environment factors concern satisfaction with supervisors, work unit size and satisfaction with peer group interactions. Job-related factors include satisfaction with job, job responsibility and role clarity. Personal factors include personality and family size.

Further research has looked at why employees steal from an organisation. Terris and Jones (1982) examined the views of 24 managers and 54 retail clerks of why employees steal in convenience stores. Financial need was judged the modal reason why employees steal (around 50% in both samples) with low wages the second highest. Also high on the list were revenge against employer/company and fun/thrill seeking. Other aspects included were no fear of apprehension and peer pressure. When asked to judge why employees would not steal 88% of managers and 57% of clerks rated fear of getting caught and losing their job and 67% of managers and 61% of clerks rated personal honesty. Hollinger (1989, as cited in Kurke, 1991) listed 7 factors why employees steal from an organisation:

1. External factors – such as the need for money to ease debts.
2. Demography – age, social status etc., and the links with theft.

3. Neutralization and rationalization – employees share a pool of excuses to justify theft.
4. Opportunity – everyone will steal given the opportunity to do so and some occupations have more opportunity than others.
5. Organisational deterrence & punishment – the deterrence effect of punishment and sanctions regarding theft.
6. Work group norms – the influence that group attitudes have on the acceptability of theft.
7. Job dissatisfaction – those unhappy with management or the organisation are likely to steal.

There is some evidence to suggest that employees steal because they get into financial pressure and therefore need to obtain funds to reduce the pressure (Murphy, 1993) as well as employees sharing common neutralisations and rationalisations to justify theft (Dabney, 1995; Hollinger, 1991). Similarly, evidence is presented to show that age correlates with dishonest behaviour (Hollinger & Clark, 1983; Hollinger, Slora & Terris, 1992). Indeed, the results from Study 6.1, Chapter 6 also indicated that those younger in age tended to admit they were more likely to engage in dishonest behaviour than those older in age. Nevertheless, this chapter will concentrate on three situational factors that have received more attention in the honesty literature that are closely related to factors 4-7 above.

Risk and opportunity: The deterrence hypothesis

Generally, the literature that fits under this heading has focused upon the perceived risk of detection and perceived consequences of getting caught. In essence, if the risk of getting caught is high (or there is a lack of opportunity) an individual will not act in a dishonest manner. Further, if the punishment when caught is severe then again an individual will not act in a dishonest way.

Initial research on the deterrence hypothesis has centred on illegal behaviour in general and not specifically on workplace dishonest behaviour. Empirical investigation has shown a negative relationship between perceived certainty and severity and frequency of speed violations (Grasmick & Milligan, 1976) and self-reported illegal behaviour (Grasmick & Bryjak, 1980), as well as between perceived risk of punishment and self-reported delinquency (Jensen, Erickson & Gibbs, 1978). Furthermore, a lab-based study of undergraduates indicated that being observed on a task reduced the amount of cheating on it (Covey, Saladin & Killen, 1988).

Research in workplace settings has similarly produced support for the deterrence hypothesis. Hollinger and Clark (1982) reported a negative relationship between perceived formal management sanctions and self-reported employee deviance in 9175 employees. On the same sample, the strongest predictor of theft activity was found to be employees' perception of the certainty of being caught thieving (Hollinger & Clark, 1983). They recorded that an employee is over 3.5 times more likely to steal from the organisation if they perceive the certainty of getting caught being low. Further, a significant deterrent effect of perceived severity emerged. Where "those...who perceive

little severity in the management response to theft behaviour are almost twice as likely to report above average levels of larcenous workplace activity” (p.408). The results also intimated that an additive effect of certainty and severity is important in examining the deterrence effect, as the highest level of deterrence occurred when perceived severity and certainty was high. Four studies within supermarkets have shown significant correlations between perceived certainty of detection and theft (London House & Food Marketing Institute, 1991, 1992, 1993, 1995, as cited in Giacalone & Greenberg, 1997). Similarly, within retail, manufacturing and hospital organisations significant negative relationships between perceived certainty and rates of theft have been reported (Parilla, Hollinger & Clark, 1988). However, they suggested that although certainty has a consistent relationship, the effect of severity might be industry specific. Formal organisational controls (such as sanctions on those caught) were significantly related to deterrence in retail stores but not in manufacturing or hospital organisations.

There does appear to be a role of perceived certainty and severity in promoting or reducing the likelihood of employee dishonesty in the workplace. If the risk of getting caught is perceived to be too high and the punishment too severe then the employee will not act in a dishonest way. Yet, Morgan and Herman (1976) found that organisational deterrents and perceived consequences failed to deter future absenteeism in a sample of 60 blue-collar employees.

From a general psychological perspective, the role of perceived severity and perceived certainty plays in influencing dishonest behaviour could be understood within the framework of the subjective-expected utility model (Edwards, 1954, 1961). The subjective-expected utility model (SEU) implies that an individual’s decision to act in a

certain manner is related to the subjective probability and utility of the consequences of his/her actions. An individual will choose a course of action that has the highest SEU. In respect of dishonest behaviour, an individual is likely weigh up the costs of the action against the benefits of acting in such a way. Being dishonest is likely related to subjective probability and utility of its success (Kamat & Kanekar, 1989). Therefore in relation to risk, acting in a dishonest manner is a function of the perceived risk of getting caught and the severity of punishment weighed up against the benefits of acting that way. If by acting in a dishonest way an individual is likely to be caught or punished severely then he/she is likely to not act in such a way, as this will have the greatest utility (least cost). Penner, Summers, Brookmire and Dertke (1976) illustrated this cost-benefit analysis notion in relation to returning, ignoring or taking a 'lost dollar'. They manipulated the setting (lab, quasi-lab or field) and owner characteristics of the dollar (placed in a wallet with identification, an envelope with "petty cash" written on it or just on the chair). More subjects took the dollar in the field setting and when the money was ownerless (just on the chair), hence less risk or higher SEU. Although, Penner et al., did not ask the actual subjects why they acted in such a way, they gave a new sample some scenarios of the experimental conditions and asked then why a person would act in such a way. From this they found that responses were related to three types of costs: cost to the victim (harm done); costs in terms of risk of getting caught; cost in terms of negative evaluation.

The norms within the organisation

Informal work group norms and the general culture within the organisation have also been suggested as a situational variable within the promotion of dishonest behaviour in

the workplace. If others workers carry out the behaviour and even persuade an employee to carry out the behaviour, then it becomes an accepted part of working life – ‘If others do it, why can’t I?’ Work-group norms may support forms of dishonest behaviour and therefore when a new employee becomes socialised into their new work environment, they may also take on the norms of the existing work-group and hence act in a dishonest manner. For example, if the existing norm is one where employees ensure that output is slowed on a Friday afternoon so that new orders are not started and they can go home early, a new employee could be encouraged to act in this way. Murphy (1993) suggested that the strength and direction of norms on dishonest behaviour are important. The direction is in terms of the work group’s acceptance of various behaviours and the strength is the level of impact the norms have on the behaviour of group members. In this case, the worse scenario would be a strong normative regulation with norms supporting dishonesty (Murphy suggested that this combination describes a corrupt police department).

This situational influence relates to mainstream psychology, specifically within the area of conformity. Conformity is “the tendency to change our perceptions, opinions, or behaviours in ways that are consistent with group norms” (Brehm, Kassin & Fein, 1999, p.213). Classic studies by Sherif (1936) and Asch (1951, as cited in Brehm, Kassin & Fein, 1999) illustrated that some individuals will conform to a group norm even when other members of the group gave the wrong answers. Within conformity there is a strong normative component in that an individual will conform to the group because of fear of the consequences of not conforming (being disliked, rejected or punished in some way). The notion is that individuals under this normative influence will show public conformity (or compliance) by pretending to agree publicly when in fact

privately they do not agree. Interestingly, Cialdini and Trost (1998) argue that one of the personal goals of conformity to a group norm is to allow individuals to believe that they see things more accurately. In extending this to compliance, Cialdini and Trost suggest that people go through a process of social validation in that they use the behaviours of similar others as a guide to assessing the acceptability of their own behaviour. Essentially, they act in a way that is similar to the actions of those they would consider similar to them (for example they may act in a similar way to work colleagues).

One key aspect of this normative influence, which leads to conformity, is the actual perceptions and knowledge of the norm. Knowing how others behave is likely to influence our behaviour only when the norms are brought to our attention or activated (Brehm et al, 1999). Cialdini, Kallgren and Reno (1991) examined this notion of activation in a number of studies focusing on norms in relation to littering. They distinguished between descriptive norms (the perception of what most people will do) and injunctive norms (perception of what most people approve or disapprove of). In one study they found that more littering occurred in an already littered environment, but that the most littering occurred in this environment when subjects saw someone else (a confederate) littering. The descriptive norm that others do it led to more of the subjects littering in an already littered environment. Interestingly, in a more experimental study, they found that littering actually reduced when the environment changed from a clean one to a lone piece of litter one. After that more littering was seen when the environment was fully littered. These studies indicated that descriptive norms do influence dishonest behaviour. If one applies this to workplace behaviour, if one person is pro dishonesty and the rest against, the likelihood of increasing dishonest behaviour is

small. However, if more people accept the norm then dishonesty is likely to be increased. This relates to Murphy's suggestion of the strength of the norm.

In researching the role of injunctive norms, Cialdini et al., (1991) found that they had more of an effect on behaviour and this was across a variety of settings. Using the same littering approach they found that when a notice with an anti-littering message was placed on the windscreens of cars, which were parked in a lightly littered environment, only 10% of handbills were thrown away. However, as the notice got further away from the anti-littering message the amount of littering increased (up to 25% of notices thrown away in the non-norm condition). They argued that descriptive norms are likely to influence behaviour only when others actually behave in that way (e.g. only if they take time off). Injunctive norms of what is acceptable or not acceptable behaviour in an organisation are more likely to guide behaviour (especially positive behaviour). Further, such norms are persuasive and powerful and motivate behaviour via social rewards or punishment (Cialdini & Trost, 1998).

Early work on the effect of group norms on dishonest behaviour was carried out by Horning (1970), using semi-structured interviews on 88 operative employees. He showed that work group norms governed the acceptability (only that termed property of uncertain ownership was considered acceptable), the tolerated limits (limited to what is needed for personal use) and the conditions of pilfering (ensure it does not focus supervisor's attention on the pilfering). One such response highlights this aspect perfectly: "...It's a generally accepted practice. Everyone is doing it so why should anyone feel guilty?" (p.62). Similarly, Dabney (1995) found that nurses rationalised the theft of supplies, over the counter medicine theft and non-narcotic theft as behaviour

considered acceptable amongst the work-group. Sengupta (1982) reported that 36% more of employees had favourable attitudes to corruption in those offices perceived to be high in corruption than those in low corrupt environments. They argue that an employee learns the habit of corruption from fellow employees.

Research has also indicated that informal group norms or sanctions are a much stronger predictor of employee theft and dishonest behaviour than formal management sanctions (Dabney, 1995; Hollinger & Clark, 1982; Kamp & Brooks, 1991). In all these studies, behaviour was influenced more strongly by co-worker norms than by organisational policies. Dabney suggested that new nurses arriving into the work-group were offered rationalisations that excused dishonest behaviour. It is as if, as Tittle (1977) records "...the probability of suffering informal sanction is far more important than fear of formal sanction" (p.592). Indeed, in terms of the risk of getting caught, work colleagues are more likely to catch you than a manager or the organisation.

Greenberg (1997) introduced the notion of a four category STEAL Motive to examine the social determinants of employee theft. One such category he termed the 'Approval Motive' and this reflects the level of adherence to supervisory norms condoning theft. Initially, this would seem counter-intuitive, as one would expect a supervisor not to want to promote theft in their organisation. However, empirical investigation has indicated that some theft behaviour could be approved by supervisors (Dalton, 1959, as cited in Giacalone & Greenberg, 1997) and Sieh, (1987). Also, if employees see supervisors carrying out the behaviours then they are likely to engage in it themselves. Another category suggested is the 'Support Motive'. This motive relates to the notion that employees will become socialised into the dishonest norm of their co-workers.

They will follow the norm of the group, gain group approval, legitimise the behaviour and ultimately produce a culture where theft is considered acceptable. The research of Dabney (1995), Hollinger and Clark (1982) and Kamp and Brooks (1991) supports this motive.

Dissatisfaction and equity

Substantial empirical research has shown that job dissatisfaction and organisational commitment are related to employee theft (Hollinger & Clark, 1982; Mangione & Quinn, 1975), to absenteeism (Blau, 1985; Farrell & Stamm, 1988; Hackett, 1989; Porter & Steers, 1973) and to lateness (Blau, 1994; Koslowsky, Sagie, Krausz & Singer). Employees are more likely to steal, to take time off or to be consistently late when they are unhappy with their jobs or when they feel they have no loyalty or commitment to the organisation. However, Clegg (1983) criticised some of these studies because they failed to examine the reverse causation or the presence of a third variable. In his analysis he did find some evidence of causality in the reverse direction in that lateness influenced organisational commitment or absenteeism predicted job dissatisfaction.

Other research has suggested that it is not job dissatisfaction or organisational commitment per se that has an effect on employee dishonest behaviour. Rather it is an individual's perception of equity in the way they have been treated that leads to job dissatisfaction and hence dishonest behaviour (Pritchard, Dunnette & Jorgenson, 1972; Wall & Nolan, 1987). In essence, an employee feels aggrieved in some way and wants

to get back at the organisation in order to restore equity. Adams (1963) introduced the idea of inequity and suggested that:

“Inequity exists for Person whenever his (sic) perceived job inputs and/or outcomes stand psychologically in an obverse relation to what he (sic) perceives are the inputs and/or outcomes of Other” (p.424).

In other words an employee compares what s/he obtains from his/her job to what s/he puts in to those of other employees. When outcomes to inputs are matched then equity is obtained. However, inequity emerges if the ratio of outcomes to inputs is greater than others (overpayment) or when the ratio is less than others (underpayment). It is this underpayment inequity that has been the central focus within the research on dishonest behaviour in the workplace. Greenberg and Baron (1993) suggested that in order to restore equity from underpayment, employees could lower their inputs (reduce effort, take time off) or raise outputs (steal). Indeed, another category of the STEAL Motive suggested by Greenberg (1997) was termed ‘Even the score’. Here, an employee steals in order to enact revenge on the organisation and to restore equity between their inputs and outcomes.

Sieh (1987) observed that garment workers who felt they were treated unfairly tended to act in a non-deviant/active manner (strike or quit) the majority of the time. Greenberg (1990) examined employee theft rates in a factory during the time that pay was temporarily reduced by 15%. Data was collected from 143 employees in 3 factories, 10 weeks before, 10 weeks during and 10 weeks after the pay cut. Factory A was given an adequate explanation for the pay cut, factory B was given an inadequate reason and

factory C acted as a control (no pay cut). Significantly higher levels of theft were found in both experimental groups during the pay reduction time than before or after it. The largest difference was seen in the group who was given an inadequate explanation for the pay cut. Greenberg suggested that this result showed that employees perceived underpayment inequity and raised their outcomes (stole more) in order to balance equity. A further laboratory-based study supported the findings from his field study, in that undergraduate students in an inequity condition took more money than allocated (Greenberg, 1993). Using a scenario-based design on 446 undergraduate students, Lasson and Bass (1997) manipulated the levels of equity in terms of perceived fairness of the organisation. Results indicated that those within the 'unfair' organisation reported a greater level of involvement in dishonest behaviour than those in the 'fair' condition. Similarly using a self-report criterion but in a working context, perceived employer unfairness was found to have an effect on production and property deviance admission rates (Hollinger, Slora & Terris, 1992). Those who believed their employer was unfair were twice as likely to engage in above average production deviance.

More recent research has examined the impact of inequity in greater detail. Skarlicki and Folger (1997) examined the effect of distributive justice (perceptions of pay received), procedural justice (degree to which employees view procedures used to determine outcomes as fair) and interactional justice (whether procedures were enacted properly) on peer ratings on an individual's engagement in organisational retaliatory behaviours. Retaliatory behaviours were predicted by the three-way interaction of distributive, procedural and interactional justice. However, further analysis indicated that reasonably fair procedures (high procedural justice) moderated employee dishonest behaviour even when distributive justice was low. Additionally, at high levels of

interactional justice, the two-way interaction between distributive and procedural justice was not significant. The authors argued this indicates that when a combination of unfair pay and unfair procedures arises, employees are willing to tolerate the unfairness if supervisors treat them with respect.

From the literature presented, employee dishonest behaviour does appear to be heightened by various situational factors: specifically, risk/opportunity, informal group norms and perceptions of inequity. If this is the case, does it mean that integrity testing may not be the best solution for controlling dishonest behaviour in the organisation? Rather changing the working environment would be the optimal solution. Once again we return to the old person versus situation debate. Yet, this research does only examine the situation and Chapter 6 presented the literature only examining the role of the person. There is a lack of empirical research looking at the interaction between personal integrity (Compliance in the sense of Employee Compliance and not the same as compliance from the viewpoint of conformity research) and situational factors, in fact Murphy (1993) proposed that this interactional investigation is a critical gap within the workplace honesty area. In response to this, the current study aimed to look at the role of the situation, personality and the interaction between the situation and personality on dishonest behaviour.

A laboratory-based study of cheating was utilised to allow for more control over the situational manipulations and the two factors of risk and group norms were chosen as the independent variables. In addition, in response to the limitation of using self-report measures so far in the thesis, cheating behaviour was examined using various objective measures of cheating and not complying exactly with the rules. This last aspect allows

the Employee Compliance scale definition to be tested exactly, as it does specify behaviours that go against explicitly stated formal organisational rules and procedures. Also, as cheating behaviours ranged in seriousness the study allowed the experimenter to test if, as was seen in Chapter 3, levels of cheating vary in relation to the seriousness of the behaviour.

Six hypotheses were tested in this study:

- H1. Levels of cheating will be a function of their seriousness
- H2. Individuals high in Compliance will cheat less
- H3. Cheating will be higher when there is less risk associated with the action than when the risk is high
- H4. The interaction between Compliance and risk will impact on cheating.
- H5. A group norm for cheating behaviour will cause an increase in cheating behaviour above that of a norm against cheating
- H6. The interaction between personality and group norm will impact on cheating.

Method

Participants:

Participants were recruited via an e-mail request and comprised 31 students at the University of Hull, 15 of which were female and 16 males. The ages of the sample ranged from 18 to 51 with a mean of 22.7 years and standard deviation of 7.8 years.

Design and Procedure:

A 2x2 independent groups design was used to manipulate the effect of situational factors. Scores on the ICES Compliance scale were obtained prior to the study. The independent variables employed to examine the effect of situational variables were level of risk (high or low level of being caught) and group norms (whether other subjects (confederates) followed the rules or not).

Participants first completed the ICES scale and then were randomly allocated to the experimental groups. Some participants were asked to return on another occasion, whilst others completed the ICES scale and the experiment in one go. Two rooms were used for the study, a testing laboratory and a 'confederate room'. The testing laboratory was set up with two workstations and two confederates (one male and one female) were placed in the laboratory whilst the experimenter collected the subject. On arrival, the experimenter, in the presence of the subject, called on the two confederates to ask if they had completed the task and asked them to wait next door in the 'confederate room'

with the subject whilst they set up the next testing session. This was to give the impression that the confederates had just completed the study. Each confederate had been given a script to learn that was developed to manipulate the group norm variable. Whilst in this room, one of the confederates (each did this alternately) started to converse with the subject about the study. Below is an example of the script for the group norm to cheat level:

Confed 1: "Are you about to do the study? We have just done it. It is not too bad. They give you some instructions or rules beforehand about the task. However, you can actually cheat on the computer task. To tell you the truth, I did not follow the instructions exactly and cheated a little."

[Turning to the other confederate]

Confed 1: "What did you do?"

Confed 2: "I didn't follow the instructions exactly either"

Confed 1: "Most people I have seen and spoken to did not follow the instructions exactly."

The manipulation for group norms to not cheat followed the same script with the exception that confederates stated they did follow the rules and did not cheat. On this final keyword the experimenter walked in, thanked the 2 confederates for their help and asked them to wait for de-briefing. Then they asked the subject to follow them into the testing lab.

Once in the lab, participants were seated in front of a computer, with a set of instructions and a secondary (dummy) task in front of them. The experimenter read out the instructions for the study:

This study is designed to examine the effects of a monotonous motor task on secondary skills. You will be asked to carry out a task on the computer and then perform a paper and pencil task. This process will then be repeated a number of times or sets. For the task there are a number of instructions for you to take note of:

- *You should use the number keys on the calculator part of the keyboard.*
- *You should perform 100 key presses of any of the numbers on the calculator pad. The computer will inform you that you have done 100. This will be your first 'set'.*
- *Once you have pressed 100 keys you should then carry out the first question on the paper and pencil task.*
- *Then follow the instructions on screen to carry out your next 'set' of 100 key presses. Once completed do question 2 on the paper and pencil task.*
- *You will be asked to repeat this process for 40 'sets'*
- *Do not press the 'Esc' key as there is a slight bug in the computer system and the computer thinks you have done 100 key presses.*
- *Pressing 'Q' will quit the program entirely.*
- *Once you have completed the 40 sets then the task is finished*

In order to manipulate high risk, the experimenter then told participants: *The computer does record the number of 'sets' you do but due to the bug that is in the system it has*

made some mistakes and is probably getting it right about 90% of the time. Because of this, could you please circle the 'set' number you have just completed on Sheet 2. The same was said to manipulate low risk with the exception that participants were told: the computer is probably only getting it right about 10% of the time.

The experimenter then informed the subject that they had to finish de-briefing the two other subjects (confederates) as well as other things and may not be back when the subject had finished. In this case they should leave all materials there and leave the testing room. In reality, the experimenter waited in the confederate room and caught participants when they left the lab. On completion of the testing, participants were given a full de-briefing. They were also asked to answer 4 control questions (2 relating to the risk manipulation and 2 relating to the norm manipulation) on 5-point Likert scales from 'Strongly Agree' to 'Strongly Disagree'. Questions were:

- Do you think that most other participants would have pressed the ESC key?
- Do you think there was any risk in pressing the ESC key?
- In pressing or not pressing the ESC key were you influenced by what other people had done?
- Do you think you would get caught if you pressed the ESC key?

Four dependent variables of cheating/non rule following were examined and they ranged in the seriousness of cheating:

- Number of Escape keys pressed – the computer recorded how many times the individual pressed the 'Esc' key on the computer. This was considered the most serious form of cheating as participants were explicitly instructed not to do it.

- Number of sets completed – participants should have completed 40 sets so less than that is not following the rules. This variable did not take account how many sets a subject did, just if they did 40.
- Variation from the required sets – this variable examined the number of sets more or less the subject completed in relation to how many they should have done. For example if the subject completed 30 sets then their score on this variable would be 10.
- Number of sets completed correctly – this variable examined if participants actually completed 100 number key presses and not any other key (such as letters etc.). This is the least serious of the measures, as incorrect sets could be a function of carelessness rather than dishonesty.

Equipment and Materials:

Participants completed the ICES Personality Inventory (Bartram, 1994; 1998) from which their score on the Compliance Scale was obtained. The computer task was a DOS-based program in which participants were initially faced with a screen with the words “*Press any key to start*” at the top. Once participants started, their last pressed key was printed at the top of the screen and when they had carried out 100 key presses the computer informed them that they had completed 100 key presses. The program did not indicate how many sets they had done, participants were asked to record this themselves on a separate sheet. The program recorded what key was actually pressed in a text file, separated into sets. When the Esc key was pressed the words “*The escape key was pressed*” was presented in the text file.

The secondary (dummy) task consisted of an excerpt of 40 lines of text taken from Chapter 10 of Charles Dickens's *Great Expectations* with a second sheet of 40 questions about the excerpt. Each item asked a multiple-choice question (with 3 choices) regarding the corresponding line of text. For example: "In line 1 how many 'E's are there?" On the bottom of this sheet the numbers 1 to 40 were presented and it is these that participants were asked to circle when they had completed the corresponding set on the computer.

Results

Hypothesis 1: Levels of cheating behaviour will be a function of their seriousness

Table 8.1 illustrates the base rates for those who cheated on the dependent variables. Almost 26% of the sample actually cheated by pressing the escape key, whilst over a half (56.7%) did not carry out the required 40 sets. Only 26.7% actually did 40 sets exactly and only 23% performed the required number of sets correctly. Pressing the 'Esc' key is seen as the most serious because participants were told explicitly not to do this. These base rates illustrate clearly that even though the more serious forms of cheating are undertaken, there is an increasing base rate as the type of dishonest behaviour becomes less serious, hence the level of cheating is a function of its seriousness.

Table 8.1: Base rates for cheating on the computer task

Dependent variable	% not complying	% complying
Pressed the Escape key	25.8	74.2
Required number of sets completed	56.7	43.3
Variation from required number of sets	73.3	26.7
Required number of sets done correctly	76.7	23.3

Interestingly, all but one of the participants who pressed the escape key actually admitted to pressing the key and hence cheating. However, only 2 of these correctly stated the number of times they pressed the key, with 3 people underestimating and 1 person overestimating (1 person did not respond).

Hypothesis 2: Individuals high in Compliance will cheat less

Examination of the frequency distributions and histograms indicated that two variables (number of escape keys pressed and variance from required sets) were positively skewed and two others (number of sets completed and number of sets completed correctly) were negatively skewed. This result was expected and appears consistently in this type of research.

The four variables were subjected to transformations in line with suggestions outlined in Howell (1992) and Tabachnick and Fidell (1996). The number of escape keys pressed variable was severely positively skewed with some zero scores and therefore (as suggested by Tabachnick & Fidell) was transformed by using the inverse $1/(X + 1)$. This transformation changes the direction of the variable, in that now a high score equals less cheating. The variance from required sets variable was transformed using the

log₁₀(X + 1) transformation. The number of sets completed correctly variable was moderately negatively skewed and (as in line with Tabachnick & Fidell) this was transformed using a reflection and square root approach. A constant (K) being a number one more than the largest number available within the variable was used, from which each score was subtracted. Once reflected the square root was taken of this result (e.g. $X_{new} = \text{SQRT}(K - X)$). Using this transformation does actually change the direction of the variable around in that now a low score would equal a higher number of sets completed correctly. Unfortunately, the total number of sets done variable was too severely negatively skewed and it was decided to dichotomise this variable.

To examine hypothesis 2, Pearson correlations between raw scores on the ICES Compliance scale and dependent variables were calculated and are shown in Table 8.2.

Table 8.2: Pearson correlation matrix of Compliance raw scores and transformed scores on dependent variables (n=31)

	Compliance	Nos. Escape pressed	Total nos. sets	Variance	Nos. sets correct
Comp	-	0.52** _a	-0.34* _b	-0.36*	-0.49** _c
Nos. escape pressed	-	-	-0.48**	-0.45**	-0.61***
Total nos. sets	-	-	-	0.53**	0.38*
Variance	-	-	-	-	0.58***
Nos. sets correct	-	-	-	-	-

* p<0.05 **p<0.01 ***p<0.001 (one-tailed)

Correlations were with transformed variables, except in the case of total number of sets as this was a point-biserial correlation)

a – after transforming using the $1/(X+1)$ equation, the higher the score on this variable the less cheating

b – point-biserial correlation (1 = did complete 40 sets and 2 = did not complete 40 sets)

c – this variable has been reflected in transformation and hence a low score equals rule following behaviour.

In all cases correlations between Compliance and dependent variables were significant and in the hypothesised direction; those individuals higher in Compliance tended to cheat less. Specifically, they generally pressed less escape keys, completed more sets, completed more sets correctly and varied less from the required number of sets than those lower in Compliance. Interestingly, in response to the issue of what empirical value is added by combining traits into a Compliance scale relative to conscientiousness (Chapter 7), the correlation between conscientiousness and number of escape keys pressed was calculated. A smaller coefficient of 0.43 ($p < 0.01$) was found than for Compliance. This gives support to the empirical value of combining scales into a Compliance scale and implies (as posed in Chapter 7) that larger differences in correlations with dishonest behaviour between these two constructs can be seen for the more objective (and possibly more reliable) behaviours.

Hypotheses 3 to 6 were examined using a 3-way ANOVA ($2 \times 2 \times 2$). Risk was dichotomised into high or low, group norm into norm for or norm against cheating and Compliance into high or low by a median split of raw Compliance scores. No significant 3-way interactions were seen as well as no significant interactions between the two situational variables. Therefore, analysis was confined to the specific hypotheses under investigation. As the total number of sets completed variable was very severely positively skewed, it was left out of the ANOVA analysis. However, the variance from required number of sets variable that was analysed actually provides data on the completion of sets (see Appendix 10 for ANOVA summary tables).

ANOVA analyses were carried out on the transformed data with untransformed means reported to provide meaningful interpretations.

Hypothesis 3: Cheating will be higher when there is less risk associated with the action than when the risk is high.

Hypothesis 4: The interaction between Compliance and risk will impact on cheating.

Table 8.3 presents the untransformed means and standard deviations on 3 dependent variables in total as well as for the risk and Compliance manipulations.

Table 8.3: Means and standard deviations for the dependent variables across risk and Compliance manipulations

Dependent Variable	Total	Low Risk	High Risk	Low Comp	High Comp
Escape keys pressed	3.74 (9.83)	2.56 (7.26)	5.00 (12.13)	7.06 (12.97)	0.20 (0.77)
Variance from required nos.	6.97 (11.13)	6.40 (11.99)	7.53 (10.58)	8.20 (13.45)	5.73 (8.50)
Number of correct sets	31.20 (13.04)	29.27 (14.09)	33.13 (12.06)	26.47 (14.58)	35.93 (9.57)

Note: Standard deviations are in parenthesis. Number of escape keys pressed ranged from 0 – 44; variance from required sets from 0 – 39; number of correct sets from 1 – 51.

ANOVA results indicated a significant main effect of personality on number of escape keys pressed ($F_{(1,23)} = 5.12, p < 0.05$) and number of sets completed correctly ($F_{(1,22)} = 6.68, p < 0.05$). No significant main effects of risk or interaction of risk and personality emerged for the dependent variables and therefore hypotheses 3 and 4 were not accepted. Figures 8.1-8.3 illustrate the non-significant interactions between risk and Compliance.

The non-significant findings for risk and the interaction with Compliance is likely due to the fact that the risk variable was not manipulated effectively. Analysis of control questions via independent t-tests indicated that those in the high risk group did not differ significantly from those in low risk in response to whether they thought there was any risk in pressing the escape key and whether they thought they would get caught (see Appendix 11). Also, it is difficult to equate risk in the laboratory with risk in real life.

Figure 8.1: Mean number of escape keys pressed: Interaction between risk and Compliance averaged across group norm

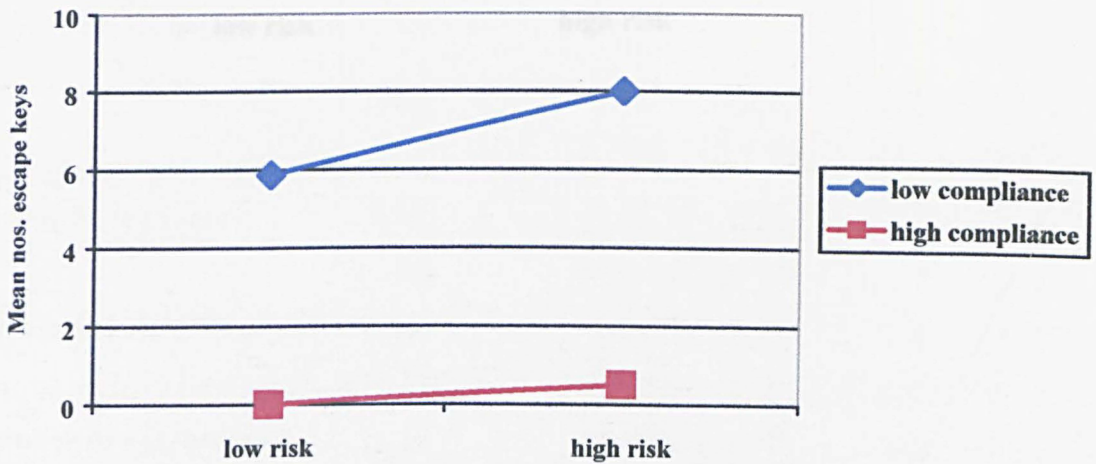


Figure 8.2: Mean variance from required sets: Interaction between risk and Compliance averaged across group norm

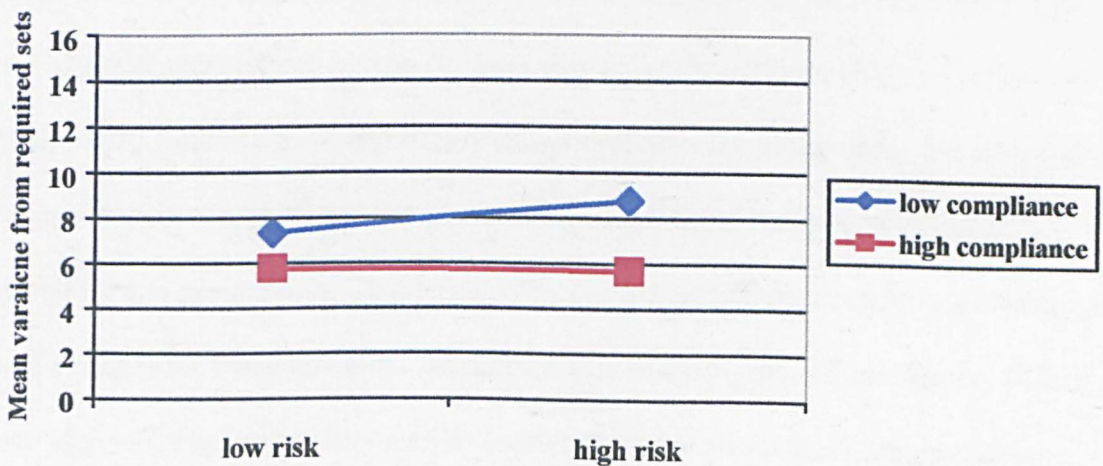
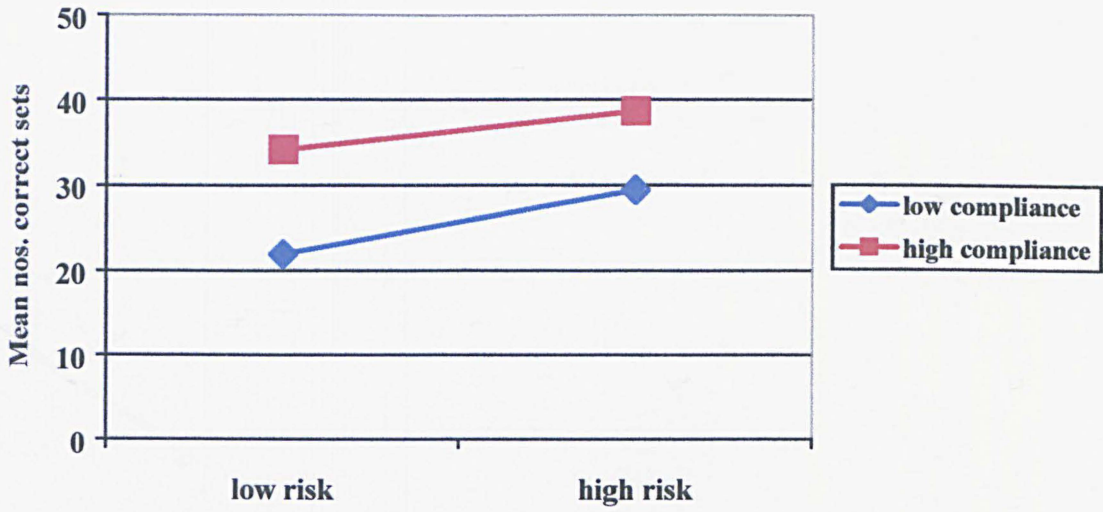


Figure 8.3: Mean number of correct sets: Interaction between risk and Compliance averaged across group norm



Hypothesis 5: A group norm for cheating behaviour will cause an increase in cheating behaviour above that of a norm against cheating

Hypothesis 6: The interaction between personality and group norm will impact on cheating.

Table 8.4 presents the untransformed means and standard deviations on the dependent variables in total as well as for the group norm and Compliance manipulations.

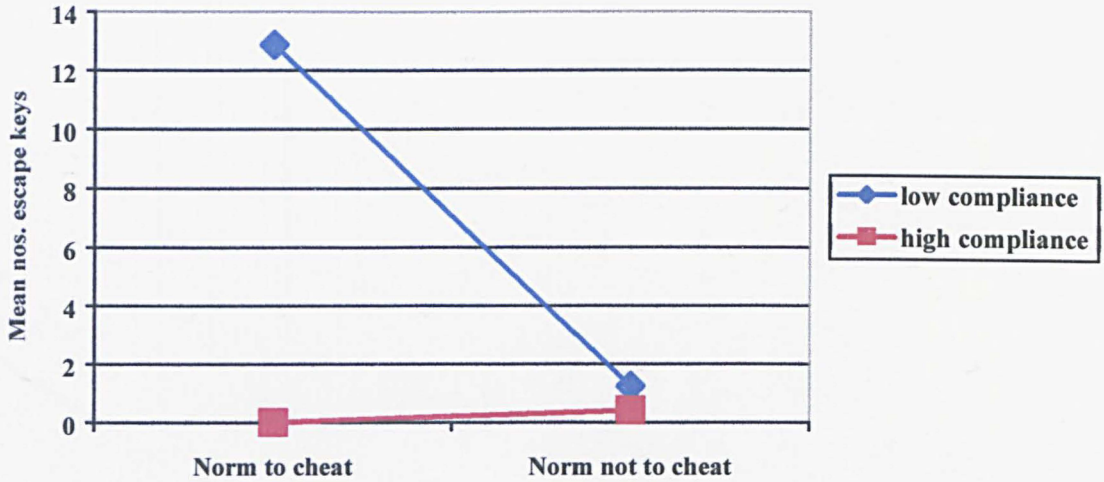
Table 8.4: Means and standard deviations for the dependent variables across norms and Compliance manipulations

Dependent Variable	Total	Low Comp	High Comp	Norm to cheat	Norm not to cheat
Escape keys pressed	3.74 (9.83)	7.06 (12.97)	0.20 (0.77)	6.44 (13.17)	0.87 (2.00)
Variance from required nos.	6.97 (11.13)	8.20 (13.45)	5.73 (8.50)	12.13 (13.90)	1.80 (2.48)
Number of correct sets	31.20 (13.04)	26.47 (14.58)	35.93 (9.57)	26.53 (14.78)	35.87 (9.33)

Note: Standard deviations are in parenthesis. Number of escape keys pressed ranged from 0 – 44; variance from required sets from 0 – 39; number of correct sets from 1 – 51.

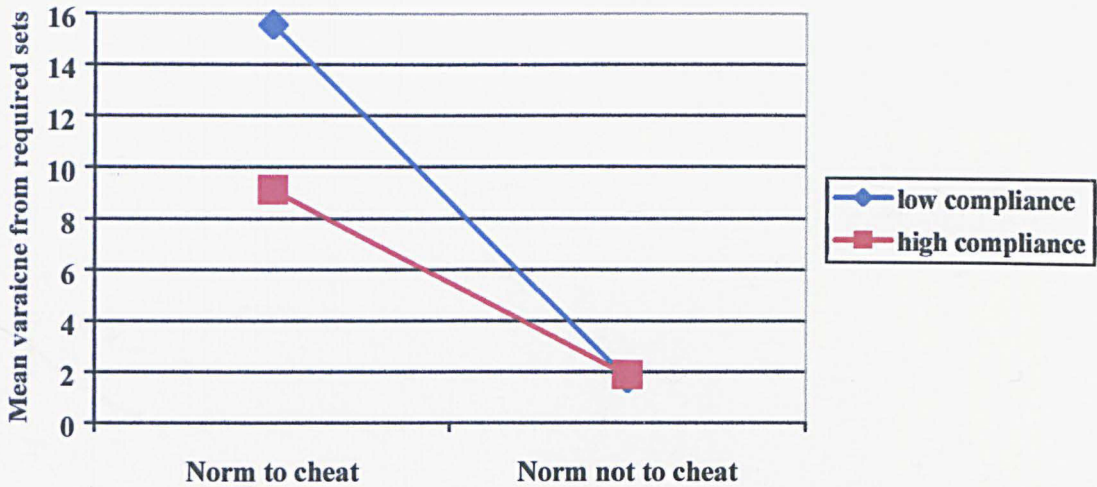
For the number of escape keys pressed dependent variable, there was not a significant main effect of group norm. However, there was a significant main effect of personality ($F_{(1,23)} = 5.12, p < 0.05$) and a significant interaction between group norm and personality ($F_{(1, 23)} = 4.29, p < 0.05$). Figure 8.4 illustrates the significant interaction effect of personality and group norm. Clearly, the effect of the group norm condoning cheating is much stronger for those lower in Compliance than those higher in Compliance. In fact those high in Compliance show similar levels across the group norm manipulation.

Figure 8.4: Mean number of escape keys pressed: Interaction between group norm and Compliance averaged across risk



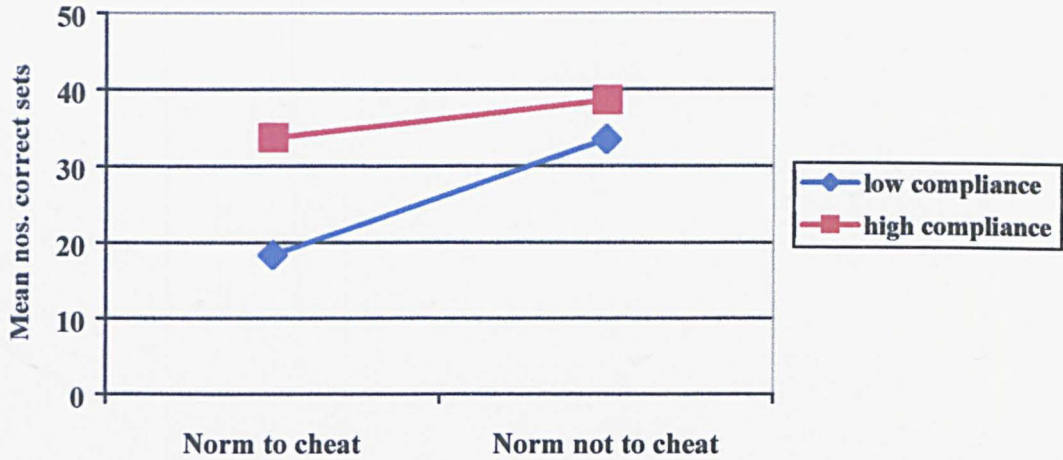
Only a significant main effect of group norm was found for the variance from required number of sets variable ($F_{(1,22)} = 8.97, p < 0.01$). Those participants in the group norm to cheat condition varied more from the required sets than those in the group norm against group. Figure 8.5 illustrates that once again (even though not significant) more of an effect occurred for the low Compliance-group norm for manipulation.

Figure 8.5: Mean variance from required sets: Interaction between group norm and Compliance averaged across risk



A significant group norm effect ($F_{(1,22)} = 4.31, p < 0.05$) and personality effect ($F_{(1,22)} = 6.68, p < 0.05$) emerged for the number of sets completed correctly variable. Those participants who were told that cheating was the norm completed fewer sets correctly than those who were told that not cheating was the norm. Participants lower on Compliance completed fewer sets correctly than those higher on Compliance. No significant interaction occurred for this variable, but as Figure 8.6 illustrates the same trend seen in the previous analyses of more of an effect for those in the low Compliance-group norm for cheating condition.

Figure 8.6: Mean number of correct sets: Interaction between group norm and Compliance averaged across risk



Therefore, there is support for both hypotheses 5 on two of the variables and 6 on the number of escape keys pressed variable. Remember the number of escape keys variable is the most serious and blatant form of cheating on the task. Qualitatively, a similar 'interaction' result between personality and group norm is seen for the number of sets completed correctly variable, even though this does not reach significance.

In terms of the manipulation check control questions on the group norm variable, there were differences (although not significant) between the group norm conditions (see Appendix 11). Those in the group norm for cheating manipulation differed, on average, in the required direction from those in the norm group against cheating in respect of whether they thought most others would have pressed the escape key and if they were influenced by what others had done.

Although not specified in the hypotheses, there was a chance to measure the correlation between ICES Employee Compliance scale and performance on a task. The dummy paper and pencil task could be scored and used as a measure of task performance. Those scoring high in the task got more of the answers right than those scoring low. A Pearson's correlation between raw Compliance scores and number of items correct indicated a significant positive relationship ($r = 0.41, p < 0.05$).

Discussion

Although in a laboratory setting, this study has shown that through the use of a more controlled environment answers to the question of whether personality, the situation or personality and the situation have an impact on dishonest behaviour can be provided. The issue of external validity of such a study does come to the fore, but the results obtained do parallel those found in occupational settings.

Firstly, base rates for the different dishonest behaviours were a function of their seriousness. As found in Chapter 3 and within previous research outlined in this chapter, rates of occurrence for dishonest behaviours can be high if the criteria used is that the acts can be either infrequent or less serious. The most serious and direct form of cheating in this study (pressing the 'Esc' key) was carried out by around a quarter of the participants. Whereas, as regards the least serious (number of sets completed correctly), over three-quarters of the participants engaged in it. The data also illustrated a linear trend of base rates from most to least seriousness. These findings also go some way to answering the methodological criticism of leniency posed in Chapter 3. A similar pattern as reported in the personnel managers' data, was also found here using actual

objective performance data. Therefore, coupling the data found in this laboratory study with that obtained from personnel managers, dishonest behaviours do go on, even when they are blatant and serious. Yet, those behaviours that occur the most frequently or are engaged in by more people are the less serious types. Nevertheless, these will still cause problems in terms of productivity, costs and employee morale for an organisation.

Secondly, significant correlations with the Employee Compliance scale and objective measures of cheating behaviours were obtained. This not only provides the much needed objective criterion validity evidence for the scale as suggested in Chapter 7, but also it directly tests the definition given in the same chapter. Remember that the definition of Compliance presupposes that the behaviours are against the explicitly stated rules of the organisation and even though theft, absenteeism etc., are assumed to be against the rules, there was until now no direct testing of this supposition. The correlations indicate that Compliance relates to a number of formal rule-breaking behaviours, ranging from those telling the subject what they should not do to those informing them what they should do. Correlations are also comparable with those obtained from self-reported measures of workplace dishonest behaviour (Chapter 7). In addition, relationships are much stronger than the mean observed correlations found by Ones, Viswesvaran and Schmidt (1993) for personality-based tests (0.22) and external criteria (0.22) and for those obtained with other measures used in honesty/integrity testing (see Chapter 5).

Consequently, dishonest behaviour appears to be a result of, as Trevino and Youngblood suggest, 'bad apples'. However, this phrase assumes that those likely to act in a dishonest manner are in effect 'bad'. In Chapter 7 it was argued that for some jobs

such individuals would be an asset and those high in Compliance a disadvantage. Therefore, is it correct to label these individuals as 'bad apples' when in fact in certain circumstances they are likely to be viewed positively? Obviously, the results imply that low compliant people tend to act more dishonestly in an organisation than those high in compliant, but by applying a 'bad' label the research will suffer the same problem of emotive labelling as was argued against using the term honesty tests. There does need to be a movement against the idea that these individuals are 'bad', rather there is a risk in hiring them but will this risk be outweighed by the benefits of employing them? In addition, could one go further and suggest that the old adage "better the devil you know" be applied here. If an integrity test has identified these individuals as a risk, but their knowledge, skills, abilities and other factors are in line with the competencies defined for the job then the benefits they may bring could be weighed up against the fact that you know they are more likely to engage in some form of dishonest behaviour in the workplace. Better knowing this than not knowing or even than screening them out and selecting someone who does not fit the competencies as well.

The relationship between Compliance and performance on the paper and pencil task was positive ($r = 0.41$). Therefore individuals scoring higher on Compliance tended to score higher on task performance. If this is generalised to the research on integrity tests-job performance relationships, the Compliance scale fares well. From the meta-analysis by Ones et al. (1993) mean observed correlations of personality-based integrity tests with overall job performance was 0.22. Care must be taken on equating performance on this task to performance on a job (especially as job performance criteria involved supervisor ratings, which are generally unreliable and hence will affect validity coefficients). This task was a checking task (e.g. how many E's are there in line 1?) and ideally suited to

detail-conscientious, organised people. As conscientiousness is the main factor within Compliance a high positive relationship would be expected. There is more to job performance than detail-conscious tasks and hence, the type of task employed may inflate the correlation. However, for those jobs/roles that require an individual to be detail-conscious, those higher in Compliance will tend to perform better. This relates to the previous point. Although, task performance (and the assumption that job performance) is related to compliance (integrity), one would predict that for those tasks/jobs where creativity, flexibility or entrepreneurship are key elements, Compliance would show less of a correlation. Indeed, recent work by Robertson, et al., (2000) illustrated the lack of validity for conscientiousness in predicting managerial performance (close to zero) and that conscientiousness negatively correlated with promotability. As reported in Chapter 7, Robertson et al., also found that those managers rated high on promotability tended to be rated by supervisors as flexible, innovative, motivated and persuasive. Clearly, although Robertson et al., only looked at conscientiousness, the factors rated to link with promotability would be placed at the opposite end of the Compliance continuum. The implication from the Robertson study in respect of the findings in this chapter, suggest that managers high in Compliance would be less likely to be judged suitable for promotion than those low in Compliance. As the Compliance scale is more than just a function of conscientiousness, perhaps a stronger correlation with management performance would emerge than did for Robertson et al.

The results of the situational effects and the interaction with personality were mixed. No support was obtained in this study for the deterrent effect of risk of being caught. No significant main effect of risk or interactions were seen for any of the dependent

variables in this analysis. Mean differences in dependent variable scores were in the right direction for the number of sets completed correctly variable (those in the low risk condition cheated more than those in the high risk did), but in the opposite direction for the number of escape keys pressed and variance from required sets variables.

Interpretation of this finding likely rests with the fact that participants did not perceive any certainty of being caught and/or any severity of being caught. The manipulation checks indicate that there was no difference between the two conditions on their perception of being caught and even though they were told that the computer record scores to a 90% or 10% accuracy level, their perceptions of certainty were not affected. Further, no level of severity was applied in the study, so participants may have felt that there was no real difference in terms of the outcomes of cheating or not cheating. This would actually follow from the SEU model presented in the introduction. The cost of cheating in terms of risk may not have outweighed the benefits (in terms of completing the task quicker) of cheating. Future research could adapt the study so that there is some penalty applied to cheating. Perhaps the risk manipulation got lost within all the other instructions the subject was attending to as it was tagged on the end of the instructions to participants. Whatever, the reason, it is clear that the manipulation of risk in this study was not effective and future research could identify ways in which to examine the role of certainty/severity in the study.

The same cannot be said for the group norm manipulation as significant results for the main effect emerged on 2 of the dependent variables (variance from required sets and number of sets completed correctly). Even though not significant, participants in the norm to cheat condition did press more escape keys than those in the norm not to cheat condition. Therefore, the implication from this study is that cheating is likely to be

enhanced when individuals perceive that others have done it and it is acceptable practice. This reflects the findings seen in occupational settings (Dabney, 1995; Hollinger & Clark, 1982; Horning, 1970) and implies that dishonest behaviour can also be due to 'bad barrels' (Trevino & Youngblood). It also corresponds with the research on conformity in that some participants within this study conformed (not on all occasions but they did not do so in the Asch study either) to the group norm to cheat. However, the main effect was not significant for the direct cheating measure. Informal group norms did impact on levels of cheating, with the key point here being the informal group norms. Participants were influenced by what confederates (fellow students) said they and others had done and not by the experimenter. This provides some support for the research of Dabney (1995), Hollinger and Clark (1982) and Kamp and Brooks (1991), as informal norms to cheat were stronger influences on behaviour than the formal (experimenter) rules and procedures.

Interestingly, one could argue that it might not necessarily be through a process of socialisation that norms impact on an individual. The participants in this study had never seen the two confederates before, so faced them for the first time in the group pressure manipulation. Participants would not have become socialised into the 'group' as is seen within organisational settings, yet they still were influenced by what the two confederates said they and others had done. However, participants were to some extent socialised into a group, that of university students. They were led to believe that the two confederates were students who had just completed the task, and hence what confederates said they and others did was a reflection of what students as a group would do. Participants being students, therefore part of this group, tended to be influenced by what students in general had done. In other words, the norms of a relevant group were

brought to the attention of the participant. This relates to the notion of descriptive norms posed by Cialdini, Kallgren and Reno (1991). They suggested that these norms are based on the perception of what most people will do and they are likely to influence behaviour only when others actually behave in that way. In the current study, participants were given the impression that confederates had just completed the test as they were seen leaving the testing laboratory by the participants before going into the confederate room. When confederates stated that they cheated, this coupled with the impression that they had actually done the task would enhance the descriptive norm. This argument does not rule out injunctive norms (perception of what is acceptable) coming into play. Participants may have perceived that as two 'fellow students' had cheated and as they said others had, then this must be acceptable behaviour. Indeed, it could be argued that it the main effect of group norm was a result of the injunctive norm rather than the descriptive norm being activated. Participants did not actually see the confederates cheating on the task, rather they were given the impression by the confederates that they had (or had not) cheated and that other students had acted the same way. Therefore, the injunctive norm of the acceptability of cheating on this task may be the norm that is activated rather than the descriptive norm of what most people did/will do.

One potential extraneous variable that can be ruled out is the effect of gender of the confederates on the resulting behaviour of participants. Specifically, the notion that a female subject may be influenced more by a female confederate saying they had cheated than a male confederate. As already outlined, confederates were one female and one male and they alternated to who started off the norm influence. This randomisation of who spoke to a subject first should reduce the impact of any gender effects on actions

on the task. One limitation that might apply to the group norm condition relates to the script used by confederates. Confederates were given the script and told to learn it and follow it when stating their response to participants. However, some minor divergences from the script could have occurred, impacting on the standardisation of the group norm condition (something that would not have affected the risk manipulation). Yet, although minor discrepancies cannot be ruled out, responses to participants will not have differed dramatically from the script and the main features of this manipulation would have been communicated. It is envisaged that this limitation would not have had any biasing effects on the findings.

Perhaps the most exciting finding was the interaction between Compliance and group norms on cheating. Specifically, the finding that more of an effect on cheating is seen in the low Compliance-group norm for cheating condition. The author could not find any research that has focused on the interaction between the personality trait of Compliance (honesty) and the situation and as Murphy (1993) pointed out, this absence of research is a critical gap within the honesty and integrity in the workplace literature. Murphy (1993) highlights the view of Aristotle in that the effects of honesty may not be symmetrical. In particular, the notion that dishonest individuals act in a dishonest way when the situational allows them to, but honest individuals are not swayed by such factors. This idea is seen to some extent in the findings here, especially for the number of escape keys pressed variable. Those low in Compliance cheated more when the group norm was for cheating than when it was against cheating. In effect, the situation allowed them to cheat and provide a justification for their behaviour – ‘everybody else has done it’. Murphy argues that only when the opportunity is there for dishonest behaviour to occur will there be noticeable differences in behaviour of individuals who differ in

honesty. This finding also adds to the psychological research on conformity. Within this theoretical area, the suggestion is that individuals will conform to a normative influence because they do not wish to be alienated etc. However, this result implies that not all people will conform (in fact in the Asch study not all did conform) to normative influences. Rather, those that are influenced by the group tend to have a similar disposition or identify strongly with the norm group.

From a theoretical perspective, how can these results be placed within the general psychological literature? Vallerand et al., (1992) propose that the theory of reasoned action (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975, as cited in Vallerand et al, 1992) could be used as a model to predict moral behaviour. They suggest that when deciding to intend to cheat an individual will be influenced by his/her attitude to the behaviour and the perception of subjective norms (beliefs about what others think we should do). Therefore, if an individual's attitude is favourable to cheating and subjective norms also promote cheating then he/she is likely to have the intention of cheating, which may then lead to actual behaviour (however, sometimes intention does not lead directly to actual behaviour). Ajzen (1991, as cited in Brehm, Kassin & Fein, 1999) extended this theory to a theory of planned behaviour by adding a 'perceived behavioural control' component. This component focuses on the extent that the behaviour is under the individual's control. In the context of the current study, actual behaviour did appear to be a function of personality (attitudes in the context of the theory) and group norms (normative influence) and hence the results appear to fit into these models.

However, the interaction effect between personality and group norm on number of escape keys pressed cannot be explained by the theory of reasoned action/planned behaviour. Terry and Hogg (1996) suggested that one limitation of the theory of reasoned action is the assumption that both attitudes and subjective norms independently influence an individual's intention to act in a certain manner. They propose that an attitude leads to behaviour when the normative climate supports such a view. In other words, people are likely to engage in attitude-consistent behaviour when they perceive that group norms support their attitude. Terry and Hogg (1996) and Terry, Hogg and Duck (1999) support a social identity/self-categorization theoretical approach to attitude-behaviour relationships. Specifically, they argue that: norms are linked to specific groups and they influence behaviour because the group is relevant to the behavioural context; greater motivation to comply with norms occurs for those individuals who identify strongly with the group; the focus needs to be on group influences rather than interpersonal influences. From two empirical investigations of this theoretical viewpoint, Terry and Hogg (1996) found perceived norms of a behaviourally relevant group influenced behavioural intentions but only for those who strongly identified with the group.

In respect of the results found in this study, this social identity/self-categorization theory could explain the strong effect on group norm on low Compliance individuals in relation to cheating. Certainly, the group can be considered behaviourally relevant as participants were led to believe that other students had cheated (or not) on the same task they were about to do. Also, the largest effect of group norms for cheating emerged for those individuals who were classed as low in trait Compliance and hence, arguably, identified more with the behaviourally relevant group who prescribed a norm to cheat.

Interestingly, in their studies, Terry and Hogg (1996) found that attitudes were the strongest predictor of intention only for those people who were low identifiers with the group. Some support for this is seen in the results of this study. Looking at the data on the number of escape keys pressed variable, the least amount of cheating occurred in the high Compliance-norm to cheat condition. In this condition, high compliant individuals would identify weakly with the group norm and seem to act more in accordance with their personality. This effect is also seen to some extent in the low Compliance-norm not to cheat condition, as individuals in this group cheated more than the high Compliance-norm to cheat and high Compliance norm not to cheat conditions. Hence, based on the notion by Terry and Hogg, as participants in this condition identified weakly with the group norm, they were influenced more by their own personality (attitudes).

So, it appears from these findings (at least in terms of group norms) that compliant individuals will not cheat regardless of the 'temptations' in the situation, whereas those less compliant will cheat given the justification to do so. Consequently, the findings imply that dishonest behaviour in the workplace is a case of 'bad apples in bad barrels' (Trevino & Youngblood, 1990). However, is this terminology right? As expressed earlier, the 'bad apples' analogy may not be a correct one as such individuals would be positive in other contexts. Similarly, the 'bad barrels' definition assumes that organisational factors influence otherwise compliant individuals to act in a dishonest manner. These results do not suggest this to be the case, rather it is more likely that those who would be considered a risk in terms of engaging in dishonest behaviour are likely to do so in environments that allow for them to act in such a way. If so, combating dishonest behaviour would need a two-pronged approach: a pre-employment

selection tool to identify those considered a risk and an organisational-wide analysis to examine the potential situational influences within the organisation. By identifying those likely to act in a dishonest manner through the use of honesty and integrity testing an organisation is likely to screen out potential dishonest employees before they become employed within the organisation. If employed these individuals might not only act in a dishonest way, they may also be the catalysts that start to promote and condone various dishonest behaviours. By examining and changing, in this case, group norms, the organisation can reduce the impact it is likely to have on employees' behaviour. For example, if an organisation does not use any screening method (of which integrity tests, and the Employee Compliance scale in particular, have been shown throughout this thesis to be the psychometrically effective) a new employee with a tendency to act in a dishonest manner may well act out their tendency if the norm of the workgroup condones certain dishonest behaviours. Alternatively, if norms within a workplace are not well defined, such an individual could bring out non-compliance in others and therefore increase the likelihood of dishonest behaviour overall (Murphy, 1993).

These results may also help to overcome the problem outlined in Chapter 7 of actually wanting low compliant people for certain jobs, specifically creative, entrepreneurial type jobs. For example, an organisation that has just identified through its competency matrix that it requires people who would actually score low on compliance (creative, impulsive, outgoing, tense and driven individuals), by selecting these individual into the workplace there is a risk that they will act in a dishonest manner, especially if the organisational situation promotes it. On the other hand, if the organisation has examined its 'honesty culture' for want of a better phrase and put procedures or structures in place to reduce the likelihood of dishonest behaviour occurring, then even though they will

select someone considered a risk by their personality, without the opportunity afforded by situational variables this individual is less likely to be dishonest. As suggested above, the individual him/herself could promote non-compliance within the workgroup but this will only occur when norms are not well defined. In strong settings with well-defined norms against dishonest behaviour, even a non-compliant individual will act less dishonestly than when opportunity allows.

The generalisability of these findings has been discussed to some extent previously and it has been found that results here are comparable to those found within occupational settings. There is still the issue of using a sample of students within a laboratory setting where there are no cost implications to cheating on the task. Within occupational contexts, there is likely to be a cost implication to any dishonest behaviour that an employee engages in, whether it actually comes into force or not is a different matter. In other words, even though an employee may not be caught stealing from work, they would still know (so long as the organisation has a procedure in place) that if caught they would get the sack. It is questionable whether such a cost implication arises in a laboratory study like this: What is the cost of getting caught cheating by the experimenter? In addition, field research within occupations looking at similar issues as well as bringing in equity would be beneficial. It is unlikely that such an experimental design could be employed. However, the use of scenarios where situational factors are manipulated could provide some applied data to corroborate the findings of a laboratory study.

Clearly, the risk manipulation was not effective and future research could look at adapting this to involve an element of perceived severity as well as perceived certainty.

Further, equity was not examined within the study and it would be an interesting addition to examine this variable within the same laboratory setting, as well as examining whether this interacts with personality. One other query regarding the measures used relates to the dependent variable of number of sets completed correctly. Even though this was treated as the least serious form of not following the rules, one could argue that this is a measure more of carelessness than cheating. Participants could accidentally press other keys when directed only to press the number keys on the calculator part of the keyboard. Especially those keys situated around the calculator part. This issue was also posed in Chapter 6 in relation to the relationship between Organized and dishonesty. Yet, it was suggested that although not dishonest, a careless individual who does not follow rules could be just as problematic. He/she may actually be intentionally careless, in which sense they could be deemed to be dishonest or they may just lack organisation skills. If it is the latter point, then some further discussion (perhaps via an interview) of their careless behaviour is warranted.

As a final limitation, the study does lack a control group for the situational manipulations. Whilst it does examine differences between individuals in low or high risk as well as a group norm for or against conditions, it does not examine the level of cheating without each of the manipulations. A control group who just completed the task without the group norm or risk aspects being manipulated would indicate the level of cheating normally, although this would be (as already seen) a function of personality.

In conclusion, this study has illustrated that dishonest behaviour appears to be a function of personality and the situation as well as the interaction between both. Non-compliant people will tend to act in a more dishonest way than compliant people do, but

they are likely to engage in more dishonest behaviour when the situation allows them to do so – in this study when group norms condone cheating. The situation has very little impact on those higher in compliance, as they tend to act in a similar compliant way regardless of the temptations placed on them. Theoretically, the interaction between personality and group norms can be explained by the social identity/self categorization theory in the sense that individuals conform to behaviourally relevant groups and those who identify strongly with the group's norm in terms of their personality are more likely to cheat (and therefore by extending this to the workplace more likely to act dishonestly) than those who do not.

Chapter 9: General discussion

Discussion of the thesis

The aim of this thesis was to examine a number of factors that impact on the design, development and use of pre-employment honesty and integrity tests as a selection tool for screening out those likely to act in a dishonest manner in the workplace.

Psychometric theory, specifically quality issues within psychometrics, was used as a framework to judge the effectiveness of integrity tests in general, other methods used to assess for honesty in the workplace, and a specifically developed Employee Compliance scale. In addition, trait theory and especially the Five-Factor Model was utilised as a structure in the development of the personality-based Employee Compliance scale. Although, other integrity tests have been linked to the Five-Factor Model, few have been developed specifically on such a model. Furthermore, even though validity, reliability etc., have been examined in relation to well established integrity tests, to date, no work was found that actually used the 6 psychometric quality framework outlined in Chapter 4. This framework allowed comparisons to be made between a specifically developed integrity test and tests similar in type, as well as with other methods that have been or could be used to assess a similar construct. In this respect the comparison was of a within method and between methods design. Therefore, in designing, developing and evaluating an Employee Compliance scale, the thesis has employed two theories or models readily used within the selection and assessment area. It has been able to use such a structure, which allows current and future honesty/integrity tests to be compared against.

The first issue stemming from this thesis centred on the notion that honesty and integrity tests do not measure a concept of honesty or to some extent integrity. Largely, these terms have been used to band the different types of tests together (similar to using the phrase 'work samples' to define a number of different tests simulating what one would be expected to carry out on-the-job). Arguably, it is the banding of these tests into such terminology that has created the controversy in terms of the labelling of those who 'fail' such tests as dishonest (see Chapter 4). This issue may not have occurred to the same extent if the concept that such tests measured was defined more appropriately (such as rule following, compliance etc.). Honesty is an extremely value-laden term and difficult to capture within paper and pencil pre-employment tests, as it encompasses a more moralistic and ethical persona. Very few people can be considered honest as most people have told a lie at some stage in their working and/or everyday life. Therefore, if using an honest-dishonest dichotomy only those of the highest morals will ever be selected and arguably one would not require an integrity test to do this. They would probably come with such glowing references and have a CV that gave an indication of their moralistic nature.

The term honesty implies that organisations will wish to employ those of the highest moral standing. However, the example of the secretary given in Chapter 2 indicates where this moral standing could be a disadvantage. Similarly, it is naïve to think that all organisations themselves are high in honesty. Business ethics is a growing area but there are numerous examples in the media of organisations being unethical/dishonest in their activities. Would such an honest person, with high morals and ethics, be beneficial to the organisation, especially as there could be the opportunity for whistle blowing?

Likewise, it was suggested in Chapter 2 that dishonest behaviour does not run on a continuum from prosocial to antisocial behaviour. Each type of behaviour has different correlates and hence should be examined separately. An employee who acts dishonestly may in fact also act in a prosocial manner. The example presented in Chapter 2 illustrates this. It considers that an employee may arrive to work earlier than scheduled (or leave later than their allocated work hours) but they do this in order to be able to steal equipment as nobody else is around. The finding in Chapter 6 and discussion in Chapter 7 add further support for this argument. In both personality studies there was a distinct absence of a relationship between agreeableness traits and self-reported dishonest behaviour. Prosocial behaviour can be seen as a form of agreeableness, because characteristics within it (such as generous, kind, helpful and considerate) overlap with those used to describe aspects of the agreeableness trait (Graziano & Eisenberg, 1997). However, the meta-analysis by Ones (1993, as cited in Sackett & Wanek, 1996), indicated that integrity tests strongly relate to agreeableness. Therefore, this implies that currently integrity tests measure a construct along the lines of 'good employee behaviour' rather than 'honesty' or 'dishonest behaviour'. If this is the case, it suggests that they should not be banded under the term 'honesty and integrity tests'

So far the discussion has outlined what the concept is not, what remains is to outline what the concept is. By examining consistent patterns in previous definitions, from different types of dishonest behaviours and from the findings on the relationship with the Big-5 personality factors, this thesis defined the concept under investigation as 'Employee Compliance'. The most consistent element to all these was that behaviour needed to go beyond that considered acceptable and hence by not engaging in it an individual would be compliant. In Chapter 2 it was argued that the key types of

behaviours were those that went against organisational rules. Key phrases such as 'unauthorised', 'unexcused' and 'without permission' were central to any workplace behaviour being considered non-compliant. Being absent in itself is not being dishonest (especially if there is a legitimate reason). Rather, being absent for no legitimate reason or without permission or unexcused is what researchers and organisations are aiming to assess. Of course, this notion would be difficult to extend to a senior managerial context, as it is likely that these are the individuals who compose the rules and regulations.

The notion of it being 'Compliance' is also supported from the personality evidence. Certainly the strongest personality factor within Compliance (and that measured by integrity tests) is conscientiousness. This trait is central to the concept of Compliance as it examines the tendency to follow rules, be conventional, dependable and reliable. Such individuals will tend not to carry out behaviour that is unauthorised or unexcused. However, the same cannot be said for a spontaneous, careless individual with little regard for rules. Nevertheless, it was also argued in Chapter 6 that using a global terminology of conscientiousness may not be the most appropriate. Specifically, the results of both studies within Chapter 6 indicated stronger relationships with the more conventional, rule-following aspects of conscientiousness rather than the organised/careful aspects. Although, these disorganised aspects may result in dishonest behaviour, it was suggested that this is more due to carelessness than intentional dishonesty. Yet, it still should be a part (if not as strong as the conventional aspect) of compliance as ultimately it could result in an individual not following rules and being dishonest (take the example of missing a meeting because of not writing down the time correctly). Also, if looking at it from a cost perspective, carelessness could cause more

problems and be more costly in terms of money and even people's lives than dishonest behaviour (for example, consider the costs of careless equipment maintenance as against stealing from an organisation).

Employee Compliance was defined as:

“Complying with rational beliefs that direct the employee to resist the temptation to intentionally engage in behaviours that deviate from those considered acceptable by explicitly stated formal organisational rules and procedures. Engagement in such behaviours will have detrimental effects on organisational productivity and workforce attitudes”

The rational beliefs system would link to an individual's personality. An individual who is high in the conventional aspect of conscientiousness would have a belief system that would direct them to follow rules, be dependable, be reliable and act in a compliant way. However, as was found in Chapters 6 and 7 Compliance was not just a function of conscientiousness. By using the Five-Factor Model as a framework Compliance was also shown to be a higher-order factor of conscientiousness, extraversion, stability and social desirability. Those higher in extraversion are likely to engage in dishonest behaviour, as they tend to be impulsive, risk-taking and excitement seeking. Specifically it was found from study 6.1 in Chapter 6 that this trait related more strongly to property rather than production deviance. Arguably, these property deviance behaviours of theft, sabotage and claiming more money than entitled may be more exciting and risky to those who crave it. Going back to the study of personnel managers presented in Chapter 2, with the exception of theft, it was found that the more serious

forms of dishonest behaviours were judged as occurring less and were grouped together into one factor. This 'serious' tag could be just what the risk-taking; excitement seeking, impulsive person may be looking for.

In relation to stability, individuals who are likely to act in a dishonest manner in the workplace tend to be irritable and easily upset, suspicious, have difficult coping and have low emotional identification with others. This result reflects the findings of Hogan and Hogan (1989), in relation to the fact that individuals likely to engage in dishonest behaviour tend to be unhappy and alienated (one of the themes within their concept of organisational Delinquency). From the results in study 6.2, Chapter 6, those reporting higher levels of dishonest behaviour are likely to have a low emotional identification with others and be suspicious of others. Therefore, they would be prone to becoming alienated and unhappy at work. Finally in terms of personality, the relationship with social desirability illustrates that those likely to engage in dishonest behaviour are not concerned with acting in a socially approved manner (social in this case being the organisationally approved behaviour). Overall, an individual with a combination of a non rule-following, impulsive, excitement-seeking, unhappy and alienated traits, who is not concerned with acting in an approved manner, is less likely to be able to resist the temptation to act in a dishonest way.

The use of the phrase "...intentionally engage in behaviours" was stressed because there needs to be an intention to be non-compliant in some way. Those behaviours that may result in financial loss but which were not intended to be against the acceptable behaviours (such a mistakenly giving too much change) are not necessarily dishonest, rather they are careless. The term "...acceptable by explicitly stated formal

organisational rules and procedures” follows the idea that behaviour must be ‘unauthorised’ and permits it to be organisational specific. Those behaviours considered unacceptable by one organisation may not be viewed similarly by another organisation. In addition, the definition illustrates the effect not only on the organisation itself, but also on the members of that organisation.

As well as examining the construct under investigation and arriving at an operational definition of the construct, another issue for consideration was whether there is a need to employ some type of assessment method in order to screen out potentially dishonest employees. Chapter 3 looked at this need by using a survey design of UK personnel managers examining three criteria: How much dishonest behaviour goes on (base-rates); the level of importance given to honesty/integrity and conscientiousness in employees in relation to other characteristics; what current methods are used to screen for honesty/integrity. From this, the aim was to be able to produce a reasonable justification for using an integrity test based on these three criteria. To date no equivalent survey design using a broad range of organisations within the UK has been found in the literature. Much of the research surrounding integrity tests has been based within the US and comparatively little has emerged within an UK context. Further, some research has looked at specific sectors or specific types of behaviours (such as the Retail Crime Survey using just the retail sector and the behaviour of theft). This survey focused on a national, cross-sector and multi-behaviour perspective.

Results showed that a reasonable justification for the use of integrity tests could be given as dishonest behaviours did go on in UK organisations, often to a high rate if the criteria used was that behaviours were either infrequent or less serious. There was the

methodological issue that perhaps leniency effects occurred in personnel manager ratings and this is why in particular the more serious form of behaviours were judged as infrequent. However, the analysis of actual behaviours in the lab study in Chapter 8 found similar results – base rates increased, as behaviours became less serious.

Further, both honesty and integrity and conscientiousness were considered to be very important characteristics within employees, which was seen consistently across industry sectors. These characteristics were judged more important than those one would possibly consider as more work-related such as general ability, work interest, work experience and qualifications. So, in this case, employing a pre-employment measure would be justifiable, as the construct being examined is one that is viewed as very important. One issue arose from this and it relates to the concept again. Managers did judge the term honesty and integrity, as this part was a replication of previous research. The interpretation of this characteristic was left up to the participants and perhaps they were rating an ideal and not a reality. In other words, it has been pointed out above that honesty per se is not being examined by such tests even though they are bracketed under the term of honesty/integrity tests. Is it an honest individual a manager prefers, or as has been posited, a compliant person? This thesis takes the view that it is the compliant person organisations are trying to obtain and therefore one should be examining managers' views of the importance of compliance rather than honesty. To some extent this has been done via the characteristic of conscientiousness. This characteristic was also viewed as very important (even though less than honesty and integrity and there were more differences across industry sector) and hence also provides a rationale for using a honesty/integrity test.

Coupled with the discussion above and as previously noted regarding whistle blowing, Chapter 7 questioned whether organisations actually wanted individuals who are high in Compliance for all job roles. Specifically, there will be certainly some occupations where the need to be creative, innovative and perhaps bending the rules are assets and being conventional, rule-directed or compliant is not an ideal. For example, the advertising or sales industry would require an individual with a flexible, impulsive, outgoing, and anxiety-driven nature. Also, research by Robertson et al (2000) showed that managers judged high in promotability tended to be rated as flexible, innovative and motivated (Chapter 7). Even though personnel managers view honesty and integrity (and conscientiousness) as very important characteristics, they may not wish to employ an individual in some roles where traits underlying such characteristics do not fit with the person specification. It was argued in Chapter 7 that there is a trade-off with getting the right person for the job and accepting that they may engage in dishonest behaviour on the job. In addition, the level of compliance in the job could be set via a benchmarking process, which would not only ensure that the best person is selected for the job but would reduce any labelling problems as individuals are being compared to competencies required in the job.

The survey illustrated that honesty/integrity tests are rarely used to assess for honesty and integrity and conscientiousness. Mostly, UK organisations use interviews and references which (as reported) have various problems associated with them. From this finding, the use of honesty/integrity tests were considered justified as methods currently in use do not match up to the rated importance of honesty/integrity and conscientiousness. Characteristics considered so important in the job tended to be assessed for by measures that have been shown to have questionable validity, especially

in relation to honesty as the criterion (see Chapter 5). However, this justification was not yet fully answered as the discussion implied that honesty and integrity tests were effective and other methods were less effective. In order to complete this argument more information was needed to back up the claims. This was obtained in Chapters 4 and 5.

The review of honesty and integrity tests in relation to psychometric effectiveness indicated that honesty and integrity tests are reliable, valid, fair and practical (although there is the issue of training) methods to use as a pre-employment screening device. The scope of the method depends on the type of test used, but honesty and integrity tests have the capacity to assess broad constructs such as employee dishonesty or more specific ones such as employee theft. Although, such measures have favourable validity estimates, some methodological issues do emerge within validity studies. However, meta-analysis and more independent research has shown these validity coefficients to be representative. In comparison with the other methods of selection presented in Chapter 5, integrity tests are shown in a favourable light. Not least the fact that much more research has been carried out on honesty and integrity tests in relation to dishonest behaviour than has been done on the other methods. Therefore although other methods have been used, the findings from these studies and the apparent lack of research on these methods in the honesty domain provides a reasonable justification to use honesty and integrity tests as a pre-employment selection tool. As was discussed earlier and shown within the survey results in Chapter 3, current methods of selection for honesty and integrity do not match up to their related importance. The findings of Chapters 4 and 5 clearly show that the most used methods identified in Chapter 3 (interviews and references) are not as effective using the psychometric criteria as honesty and integrity

tests (in addition to the fact that much less research on their effectiveness in the honesty domain is apparent). As proposed at the beginning of this chapter, these Chapters 4 and 5 provided a useful framework that allows the thesis to examine the effectiveness of integrity tests and the comparison with other methods.

Perhaps two issues associated with honesty and integrity tests concerns their acceptability and some aspects of fairness. Even though, they do not show adverse impact and bias against minority groups and are viewed neutrally, they can suffer from high levels of false positive rates and therefore labelling becomes a much bigger issue. In this sense they are not necessarily unfair from a psychometric perspective (adverse impact) they could be judged unfair from a more ethical/moralistic perspective (labelling and false positives). However, this issue is not solely the domain of integrity tests as labelling and false positives will surely apply to all methods used to select for dishonest behaviour (for example in Chapter 5 it was shown to be a problem with the polygraph).

Training was highlighted as a key issue within honesty and integrity tests, but once again it should not be considered only to be an issue with such tests. Other methods would have to employ some training in order that responses can be interpreted correctly. For example, one would need to know how to interpret a polygraph or how to code responses from an interview. It was suggested that, especially as some integrity tests are personality-based, that in the UK, individuals should be trained to at least Level B standard. This ensures that the people using the materials are competent. The need for careful interpretation and feedback of applicant scores on a honesty/integrity test signifies the need for appropriately trained and qualified users. These users should be

trained to at least a standard that is akin to that required for personality test use. Scores on honesty/integrity tests are not just right or wrong answers that are seen on ability tests; rather they are people's attitudes towards specific questions or statements. Assessing attitudes to honest/dishonest acts is more than just taking an individual's response at face value. Adequate training and monitoring of test users will ensure that they perform in an ethical manner and are able to interpret results effectively. This in turn would diffuse some of the objections by critics, as it will be ensured that the whole testing procedure is controlled.

Perhaps the most persuasive psychometric argument for using integrity tests comes from research into job performance by Schmidt and Hunter (1998). When analysing the incremental validity of General Mental Ability (GMA) scores combined with a second predictor in predicting job performance, the most gain was seen for GMA and integrity tests (a 27% increase in validity). A 24% increase emerged with structured interviews, a 12% increase with reference checks and a 4% increase with biodata. Therefore, not only do integrity tests outperform other measures on psychometric criteria outlined in the thesis, they also in combination with GMA tests are better predictors of job performance than the combination interviews with GMA, references with GMA and biodata with GMA.

The role of personality within dishonest behaviour has already been discussed in relation to the concept under investigation. The results of the two studies in Chapter 6 provided the basis for the development of a Five-Factor Model-based Compliance scale that was presented in Chapter 7. The use of a rationally weighted composite of standardised beta weights obtained from study 6.1 with evidence also obtained from

study 6.2 provided a re-scoring of the ICES personality scales in order to obtain a measure of Employee Compliance. The scale was standardised on working sample data already used by the ICES organisation in its own standardisation. It was then decided to subject this scale to the same psychometric effectiveness criteria as presented in Chapter 4. The rationale for this was to be able to compare the Employee Compliance scale with integrity tests in general and with other methods of assessment, to arrive at a measure of its effectiveness.

In terms of scope, the Compliance scale being a personality-based test measuring a concept of Employee Compliance is broad. It does not just examine one specific aspect of dishonest workplace behaviour (such as theft) but a more broader concept of complying to rules, that may encompass the behaviour of theft but also others such as absenteeism and rule breaking. Indeed, closer inspection of the validity data shows that the scale is strongly related to various types and classifications of behaviour. The scale was developed with the intention of capturing a number of behaviours or classifications of behaviours, which is why the beta weight averaging criterion was employed. As a result, the Employee Compliance scale (like other personality-based integrity tests) assesses a general overall picture of employee dishonest behaviour in the workplace.

Regarding internal consistency, the Mosier (1943) formula produced a reliability coefficient of 0.86. This is analogous to coefficients reported in the previous literature on integrity tests (Ash, 1974; Martelli, 1988; Terris, 1979, as cited in Sackett, Burris & Callahan, 1989), (O'Bannon, Goldinger & Appleby, 1989, as cited in Murphy & Lee, 1994) and Ones, Viswesvaran and Schmidt, (1993). Yet, this result is more favourable than consistency rates on other methods (see Chapter 5). The test retest coefficient of

0.92 corresponds with those found for integrity tests in general and is stronger than those seen for the integrity interview (Gerstein, Barke and Johnson, 1989) and biodata (Shaffer, Saunders and Owens, 1986, as cited in Gatewood & Field, 1998). However, as was levelled at the research on integrity tests in general, the time between test and retest is short and more information of the Compliance scale's retest reliability over longer periods is required.

Concurrent validity coefficients are extremely favourable towards the ICES Employee Compliance scale in relation to a number of different intended and reported behaviours as well as overall deviant behaviour. Relating these results to the meta-analysis (Ones, Viswesvaran & Schmidt, 1993), the ICES Compliance scale correlations with intended dishonesty were much higher. The Employee Compliance scale, in terms of validity, is not only shown in a positive light when compared with integrity tests in general, but also when compared with other forms of measurement. Validity coefficients are better than those seen for biodata and references and are on a par at least with structured interview coefficients (although there is a lack of specific integrity interview data to make a direct comparison). In this sense, it can be argued that the ICES Employee Compliance scale is a valid measurement of a broad concept of employee compliance. However, at this point validity estimates were based on self-report measures and there was no predictive validity evidence for the scale. As shown by Ones et al, (1993) concurrent validity estimates are higher than predictive validity estimates.

In terms of inter-group differences, even though males scored slightly higher on Compliance, no significant difference on the sten scale score was seen for gender. There was a significant effect of race (with Blacks scoring higher than the Whites) and age

(those 40+ scoring higher than those <40). Looking at the d-values, the gender and age difference can be considered small if using the 0.2 effect size rule of thumb specified by Cohen (1977). The race effect is much higher (0.47), but Cohen still only considers this a medium effect. However, there were far more Whites in the analysis than Blacks so these mean differences could be biased and a less biased result could emerge if the Black sample were similar in size to the White sample. Still, this data provides preliminary evidence to show that the ICES Compliance scale is unlikely to show a bias against gender and only a small effect of age. A bias may occur for race. In terms of adverse impact issues, it is not the scale itself that can be considered fair. It is the use of the scale that is either fair or unfair. Bias on a scale could indicate that its use might cause adverse impact on minority groups. However, data on the Compliance scale indicates that its use is not likely to be the cause of any adverse impact on minority groups. In fact, use of the scale would reduce rather than increase adverse impact.

Although, the acceptability of the scale was not directly examined the empirical study outlined previously (Coyne & Vallance, in review) had looked at this issue. From this research, evidence clearly pointed to the fact that so long as the job description involved some element of honesty, the ICES Employee Compliance scale was judged to be a reasonable method in terms of fairness, job-relevance, appropriateness and invasiveness. Being of paper and pencil design the practicality of the Compliance scale is another of its benefits. Certainly, if an organisation is already using the ICES Personality Inventory within its selection system, it can obtain scores for Compliance without having to re-administer another scale. In this sense time and cost factors are reduced although it is assumed that a separate cost will be applied in order to obtain a report on an individual's level of Compliance.

The evidence presented clearly illustrates the effectiveness of the ICES Compliance scale in relation to psychometric criteria and in comparison with other integrity tests and other methods. There were some issues to do with the lack of a predictive validity design and with respect to validation with objective criteria. The latter issue was overcome in Chapter 8.

The rationale behind Chapter 8 comprised various elements, but essentially it was devised to answer some of the methodological issues presented within previous chapters. Specifically, whether engagement in dishonest behaviour is a function of the seriousness of the behaviour; validation of the scale using objective measures of dishonest behaviours; and analysis of situational factors in dishonest behaviour. The laboratory design afforded more control over the situational factors but as with all laboratory studies the question of external validity surfaces, especially when using a sample of students.

Results obtained for the first two issues paralleled those found in previous research within this thesis. In particular, base rates for the different dishonest behaviours were a function of their seriousness. The most serious and blatant form of cheating was carried out by around 25% of subjects, whereas the least serious (possibly a form of carelessness) was carried out by around 75% of subjects. These findings supplement those obtained in the survey of personnel managers and indicate that manager responses may not have been effected by leniency bias. It appears to be the case that although dishonest behaviours do occur, those that are more serious occur to a lesser extent than those least serious. In addition, the Employee Compliance scale correlated strongly with

all measure of dishonest behaviour in the lab study. This provides the objective validity evidence needed in order to counteract the issue of only using self-report data. Not only does the scale relate to self-reported involvement in dishonest behaviour but also it strongly relates to actual engagement in behaviour. Albeit, the objective behaviours were not actually in a workplace setting, they involved not following explicitly stated rules and not following rules would apply in organisations even if 'pressing the escape key' does not. Also, the correlations directly tested the definition of the Compliance scale. Within the definition it is stated that behaviour goes against explicitly stated organisational rules. The way the laboratory study was set up, in order to cheat an individual would have to go against explicitly stated rules of the study. Hence, the design was analogous to formal organisational rules and procedures.

The results looking at the effects of situational factors and the interaction with personality were mixed. Manipulation of the risk of getting caught factor did not work as well as wished for. Basically, subjects in the high risk group did not perceive more risk than those in the low risk group. In order for the deterrent effect to work, the perception of risk rather than actual risk is the key element. Clearly in this study, there was no perception of risk. Additionally, it was suggested that there was also no severity element to being caught. Even if subjects knew that the risk was higher in being caught, there was no suggestion made regarding any consequences of their actions in terms of severity of action. In a sense, yes they may get caught but what would happen if they did?

The manipulation of group norms to cheat did impact on 2 of the 3 dishonest behaviours analysed in the expected direction. Those who were faced with a group norm that

condoned cheating acted in a dishonest manner more than those who were faced with a norm against cheating did. It also corresponded with the general psychological research on conformity in that some participants within this study conformed (not on all occasions but they did not do so in the Asch study either) to the group norm to cheat. However, the main effect was not significant for the direct cheating measure. Informal group norms did impact on levels of cheating, with the key point here being the informal group norms. Participants were influenced by what confederates (fellow students) said they and others had done and not by the experimenter. This provides some support for the research of Dabney (1995), Hollinger and Clark (1982) and Kamp and Brooks (1991), as informal norms to cheat were stronger influences on behaviour than the formal (experimenter) rules and procedures. This finding highlighted the importance of considering the situation in employee dishonest behaviour and, initially, it may have thrown a spanner in the works of integrity testing. For example, if the situation has an impact then why is there a need to test at a pre-employment stage? Why not just employ procedures that control the situation?

The findings of the interaction between Compliance and group norm provided the answer to the questions above. Results illustrated that compliant individuals did not cheat regardless of the 'temptations' in the situation, whereas those less compliant did cheat given the opportunity or justification to do so. Specifically, more dishonest behaviour occurred in the low Compliance-group norm for cheating condition. There has been no research to date that has looked at the interactional effects of a personality-based 'integrity' test and the situation in relation to dishonest behaviour using such a design. Indeed, Murphy (1993) stated that this type of research has been missing from the honesty and integrity research.

Theoretical perspectives from the general psychology literature, specifically the social psychology literature, were examined in an attempt to examine the theoretical explanations of these interaction findings between personality and group norms. Initially, the theory of reasoned action (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975, as cited in Vallerand et al, 1992) and planned behaviour (Ajzen, 1991, as cited in Brehm, Kassin & Fein, 1999) were examined as they have been studied as a model to predict moral behaviour (Vallerand et al, 1992). These theories propose that when deciding to intend to cheat an individual will be influenced by his/her attitude to the behaviour and the perception of subjective norms (beliefs about what others think we should do). Therefore, if an individual's attitude is favourable to cheating and subjective norms also promote cheating then he/she is likely to have the intention of cheating, which may then lead to actual behaviour (sometimes intention does not lead directly to actual behaviour). In the context of the current study, actual behaviour did appear to be a function of personality (attitudes in the context of the theory) and group norms (normative influence).

The interaction effect between personality and group norms on number of escape keys pressed cannot be explained by the theory of reasoned action/planned behaviour. Terry and Hogg (1996) suggested that one limitation of the theory of reasoned action is the assumption that both attitudes and subjective norms independently influence an individual's intention to act in a certain manner and as was seen in this study an interaction effect occurred for direct cheating. They propose that an attitude leads to behaviour when the normative climate supports such a view. In other words, people are likely to engage in attitude-consistent behaviour when they perceive that group norms

support their attitude. Terry and Hogg (1996) and Terry, Hogg and Duck (1999) support a social identity/self-categorization theoretical approach to attitude-behaviour relationships. Within this theoretical model, they suggest that norms are linked to specific behaviourally relevant groups and greater motivation to comply with norms occurs for those individuals who identify strongly with the group.

In respect of the results found in this study, this social identity/self-categorization theory could explain the strong effect on group norm on low Compliance individuals in relation to cheating. Certainly, the group can be considered behaviourally relevant as participants were led to believe that other students had cheated (or not) on the same task they were about to do. Also, the largest effect of group norms for cheating emerged for those individuals who were classed as low in trait Compliance (a disposition likely to cheat) and hence, arguably, identified more with the behaviourally relevant group who proscribed a norm to cheat. Additionally, Terry and Hogg (1996) found that attitudes were the strongest predictor of intention only for those people who were low identifiers with the group. Some support for this is seen in the results of this study in relation to number of escape keys pressed variable. The least amount of cheating occurred in the high Compliance-norm to cheat condition. In this condition, high compliant individuals (a disposition not likely to cheat) would identify weakly with the group norm and seem to act more in accordance with their personality. This effect is also seen to some extent in the low Compliance-norm not to cheat condition, as individuals in this group cheated more than the high Compliance-norm to cheat and high Compliance norm not to cheat conditions. Hence, based on the notion by Terry and Hogg, as participants in this condition identified weakly with the group norm, they were influenced more by their own personality (attitudes).

From a practical, applied perspective, the findings imply that combating dishonest behaviour would need a two-pronged approach: a pre-employment selection tool to identify the personality determinants and an organisational-wide analysis to examine the situational factors. By identifying those likely to act in a dishonest manner through the use of honesty and integrity testing an organisation is likely to screen out potential dishonest employees before they become employed within the organisation. If employed these individuals might not only act in a dishonest way, they may also be the catalysts that start to promote and condone various dishonest behaviours. By examining and changing group norms the organisation can reduce the impact it is likely to have on employees' behaviour. For example, if an organisation does not use an integrity test a new employee with a disposition to act in a dishonest manner may well act out their tendency if the norm of the workgroup condones certain dishonest behaviours. Alternatively, if norms within a workplace are not well defined, such an individual could bring out non-compliance in others and therefore increase the likelihood of dishonest behaviour overall (Murphy, 1993).

The interaction finding may also help to overcome the problem outlined in Chapter 7 of actually wanting low compliant people for certain jobs, specifically creative, entrepreneurial, managerial type jobs. For example, if an organisation requires people who would actually score low on compliance (creative, impulsive, outgoing, tense and driven individuals), by selecting these individuals into the workplace there is a risk that they will act in a dishonest manner. However, if the organisation realises that certain situational factors may also promote dishonest behaviours, it can put procedures into place to control these factors and therefore reduce the level of dishonest behaviour to

one that they may consider acceptable. Dishonesty will still occur and these individuals lower in Compliance are likely to engage in it, but by reducing the impact of situational factors organisations can trade-off 'acceptable' levels against getting the right person for the job. Obviously, they would need to examine whether the person is performing effectively on the job; it is not just a case of getting the right person for it.

Conclusions

The concept that honesty and integrity tests measure and that covers dishonest behaviour in the workplace is not honesty. It does not run on a continuum from prosocial to dishonest behaviour. Rather the construct is one of compliance, as this takes into account behaviour being against formal organisational rules and the strong relationship between the personality trait of conscientiousness. Compliance is not purely a function of the trait of conscientiousness it is a higher-order factor of conscientiousness, extraversion, stability and social desirability. Yet more specifically it is a function of rule-following and dependability, non-impulsive and non-excitement seeking, trusting and happy as well as knowing what is acceptable behaviour.

Individuals at the opposite end are likely to be tempted to engage in dishonest behaviour in the workplace. It is questionable whether high compliance is an ideal for all jobs and whether in fact what organisations think they require and what they actually require could be two different aspects. Compliance should be shown to be a job relevant trait before using within a selection system. For some occupations/roles (like the managers in the Robertson et al., 2000 study) compliance is not an ideal. Rather, for these roles organisations would require individual's likely to be lower in such a concept.

Integrity tests in general are an effective and justifiable method of screening out those applicants likely to be dishonest in the organisation. They show favourable results when compared to psychometric criteria, more so than other methods (especially those used the majority of the time in the UK sample of personnel managers). There is a need for some type of control system as honesty and integrity and conscientiousness are considered 'very important' characteristics within employees and dishonest behaviours can occur to high levels if infrequent or less serious. It was further illustrated that a scale based on the Five-Factor Model is an effective and useful selection tool. Not only did the ICES Employee Compliance scale fare well psychometrically against integrity tests in general; it also compared favourably against other selection methods. Such a personality-based scale was shown to be broad in its scope, reliable, valid, acceptable, likely not to show adverse impact and practical. Yet, there is no reason why organisations cannot use a multi-method pre-employment selection approach. In fact this may well be beneficial and perhaps reduce the false positive rate. One could be more confident of the likelihood that an individual will be a risk to an organisation if one has various information obtain from different sources. However, one would still need to ensure that whatever other methods are used, their validity, reliability etc., are documented.

The final study indicated that using a pre-employment selection tool (or tools) is only one part of an overall methodology in attempting to combat employee dishonest behaviour in the workplace. Dishonest behaviour is a function of personality and the situation as well as the interaction between both. Personality does have a strong role to play as non-compliant people will tend to act in a more dishonest way than compliant people, but they are likely to engage in more dishonest behaviour when the situation

allows them to do so – in this study when group norms condoned cheating. The situation has very little impact of those higher in Compliance, as they tend to act in a similar compliant way regardless of the temptations placed on them. However, this result was obtained in a laboratory setting and further research within organisational settings is required to assess generalisability. By using a two-pronged approach that identifies the personality element to dishonest behaviour as well as identifying situational factors that promote dishonest behaviour, an organisation has a much better chance of controlling (although not completely stopping) employee dishonesty in the workplace.

Overall, this thesis has illustrated that a number of factors need to be taken into account as they impact on the design, development and effectiveness of an 'honesty/integrity test'. Such factors include: adequately defining the construct being examined by integrity tests; justifying the use of such tests in relation to base-rates of dishonest behaviour and the perceived importance of honesty; assessing their psychometric effectiveness in relation to quality issues and other methods of assessment; using structured frameworks (such as the Five-Factor Model) to develop tests that tap into the dispositional aspects of dishonesty; and examining the role situational factors play in combination with personality within dishonest behaviour in the workplace.

References

- Adams, J. S. (1963). Toward an understanding of inequity. *Journal of Abnormal and Social Psychology*, *67*, 422-436.
- Advisory Conciliation and Arbitration Service (1989). *Discipline at Work: The ACAS advisory handbook*. UK: ACAS.
- Ajzen, I. (1991). The theory of planned behaviour. *Behaviour and Human Decision Processes*, *50*, 179-211. As cited in Brehm, S. S., Kassin, S. M., & Fein, S. (1999). *Social Psychology* (4th ed.). Boston, MA: Houghton Mifflin Company.
- Ajzen, I., & Fishbein, M. (1977). Attitude-behaviour relations: A theoretical analysis and review of empirical research. *Psychological Bulletin*, *84*, 888-918.
- Ajzen, I., & Fishbein, M. (1980). *Understanding Attitudes and Predicting Social Behavior*. Englewood Cliffs, NJ: Prentice-Hall. As cited in Vallerand, R. J., Deshaies, P., Cuerrier, J., Pelletier, L. G., & Mongeau, C. (1992). Ajzen and Fishbein's theory of reasoned action as applied to moral behaviour: A confirmatory analysis. *Journal of Personality and Social Psychology*, *62*, 98-109.
- Amato, S. L. (1993). *A survey of the Society for Psychophysiological Research regarding the polygraph: Opinions and interpretations*. Unpublished Masters Thesis, University of North Dakota. As cited in Iacono, W. G., & Lykken, D. T. (1997). The validity of the lie detector: Two surveys of scientific opinion. *Journal of Applied Psychology*, *82*, 426-433.
- Anderson, N. (1997). The validity and adverse impact of selection interviews. *Selection and Development Review*, *13*, 13-17.
- Andrews, B., & Lilienfeld, S. O. (1993). *Is a commonly used self-report honesty measure biased against highly religious individuals?* Manuscript submitted for publication, State University of New York. As cited in Lilienfeld, S., Andrews, B., & Stone-Romero, R. (1994). The relationship between a self-report honesty test and personality measures in prison and college samples. *Journal of Research into Personality*, *28*, 154-169.
- Arnold, D. (1991). To test or not to test: Legal issues in integrity testing. *Forensic Reports*, *4*, 213-224.
- Arvey, R. D., & Faley, R. H. (1988). *Fairness in selecting employees*. Massachusetts: Addison-Wesley.
- Asch, S. E. (1951). Effects of group pressure upon the modification and distortion of judgments. In Guetzkow, H. (Ed.), *Groups, Leadership and Men*. Pittsburgh, PA: Carnegie Press. As cited in Brehm, S. S., Kassin, S. M., & Fein, S. (1999). *Social Psychology* (4th ed.). Boston, MA: Houghton Mifflin Company.
- Ash, P. (1974). Convicted felon's attitude toward theft. *Criminal Justice Behaviour*, *1*, 1-8.

- Ash, P. (1987). *Honesty test scores, biographical data, and delinquency indicators*. Paper presented at the annual meeting of the Academy of Criminal Justice Sciences, St Louis. As cited in Sackett, P. R., Burris, L. R., & Callahan, C. (1989). Integrity testing for personnel selection: An update. *Personnel Psychology*, *42*, 491-529.
- Barland, G. H. (1981). *A validity and reliability study of Counter-intelligence Screening Test*. Security Support Battalion, Maryland. As cited in Carroll, D (1988). How accurate is polygraph lie detection. In Gale, A. (Ed.), *The polygraph test. Lies, truth and science* (pp. 19-28). London: SAGE Publications.
- Barland, G. H., & Raskin, D. C. (1975). An evaluation of field techniques in detection and deception. *Psychophysiology*, *12*, 321-330.
- Barland, G. H., & Raskin, D. C. (1976). *Validity and reliability of polygraph examinations of criminal suspects*. US Department of Justice Report No. 76-1. University of Utah. As cited in Gale, A. (1988). *The Polygraph Test. Lies, Truth and Science*. London: Sage.
- Bartram, D. (1994). *PREVUE Assessment technical manual* (2nd ed.). Vancouver, BC: Prevue Assessments International.
- Bartram, D. (1998). *PREVUE Assessments technical manual* (3rd ed.). Vancouver, BC: Prevue Assessments International.
- Bartram, D. (2000). *International guidelines for test use, Version 2000*. Report produced for the International Test Commission: ITC.
- Bartram, D., Lindley, P. A., & Foster, J. (1990). *Review of psychometric tests for assessment in vocational training*. Leicester: British Psychological Society.
- Bartram, D., Lindley, P. A., & Foster, J. (1992). *The selection of young people by medium-sized and large organisations*. Hull: Newland Park Associates Ltd.
- Bartram, D., Lindley, P. A., Marshall, L., & Foster, J. (1995). The recruitment and selection of young people by small businesses. *Journal of Occupational and Organisational Psychology*, *68*, 339-358.
- Bashore, T. R., & Rapp, P. E. (1993). Are there alternatives to traditional polygraph procedures? *Psychological Bulletin*, *113*, 3-22.
- Bean, E. (1987). More firms use attitude tests to keep thieves off the payroll. *The Wall Street Journal*, *219*, 41.
- Ben-Shakhar, G., & Furedy, J. J. (1990). *Theories and applications in the detection of deception*. New York: Springer-Verlag.
- Bergmann, T., Mundt, D., & Illgen, E. (1990). The evolution of honesty tests and means for their evaluation. *Employees Responsibilities and Rights Journal*, *3*, 215-223.

- Berman, J. A. (1993). Validation of the PDI Employment Inventory in a retail chain. *Journal of Business and Psychology*, *7*, 413-419.
- Bernadin, H. J. (1977). The relationship of personality variables to organizational withdrawal. *Personnel Psychology*, *30*, 17-27.
- Bernardin, H., & Cooke, D. (1993). Validity of an honesty test in predicting theft among convenience store employees. *Academy of Management Journal*, *36*, 1097-1108.
- Bersh, P. J. (1969). A validation study of polygraph examiner judgements. *Journal of Applied Psychology*, *53*, 399-403.
- Blau, G. J. (1985). Relationship of extrinsic, intrinsic and demographic predictors to various types of withdrawal behaviours. *Journal of Applied Psychology*, *70*, 442-450.
- Blau, G. J. (1994). Developing and testing a taxonomy of lateness behaviour. *Journal of Applied Psychology*, *79*, 959-970.
- Blinkhorn, S. (1988). Lie detection as a psychometric procedure. In Gale, A. (Ed.), *The polygraph test. Lies, truth and science* (pp. 29-39). London: SAGE Publications.
- Borofsky, G. L. (1992). Assessing the likelihood of reliable workplace behaviour: Further contributions to the validation of the Employee Reliability Inventory. *Psychological Reports*, *70*, 563-592.
- Boye, M. Slora, K. (1993). The severity and prevalence of deviant employee activity within supermarkets. *Journal of Business and Psychology*, *8*, 245-253.
- Bradley, M. T., MacLaren, V. V., & Carle, S. B. (1996). Deception and nondeception in guilty knowledge and guilty action polygraphs tests. *Journal of Applied Psychology*, *81*, 153-160.
- Brehm, S. S., Kassin, S. M., & Fein, S. (1999). *Social Psychology* (4th ed.). Boston, MA: Houghton Mifflin Company.
- British Psychological Society (1986). Report of the working group on the use of the polygraph in criminal investigation and personnel screening. *Bulletin of the British Psychological Society*, *39*, 81-94.
- British Retail Consortium (1996): *Retail Crime Costs: 1994/95 Survey*. London: Authors.
- Brown, T. S., & Pardue, J. (1985). Effectiveness of Personnel Selection Inventory in reducing drug store theft. *Psychological Reports*, *56*, 875-881.
- Brown, T. S., Jones, J. W., Terris, W., & Steffy, B. D. (1987). The impact of pre-employment integrity testing on employee turnover and inventory shrinkage losses. *Journal of Business and Psychology*, *2*, 136-149.

- Browning, R. C. (1968). Validity of reference ratings from previous employers. *Personnel Psychology*, *21*, 389-393. As cited in Gatewood, R. D., & Feild, H. S. (1998). *Human resource selection*. Fort Worth, TX: The Dryden Press.
- Camara, W., & Schneider, D. (1994). Integrity tests: Facts and unsolved issues. *American Psychologist*, *49*, 112-119.
- Camara, W. J., & Schneider, D. L. (1995). Questions of construct breadth and openness of research in integrity testing. *American Psychologist*, *50*, 459-460.
- Carroll, D. (1988). How accurate is polygraph lie detection. In Gale, A. (Ed.), *The polygraph test. Lies, truth and science* (pp. 19-28). London: SAGE Publications.
- Cialdini, R. B., Kallgren, C. A., Reno, R. R. (1991). A focus theory of normative conduct: A theoretical refinement and reevaluation of the role of norms in human behaviour. In Zanna, M. P. (ed.), *Advances in Experimental Social Psychology* (Vol. 24, pp.201-234). San Diego, CA: Academic Press.
- Cialdini, R. B., & Trost, M. R. (1998). Social influence: Social norms, conformity and compliance. In Gilbert, D. T., Fiske, S. T., & Lindzey, G. (eds.), *The Handbook of Social Psychology* (Vol. 2, pp.151-192). Boston, MA: McGraw-Hill.
- Clegg, C. W. (1983). Psychology of employee lateness, absence and turnover: A methodological critique and an empirical study. *Journal of Applied Psychology*, *68*, 88-101.
- Cohen, J. (1977). *Statistical power analysis for the behavioural sciences*. San Diego, CA: Academic Press.
- Collins, J., & Schmidt, F. (1993). Personality, integrity and white collar crime: A construct validity study. *Personnel Psychology*, *46*, 295-311.
- Comrey, A. L., & Lee, H. B. (1992). *A first course in factor analysis*. Hillsdale, NJ: Lawrence Erlbaum Associates.
- Conway, J. M., Jako, R. A., & Goodman, D. F. (1995). A meta-analysis of interrater and internal consistency reliability of selection interviews. *Journal of Applied Psychology*, *80*, 565-579.
- Cook, M. (1993). *Personnel selection and productivity*. Chichester: John Wiley & Sons.
- Cooper, R., & Payne, R. (1966). Extraversion and some aspects of work behavior. *Personnel Psychology*, *29*, 45-57.
- Correa, E. J., & Adams, H. E. (1981). The validity of the pre-employment polygraph examination and effects on motivation. *Polygraph*, *10*, 143-155.
- Covey, M. K., Saladin, S., & Killen, P. J. (1988). Self-monitoring, surveillance, and incentive effects on cheating. *Journal of Social Psychology*, *129*, 673-679.

- Coyne, I., & Vallance, F. (submitted). Evaluations of personality and overt integrity tests in relation to other methods of assessing integrity: The importance of job relevance. *International Journal of Selection and Assessment*.
- Dabney, D. (1995). Neutralization and deviance in the workplace: Theft of supplies and medicines by hospital nurses. *Deviant Behaviour*, *16*, 313-331.
- Dalton, M. (1959). *Men Who Manage*. New York: John Wiley. As cited in Giacalone, R. A., & Greenberg, J. (Eds.). (1997). *Antisocial behaviour in organizations*. Thousand Oaks, CA: SAGE Publications.
- Davey, B. W. (1984). Personnel testing and the search for alternatives. *Public Personnel Management*, *13*, 361-374.
- Digman, J. M. (1997). Higher-order factors of the Big Five. *Journal of Personality and Social Psychology*, *73*, 1246-1256.
- Dubois, P (Ed.). (1980). *Sabotage in Industry*. Harmondworth, UK: Penguin
- Dunn, W. S., Mount, M. K., Barrick, M. R., & Ones, D. S. (1995). Relative importance of personality and general mental ability in managers judgements of applicant qualifications. *Journal of Applied Psychology*, *80*, 500-509.
- Dunnette, M. D. (1972). *Validity study results for jobs relevant to the petroleum refining industry*. American Petroleum Institute. As cited in Cook, M. (1993). *Personnel selection and productivity*. Chichester: John Wiley & Sons.
- Edwards, W. (1954). The theory of decision making. *Psychological Bulletin*, *51*, 380-417.
- Edwards, W. (1961). Behavioural decision theory. *Annual Review of Psychology*, *12*, 473-498.
- Farrell, D., & Stamm, C. L. (1988). Meta-analysis of the correlates of employee absence. *Human Relations*, *41*, 211-227.
- Ferris, G. R., Bergin, T. G., & Wayne, S. J. (1988). Personal characteristics, job performance, and absenteeism of public school teachers. *Journal of Applied Social Research*, *18*, 552-563.
- Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention and behavior*. Reading, MA: Addison-Wesley. As cited in Vallerand, R. J., Deshaies, P., Cuerrier, J., Pelletier, L. G., & Mongeau, C. (1992). Ajzen and Fishbein's theory of reasoned action as applied to moral behaviour: A confirmatory analysis. *Journal of Personality and Social Psychology*, *62*, 98-109.
- Frost, A., & Rafilson, F. (1989). Overt integrity tests vs personality based measures of delinquency: An empirical comparison. *Journal of Business and Psychology*, *3*, 269-277.

- Gale, A. (1988). *The Polygraph Test. Lies, Truth and Science*. London: Sage.
- Gallup Organization, (1984). Survey of members of the American Society for Psychophysiological Research concerning their opinion of polygraph test interpretation. *Polygraph*, *13*, 153-165. As cited in Iacono, W. G., & Lykken, D. T. (1997). The validity of the lie detector: Two surveys of scientific opinion. *Journal of Applied Psychology*, *82*, 426-433.
- Gatewood, R. D., & Feild, H. S. (1998). *Human resource selection*. Fort Worth, TX: The Dryden Press.
- Gerstein, L. H., Barke, C. R., & Johnson, S. D. (1989). Internal validity studies of a telephone preemployment measure. *Journal of Employment Counseling*, *26*, 77-83.
- Giacalone, R. A., & Rosenfeld, P. (1987). Reasons for employee sabotage in the workplace. *Journal of Business and Psychology*, *1*, 367-378.
- Giacalone, R. A., & Greenberg, J. (Eds.). (1997). *Antisocial behaviour in organizations*. Thousand Oaks, CA: SAGE Publications.
- Goldberg, L. R., Grenier, J. R., Guion, R. M., Sechrest, L. B., & Wing, H. (1991). *Questionnaires used in the prediction of trustworthiness in pre-employment selection decisions*. An APA Task Force report, Feb 1991. Washington, DC: American Psychological Association.
- Gough, H. G. (1971). The assessment of wayward impulse by means of the Personnel Reaction Blank. *Personnel Psychology*, *24*, 669-677.
- Gough, H. G., & Heilbrun, A. B. (1983). *The Adjective Checklist Manual*. Palo Alto, CA: Consulting Psychological Press Inc.
- Grasmick, H. G., & Milligan, H. (1976). Deterrence theory approach to socioeconomic/demographic correlates of crime. *Social Science Quarterly*, *57*, 608-617.
- Grasmick, H. G., & Bryjak, G. J. (1980). The deterrent effect of perceived severity of punishment. *Social Forces*, *59*, 471-491.
- Graziano, W. G., & Eisenberg, N. (1997). Agreeableness: A dimension of personality. In Hogan, R., Johnson, J., & Briggs, S. (Eds.), *Handbook of personality psychology* (pp.795-824). San Diego, CA: Academic Press Inc.
- Greenberg, J. (1990). Employee theft as a reaction to underpayment inequity: The hidden cost of pay cuts. *Journal of Applied Psychology*, *75*, 561-568.
- Greenberg, J. (1993). Stealing in the name of justice: Informational and interpersonal moderators of theft reactions to underpayment inequity. *Organizational Behaviour and Human Decision Processes*, *54*, 81-103.

- Greenberg, J. (1997). The STEAL Motive: Managing the social determinants of employee theft. In Giacalone, R. A., & Greenberg, J. (Eds.), *Antisocial behaviour in organizations* (pp. 85-108). Thousand Oaks, CA: SAGE Publications.
- Greenberg, J., & Baron, R. A. (eds.) (1993). *Behaviour in Organizations*. Boston: Allyn and Bacon.
- Guastello, S., & Rieke, M. (1991). A review and critique of honesty test research. *Behavioural Sciences and the Law*, *9*, 501-523.
- Hackett, R. D. (1989). Work attitudes and employee absenteeism: A synthesis of the literature. *Journal of Occupational Psychology*, *62*, 235-248.
- Haefner, J. E. (1977). Race, age, sex and competence as factors in employer selection of the disadvantaged. *Journal of Applied Psychology*, *62*, 199-202.
- Hammer, E. G., & Kleiman, L. S. (1988). Getting to know you. *Personnel Administrator*, *34*, 86-92.
- Harris, M. M., Dworkin, J. B., & Park, J. (1990). Preemployment screening procedures: How human resource managers perceive them. *Journal of Business and Psychology*, *4*, 279-292.
- Hartnett, J. (1991). A note on the PEOPLE Survey: EEOC data and validation of the honesty scale. *The Journal of Psychology*, *125*, 489-491.
- Hartnett, J., & Terranova, P. (1991). A note on the PEOPLE Survey: An assessment of the reliability and validity of the honesty scale. *The Journal of Psychology*, *125*, 493-496.
- Heaven, P. C. L. (1996). Personality and self-reported delinquency: Analysis of the "Big Five" personality dimensions. *Personality and Individual Differences*, *20*, 47-54.
- Heilman, M. E. (1984). Information as a deterrent against sex discrimination: The effects of applicant sex and information type on preliminary employment decisions. *Organizational Behaviour and Human Performance*, *23*, 360-372.
- Hinrichs, J. R., Haanpera, S., & Sonkin, L. (1976). Validity of a biographical information blank across national boundaries. *Personnel Psychology*, *29*, 417-421.
- Hogan, J., & Hogan, R. (1986). *Hogan Personnel Selection Series manual*. As cited in Sackett, P. R., Burris, L. R., & Callahan, C. (1989). Integrity testing for personnel selection: An update. *Personnel Psychology*, *42*, 491-529.
- Hogan, J., & Hogan, R. (1989). How to measure employee reliability. *Journal of Applied Psychology*, *74*, 273-279.
- Hogan, R., & Hogan, J. (1995). *Hogan Personality Inventory manual* (2nd ed.). Tulsa, OK: Hogan Assessment Systems.

- Hogan, J., & Brinkmeyer, K. (1997). Bridging the gap between overt and personality-based integrity tests. *Personnel Psychology*, *50*, 587-599.
- Hollinger, R. C. (1989). *Dishonesty in the Workplace. A Managers Guide to Preventing Employee Theft*. Park Ridge, IL: London House. As cited in Kurke, M. (1991). Dishonesty, corruption and white collar crime: Predicting honesty and integrity in the workplace. *Forensic Reports*, *4*, 149-162.
- Hollinger, R. C. (1991). Neutralizing in the workplace: An empirical analysis of property theft and production deviance. *Deviant Behaviour*, *12*, 169-202.
- Hollinger, R. C., & Clark, J. P. (1982). Formal and informal social controls of employee deviance. *Sociological Quarterly*, *23*, 333-343.
- Hollinger, R. C., & Clark, J. P. (1983). Deterrence in the workplace: Perceived certainty, perceived severity and employee theft. *Social Forces*, *62*, 398-418.
- Hollinger, R. C., Slora, K. B. & Terris, W. (1992). Deviance in the fast food restaurant: Correlates of employee theft, altruism and counterproductivity. *Deviant Behaviour*, *13*, 155-184.
- Honts, C. R. (1982). *The effects of simple physical countermeasures on the physiological detection of deception*. Unpublished Masters Thesis, Virginia Polytechnic Institute and State University. As cited in Gale, A. (1988). *The Polygraph Test. Lies, Truth and Science*. London: Sage.
- Honts, C. R. (1991). The Emperor's new clothes: Application of polygraph tests in the American workplace. *Forensic Reports*, *4*, 91-116.
- Horning, D. N. M. (1970). Blue-collar theft: Conceptions of property, attitudes toward pilfering, and work group norms in a modern industrial plant. In Smigel, E. O., & Ross, H. L. (eds.), *Crimes Against Bureaucracy* (pp. 46-64). New York: Van Nostrand Reinhold Company.
- Horvath, F. S. (1977). The effect of selected variables on interpretation of polygraph records. *Journal of Applied Psychology*, *62*, 127-136.
- Hough, L. M., Eaton, N. K., Dunnette, M. D., Kamp, J. D., & McCloy, R. A. (1990). Criterion-related validities of personality constructs and the effect of response distortion on those validities. *Journal of Applied Psychology*, *75*, 581-595.
- Howell, D. C. (1992). *Statistical methods for psychology* (3rd ed.) Belmont, CA: Duxbury Press.
- Howell, J. M., & Higgins, C. A. (1991). Champions of change: Identifying, understanding, and supporting champions of technological innovations. *Organizational Dynamics*, 40-55. As cited in Greenberg, J., & Baron, R. A. (Eds.) (1993). *Behaviour in Organizations*. Boston: Allyn and Bacon.

- Huffcut, A. I., & Roth, P. L. (1998). Racial group differences in employment interview evaluations. *Journal of Applied Psychology, 83*, 179-189.
- Human Resource Consultancy (1991). Research report on pre-employment integrity testing. *Journal of Managerial Psychology, 6*, i-iv.
- Hunter, F. L., & Ash, P. (1973). The accuracy and consistency of polygraph examiners' diagnosis. *Journal of Police Science and Administration, 1*, 370-375.
- Hunter, J. E., & Hunter, R. F. (1984). Validity and utility of alternative predictors of job performance. *Psychological Bulletin, 96*, 72-98.
- Iacono, W. G., & Lykken, D. T. (1997). The validity of the lie detector: Two surveys of scientific opinion. *Journal of Applied Psychology, 82*, 426-433.
- Inwald, R. (1988). How to evaluate psychological/honesty tests. *Personnel, 67*, 40-46.
- Inwald, R., Hurwitz, M., & Kaufman, J. (1991). Uncertainty reduction in retail and public safety-private security screening. *Forensic Reports, 4*, 171-212.
- Jensen, G. F., Erickson, M. L., & Gibbs, J. P. (1978). Perceived risk of punishment and self-reported delinquency. *Social Forces, 57*, 57-78.
- Jones, J. W. (1980). Attitudinal correlates of employees' deviance: Theft, alcohol use, and nonprescribed drug use. *Psychological Reports, 47*, 71-77.
- Jones, J. W. (1991). Assessing privacy invasiveness of psychological test items: Job relevant versus clinical measures of integrity. *Journal of Business and Psychology, 5*, 531-535.
- Jones, J. W., & Terris, W. (1983a). Predicting employee's theft in home improvement centers. *Psychological Reports, 52*, 187-201.
- Jones, J. W., & Terris, W. (1983b). *Personality correlates of theft and drug abuse among job applicants*. Proceedings of the Third International Conference on the PF Test, 85-94. As cited in Moore, R., & Stewart, R. (1989). Evaluating employee integrity: Moral and methodological problems. *Employees Responsibilities and Rights Journal, 2*, 203-215.
- Jones, J. W., Ash, P., & Soto, C. (1990). Employment privacy rights and pre-employment honesty tests. *Employee Relations Law Journal, 15*, 561-575.
- Jones, J. W., & Joy, D. S. (1991). Empirical investigation of job applicants' reactions to taking a preemployment honesty test. In Jones, J. W. (Ed.), *Preemployment Integrity testing: Current Research and Future Directions* (pp. 121-131). Connecticut: Quorum Books.
- Jones, J. W., & Terris, W. (1991). Integrity testing for personnel selection: An overview. *Forensic Reports, 4*, 117-140.

- Jones, J. W., & Terris, W. (1991). Selection Alternatives to the Preemployment Polygraph. In Jones, J. W. (Ed.), *Preemployment Integrity testing: Current Research and Future Directions* (pp. 39-52). Connecticut: Quorum Books.
- Judge, T. A., Martocchio, J. J., & Thoresen, C. J. (1997). Five-factor model of personality and employee absence. *Journal of Applied Psychology*, *82*, 745-755.
- Kamat, S. S., & Kanekar, S. (1989). Prediction of and recommendation for honest behaviour. *The Journal of Social Psychology*, *130*, 597-607.
- Kaminsky, A. (1994). *The Personnel Manager's Yearbook*. London: AP Information Services.
- Kamp, J., & Brooks, P. (1991). Perceived organizational climate and employee counterproductivity. *Journal of Business and Psychology*, *5*, 447-458.
- Kay, G. (1991). Casting stones at integrity testing not at integrity tests. *Forensic Reports*, *4*, 163-169.
- Kircher, J. C., & Raskin, D. C. (1992). Polygraph techniques: History, controversies, and prospects. In Suedfeld, P., & Tetlock, P. E. (Eds.), *Psychology and Social Policy* (pp. 295-308). New York: Hemisphere Publishing Corporation.
- Kleinmuntz, B., & Szucko, J. (1984). Lie detection in ancient and modern times: A call for contemporary scientific study. *American Psychologist*, *39*, 766-776.
- Kochkin, S. (1982). *Personality correlates of a measure of honesty*. Chicago, IL: United Airlines Human Resources Department. As cited in Moore, R., & Stewart, R. (1989). Evaluating employee integrity: Moral and methodological problems. *Employees Responsibilities and Rights Journal*, *2*, 203-215.
- Koslowsky, M., Sagie, A., Krausz, M., & Singer, A. D. (1997). Correlates of employee lateness: Some theoretical considerations. *Journal of Applied Psychology*, *82*, 79-88. †
- Kravitz, D. A., Stinson, V., & Chavez, T. L. (1996). Evaluations of tests used for making selection and promotions decisions. *International Journal of Selection and Assessment*, *4*, 24-34.
- Kroeck, G., & Fraser, S. (1991). Comparison of polygraph and honesty inventory results. *Forensic Reports*, *4*, 225-233.
- Krueger, R. F., Schmutte, P. S., Caspi, A., & Moffitt, T. E. (1994). Personality traits are linked to crime among men and women: Evidence from a birth cohort. *Journal of Abnormal Psychology*, *103*, 328-338.
- Kurke, M. (1991). Dishonesty, corruption and white collar crime: Predicting honesty and integrity in the workplace. *Forensic Reports*, *4*, 149-162.

- Lasson, E. D., & Bass, A. R. (1997). Integrity testing and deviance: Construct validity issues and the role of situational factors. *Journal of Business and Psychology*, *12*, 121-146.
- Libbin, A., Mendelsohn, S. R., & Duffy, D. P. (1988). The right to privacy at the workplace, Part 5: Employee medical and honesty testing. *Personnel*, *65*, 38-48. As cited in Miner, J. B., & Capps, M. H. (1996). *How Honesty Testing Works*. Westport, CT: Quorum.
- Lilienfeld, S. O. (1993). Do 'honesty' tests really measure honesty? *Skeptical Inquirer*, *18*, 32-41.
- Lilienfeld, S., Andrews, B., & Stone-Romero, R. (1994). The relationship between a self-report honesty test and personality measures in prison and college samples. *Journal of Research into Personality*, *28*, 154-169.
- Lobello, S., & Sims, B. (1993). Fakability of a commercially produced pre-employment integrity test. *Journal of Business and Psychology*, *8*, 265-273.
- Logan, T. G., Koettel, R. C., & Moore, R. W. (1986). Personality correlates of a test of honesty. *Psychological Reports*, *59*, 1015-1018.
- London House & Food Marketing Institute. (1991). *Second annual report on employee theft in the supermarket industry: 1990 summary of findings*. Rosemont, IL: London House. As cited in Giacalone, R. A., & Greenberg, J. (Eds.). (1997). *Antisocial behaviour in organizations*. Thousand Oaks, CA: SAGE Publications.
- London House & Food Marketing Institute. (1992). *Third annual report on employee theft in the supermarket industry: 1991 summary of findings*. Rosemont, IL: London House. As cited in Giacalone, R. A., & Greenberg, J. (Eds.). (1997). *Antisocial behaviour in organizations*. Thousand Oaks, CA: SAGE Publications.
- London House & Food Marketing Institute. (1993). *Fourth annual report on employee theft in the supermarket industry*. Rosemont, IL: London House. As cited in Giacalone, R. A., & Greenberg, J. (Eds.). (1997). *Antisocial behaviour in organizations*. Thousand Oaks, CA: SAGE Publications.
- London House & Food Marketing Institute. (1995). *Fifth annual report of supermarket employee behaviour*. Rosemont, IL: London House. As cited in Giacalone, R. A., & Greenberg, J. (Eds.). (1997). *Antisocial behaviour in organizations*. Thousand Oaks, CA: SAGE Publications.
- Lykken, D. T. (1981). *A tremor in the blood: Uses and abuses of the lie detector*. New York: McGraw-Hill.
- Mael, F. A., Connerley, M., & Morath, R. A. (1996). None of Your Business: Parameters of Biodata Invasiveness. *Personnel Psychology*, *49*, 613-650.
- Mangione, T. W., & Quinn, R. P. (1975). Job satisfaction, counterproductive behaviour, and drug use at work. *Journal of Applied Psychology*, *60*, 114-116.

- Mars, G. (Ed.). (1982). *Cheats at Work*. London: George Allen & Unwin.
- Martelli, T. A. (1988). *Preemployment screening for honesty: the construct validity, criterion-related validity, and test-retest reliability of a written integrity test*. Unpublished doctoral dissertation: Ohio University. As cited in Sackett, P. R., Burris, L. R., & Callahan, C. (1989). Integrity testing for personnel selection: An update. *Personnel Psychology*, *42*, 491-529.
- Martin, S. (1989). Honesty testing estimating and reducing the false positive rates. *Journal of Business and Psychology*, *3*, 255-267.
- May, K., & Loyd, B. (1994). Honesty tests in academia and business: A comparative study. *Research in Higher Education*, *35*, 499-511.
- McDaniel, M. A. (1989). Biographical constructs for predicting employee suitability. *Journal of Applied Psychology*, *74*, 964-970.
- McDaniel, M. A., & Jones, J. W. (1988). Predicting employee theft: A quantitative review of the validity of a standardized measure of dishonesty. *Journal of Business and Psychology*, *2*, 327-345.
- McDaniel, M. A., Whetzel, D. L., Schmidt, F. L., & Maurer, S. D. (1994). The validity of employment interviews: A comprehensive review and meta-analysis. *Journal of Applied Psychology*, *79*, 599-616.
- McDonald, T., & Hakel, M. D. (1985). Effects of applicant race, sex, suitability, and answers on interviewer's questioning strategy and ratings. *Personnel Psychology*, *38*, 321-334.
- McFall, L. (1987). Integrity. *Ethics*, *98*, 5-20.
- McIntyre, S., Moberg, D. J., & Posner, B. Z. (1980). Preferential treatment in preselection decisions according to sex and race. *Academy of Management Journal*, *23*, 738-749.
- Merriam, D. H. (1977). Employee theft. *Criminal Justice Abstracts*, *9*, 375-376.
- Moore, R., & Stewart, R. (1989). Evaluating employee integrity: Moral and methodological problems. *Employees Responsibilities and Rights Journal*, *2*, 203-215.
- Miner, J. B., & Capps, M. H. (1996). *How Honesty Testing Works*. Westport, CT: Quorum.
- Mosel, J. N., & Goheen, H. W. (1959). The validity of the Employment Recommendation Questionnaire III. Validity of different types of references. *Personnel Psychology*, *12*, 469-477. As cited in Cook, M. (1993). *Personnel selection and productivity*. Chichester: John Wiley & Sons.
- Moore, R., & Stewart, R. (1989). Evaluating employee integrity: Moral and methodological problems. *Employees Responsibilities and Rights Journal*, *2*, 203-215.

- Morgan, L. G., & Herman, J. B. (1976). Perceived consequences of absenteeism. *Journal of Applied Psychology*, **61**, 738-742.
- Mosier, C. I. (1943). On the reliability of a weighted composite. *Psychometrika*, **8**, 161-168.
- Muir, H. (1997, June 27th). Cleric stole £44,000 from firm for jobless. *Electronic Telegraph*, **763**, 1.
- Mullins, T. (1982). Interviewer decisions as a function of applicant race, applicant quality and interviewer prejudice. *Personnel Psychology*, **35**, 163-173.
- Murphy, K. R. (1987). Detecting Infrequent Deception. *Journal of Applied Psychology*, **72**, 611-614.
- Murphy, K. R. (1993). *Honesty in the workplace*. Belmont, CA: Brooks/Cole Publishing Company.
- Murphy, K. R. (1995). Integrity Testing. In Brewer, N., & Wilson, C. (Eds.), *Psychology and Policing* (pp. 205-228). Hillsdale: Lawrence Erlbaum Associates.
- Murphy, K. R., & Lee, S. L. (1994). Does conscientiousness explain the relationship between integrity and job performance. *International Journal of Selection and Assessment*, **2**, 226-233.
- Murphy, K. R., & Lee, S. (1994). Personality variables related to integrity test scores: The role of conscientiousness. *Journal of Business and Psychology*, **8**, 413-424.
- Newman, J. M. (1978). Discrimination in recruitment: An empirical analysis. *Industrial and Labor Relations Review*, **23**, 15-23. As cited in Arvey, R. D., & Faley, R. H. (1988). *Fairness in selecting employees*. Massachusetts: Addison-Wesley.
- Neuman, J. H., & Baron, R. A. (1997). Aggression in the workplace. In Giacalone, R. A., & Greenberg, J. (Eds.), *Antisocial behaviour in organizations* (pp. 37-67). Thousand Oaks, CA: SAGE Publications.
- O'Bannon, M. R., Goldinger, L. A., & Appleby, G. S. (1989). *Honesty and Integrity Testing: A Practical Guide*. Atlanta: Applied Information Resources. As cited in Murphy, K. R., & Lee, S. L. (1994). Does conscientiousness explain the relationship between integrity and job performance. *International Journal of Selection and Assessment*, **2**, 226-233.
- Ones, D. S. (1993). *The construct validity of integrity tests*. Unpublished Ph.D. dissertation, University of Iowa. As cited in Sackett, P. R., & Wanek, J. E. (1996). New developments in the use of measures of honesty, integrity, conscientiousness, dependability, trustworthiness, and reliability for personnel selection. *Personnel Psychology*, **49**, 787-829.

- Ones, D. S., Viswesvaran, C., & Schmidt, F. (1993). Comprehensive meta-analysis of integrity test validities: Findings and implications for personnel selection and theories of job performance. *Journal of Applied Psychology, 78*, 679-703.
- Ones, D. S., & Viswesvaran, C. (1998). Gender, age, and race differences on overt integrity tests: Results across four large-scale job applicant data sets. *Journal of Applied Psychology, 83*, 35-42.
- O'Reilly, C., & Chatman, J. (1986). Organizational commitment and psychological attachment: The effects of compliance, identification, and internalization on prosocial behaviour. *Journal of Applied Psychology, 71*, 492-499.
- Organ, D. W. (1988). *Organizational citizenship behaviour: The good soldier syndrome*. Lexington, MA: DC Heath and Company.
- Organ, D. W., & Ryan, K. (1995). A meta-analytical review of attitudinal and dispositional predictors of organizational citizenship behaviour. *Personnel Psychology, 48*, 775-802.
- Owens, W. A. (1976). Background Data. In Dunnette, M. (Ed.), *Handbook of Industrial and Organizational Psychology* (pp. 609-644). Chicago: Rand McNally. As cited in Gatewood, R. D., & Feild, H. S. (1998). *Human resource selection*. Fort Worth, TX: The Dryden Press.
- Paajanen, G. E. (1986). *Development and validation of the PDI Employment Inventory*. Presented at the 94th annual conference of the American Psychological Association, Washington, DC. As cited in Sackett, P. R., Burris, L. R., & Callahan, C. (1989). Integrity testing for personnel selection: An update. *Personnel Psychology, 42*, 491-529.
- Paajanen, G. E. (1987). *The prediction of counterproductive behaviour by individual and organisational variables*. Unpublished doctoral dissertation, University of Minnesota. As cited in Sackett, P. R., Burris, L. R., & Callahan, C. (1989). Integrity testing for personnel selection: An update. *Personnel Psychology, 42*, 491-529.
- Pace, L. A., & Schoenfeldt, L. F. (1979). Legal concerns in the use of weighted applications. *Personnel Psychology, 30*, 159-166.
- Parrila, P. F., Hollinger, R. C., & Clark, J. P. (1988). Organisational control of deviant behaviour: The case of employee theft. *Social Science Quarterly, 69*, 261-280.
- Parsons, C. K., & 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.
- Penner, L. A., Summers, L. S., Brookmire, D. A., & Dertke, M. C. (1976). The lost dollar: Situational and personality determinants of a pro- and antisocial behaviour. *Journal of Personality, 44*, 274-293.

- Personnel Decisions, Inc. (1985). *Development and Validation of the PDI Employment Inventory*. Minneapolis: Personnel Decisions, Inc. As cited in Sackett, P. R., Burris, L. R., & Callahan, C. (1989). Integrity testing for personnel selection: An update. *Personnel Psychology*, *42*, 491-529.
- Porter, L. W., & Steers, R. M. (1973). Organizational work, and personal factors in employee turnover and absenteeism. *Psychological Bulletin*, *80*, 151-176.
- Pritchard, R. D., Dunnette, M. D., & Jorgenson, D. O. (1972). Effects of perceptions of equity and inequity on worker performance and satisfaction. *Journal of Applied Psychology*, *56*, 75-94.
- Puffer, S. M. (1987). Prosocial behaviour, noncompliant behaviour, and work performance among commission salespeople. *Journal of Applied Psychology*, *72*, 615-621.
- Rabinowitz, F., Colmar, C., Elgie, D., Hale, D., Niss, S., Sharp, B., & Sinclitico, J. (1993). Dishonesty, indifference, or carelessness in souvenir shop transactions. *Journal of Social Psychology*, *133*, 73-79.
- Rafilson, F. (1989). Temporal stability of a preemployment integrity test. *Psychological Reports*, *65*, 1384-1386.
- Rand, T. M., & Wexley, K. N. (1975). Demonstration of the effect "Similar to me" in simulated employment interviews. *Psychological Reports*, *36*, 535-544.
- Raymark, P. H., Schmidt, M. J., & Guion, R. M. (1997). Identifying potentially useful personality constructs for employee selection. *Personnel Psychology*, *50*, 723-736.
- Reilly, R. R., & Chao, G. T. (1982). Validity and fairness of some alternative employee selection procedures. *Personnel Psychology*, *35*, 1-62.
- Rigby, K., Mak, A. S., & Slee, P. T. (1989). Impulsiveness, orientation towards institutional authority and gender as factors in self-reported delinquency among Australian adolescents. *Personality and Individual Differences*, *10*, 689-692.
- Robertson, I. T., & Makin, P. J. (1986). Management selection in Britain: A survey and critique. *Journal of Occupational Psychology*, *59*, 45-57.
- Robertson, I. T., Baron, H., Gibbons, P., MacIver, R., & Nyfield, G. (2000). Conscientiousness and managerial performance. *Journal of Occupational and Organizational Psychology*, *73*, 171-180.
- Robinson, S. L., & Bennet, R. J. (1995). A typology of deviant workplace behaviours: A multidimensional scaling study. *Academy of Management Journal*, *38*, 555-572.
- Rosenbaum, R. W. (1976). Predictability of employee theft using weighted application blanks. *Journal of Applied Psychology*, *61*, 94-98.

- Rothstein, H. R., Schmidt, F. L., Erwin, F. W., Owens, W. A., & Sparks, C. P. (1990). Biographical data in employment selection: Can validities be made generalizable. *Journal of Applied Psychology*, *75*, 175-184.
- Ryan, A. M., & Sackett, P. R. (1987). Pre-employment honesty testing: Fakability, reactions of test-takers & company image. *Journal of Business and Psychology*, *1*, 248-256.
- Rynes, S. L., & Connerley, M. L. (1993). Applicant reactions to alternative selection procedures. *Journal of Business and Psychology*, *7*, 261-277.
- Sackett, P. R. (1994). Integrity testing for personnel selection. *Current directions in psychological science*, *3*, 73-76.
- Sackett, P. R., & Harris, M. M. (1984). Honesty testing for personnel selection: A review and critique. *Personnel Psychology*, *37*, 221-245.
- Sackett, P. R., Burris, L. R., & Callahan, C. (1989). Integrity testing for personnel selection: An update. *Personnel Psychology*, *42*, 491-529.
- Sackett, P. R., & Wanek, J. E. (1996). New developments in the use of measures of honesty, integrity, conscientiousness, dependability, trustworthiness, and reliability for personnel selection. *Personnel Psychology*, *49*, 787-829.
- Sarchione, C. D., Cuttler, M. J., Muchinsky, P. M., Nelson-Gray, R. O. (1998). Prediction of dysfunctional job behaviours among law enforcement officers. *Journal of Applied Psychology*, *83*, 904-912.
- Savran, C., Ones, D. S., Balci, Z., & Deniz, L. (1997). *A cross-cultural study of perceptions of integrity and honesty*. Paper presented at the Fifth European Congress of Psychology, Dublin, July, 1997.
- Schmidt, F. L., & Hunter, J. E. (1997). *The validity and utility of selection methods in personnel psychology: Practical and theoretical implications of 85 years of research findings*. Paper presented at the 5th European Congress of Psychology, Dublin, July 1997.
- Schmidt, F. L., & Hunter, J. E. (1998). The Validity and utility of selection methods in personnel psychology: Practical and theoretical implications of 85 years of research findings. *Psychological Bulletin*, *124*, 262-274.
- Scrivner, E. (1991). Integrity testing: A new frontier for psychology. *Forensic Reports*, *4*, 75-89.
- Sengupta, P. B. (1982). Impact of corrupt environment on the formation of favourable attitudes towards corruption. *Social Defence*, *18*, 5-9.
- Shaffer, G. S., Saunders, V., & Owens, W. A. (1986). Additional evidence for the accuracy of biographical data. Long-term retest and observer ratings. *Personnel*

- Psychology*, **39**, 791-809. As cited in Gatewood, R. D., & Feild, H. S. (1998). *Human resource selection*. Fort Worth, TX: The Dryden Press.
- Sharf, J. C. (1994). The impact of legal and equal employment opportunity issues on personal history inquiries. In Stokes, G. S., Mumford, M. D., & Owens, W. A. (Eds.), *Biodata Handbook: Theory research and use of biographical information in selection and performance prediction* (pp. 351-390). Palo Alto, CA: Consulting Psychologists Press. As cited in Mael, F. A., Connerley, M., & Morath, R. A. (1996). None of Your Business: Parameters of Biodata Invasiveness. *Personnel Psychology*, **49**, 613-650.
- Sherif, M. (1936). *The Psychology of Social Norms*. New York: Harper. As cited in Brehm, S. S., Kassir, S. M., & Fein, S. (1999). *Social Psychology* (4th ed.). Boston, MA: Houghton Mifflin Company.
- Siegel, L., & Lane, I. (1969). *Personnel and Organizational Psychology*. Homewood, IL: Irwin. As cited in Gatewood, R. D., & Feild, H. S. (1998). *Human resource selection*. Fort Worth, TX: The Dryden Press.
- Sieh, E. W. (1987). Garment workers: Perceptions of inequity and employee theft. *British Journal of Criminology*, **27**, 174-190.
- Silvester, J., & Chapman, A. J. (1996). Unfair discrimination in the selection interview: An attributional account. *International Journal of Selection and Assessment*, **4**, 63-70.
- Sinha, A. K. P. (1963). Manifest anxiety affecting industrial absenteeism. *Psychological Reports*, **13**, 258.
- Skarlicki, D. P., & Folger, R. (1997). Retaliation in the workplace: The roles of distributive, procedural, and interactional justice. *Journal of Applied Psychology*, **82**, 434-443.
- Slora, K. B. (1989). An empirical approach to determining employee deviance base rates. *Journal of Business and Psychology*, **4**, 199-219.
- Slora, K. B. (1991). An empirical approach to determining employee deviance base rates. In Jones, J. W. (Ed.), *Preemployment Integrity testing: Current Research and Future Directions* (pp. 21-38). Connecticut: Quorum Books.
- Smigel, E. O., & Ross, H. L. (1970). *Crimes Against Bureaucracy*. New York: Van Nostrand Reinhold Company.
- Smith, C. A., Organ, D. W., & Near, J. P. (1983). Organizational citizenship behaviour: Its nature and antecedents. *Journal of Applied Psychology*, **68**, 653-663.
- Smith, M., & Robertson, I. T. (1993). *The theory and practice of systematic personnel selection*. (2nd ed.). London: The Macmillan Press Ltd.
- Smither, J. W., Reilly, R. R., Millsap, R. E., Pearlman, K., & Stoffey, R. W. (1993). Applicant reactions to selection procedures. *Personnel Psychology*, **46**, 49-76.

- Soloman, D. S. (1987). Hotlines and hefty rewards: Retailers step up efforts to curb employee theft. *The Wall Street Journal*, **210**, 37.
- Steiner, D. D., & Gilliland, S. W. (1996). Fairness reactions to personnel selection techniques in France and the United States. *Journal of Applied Psychology*, **81**, 134-141.
- Stone, E. F., & Stone, D. L. (1990). Privacy in organisations: Theoretical issues, research findings and protection mechanisms. *Research in Personnel and Human Resource Management*, **8**, 349-411.
- Stone, E. F., Stone, D. L., & Hyatt, D. (1989). *Personnel selection procedures and invasion of privacy*. Paper presented at the Fourth Annual Conference of the Society for Industrial and Organizational Psychology, Boston. As cited in Mael, F. A., Connerley, M., & Morath, R. A. (1996). None of Your Business: Parameters of Biodata Invasiveness. *Personnel Psychology*, **49**, 613-650.
- Sullenberger, T. E. (1985). Is the polygraph suited to preemployment screening? *Security Management*, **29**, 44-48.
- Tabachnick, B. G., & Fidell, L. S. (1996). *Using multivariate statistics* (3rd ed.). New York: HarperCollins College.
- Taylor, P. J. (1966). *The distribution of sickness absence in an oil refinery and clinical investigations of 184 men with different sickness experience*. Unpublished M.D. thesis, London University. As cited in Cooper, R., & Payne, R. (1966). Extraversion and some aspects of work behavior. *Personnel Psychology*, **29**, 45-57.
- Taylor, L., & Walton, P. (1971). Industrial sabotage: Motives and meanings. In Cohen, S. (Ed.), *Images of Deviance* (pp. 219-245). Middlesex: Penguin.
- Terris, W. (1979). Attitudinal correlates of theft, violence, and drug use: Theft related admissions made in pre-employment polygraph examinations. *Journal of Security Administration*, **2**, 30-39. As cited in Sackett, P. R., Burris, L. R., & Callahan, C. (1989). Integrity testing for personnel selection: An update. *Personnel Psychology*, **42**, 491-529.
- Terris, W., & Jones, J. (1982). Psychological factors related to employees' theft in the convenience store industry. *Psychological Reports*, **51**, 1219-1238.
- Terry, D. J., & Hogg, M. A. (1996). Group norms and the attitude-behaviour relationship: A role for the group identification. *Personality and Social Psychology Bulletin*, **22**, 776-793.
- Terry, D. J., Hogg, M. A., & Duck, J. M. (1999). Group membership, social identity, and attitudes. In Abrams, D., & Hogg, M. A. (eds.), *Social Identity and Social Cognition* (pp. 280-314). Oxford: Blackwell Publishers.

- Thorpe, M. F., Pittenger, D. J., & Reed, B. D. (1999). Cheating the researcher: A study of the relationship between personality measures and self-reported cheating. *College Student Journal*, *33*, 49-59.
- Tittle, C. R. (1977). Sanction fear and the maintenance of social order. *Social Forces*, *55*, 579-596.
- Tosi, H. L., & Einbender, S. W. (1985). The effects of the type and amount of information in sex discrimination research: A meta-analysis. *Academy of Management Review*, *28*, 712-723.
- Trevino, L. K., & Youngblood, S. A. (1990). Bad apples in bad barrels: A Causal analysis of ethical decision-making behaviour. *Journal of Applied Psychology*, *75*, 378-385.
- Ulrich, L., & Trumbo, D. (1965). The selection interview since 1949. *Psychological Bulletin*, *63*, 100-116.
- U.S. Congress. (1983). *Scientific validity of polygraph testing: A research review and evaluation*. Washington, DC. Office of Technological Assessment. As cited in Sackett, P. R., Burris, L. R., & Callahan, C. (1989). Integrity testing for personnel selection: An update. *Personnel Psychology*, *42*, 491-529.
- Vallerand, R. J., Deshaies, P., Cuerrier, J., Pelletier, L. G., & Mongeau, C. (1992). Ajzen and Fishbein's theory of reasoned action as applied to moral behaviour: A confirmatory analysis. *Journal of Personality and Social Psychology*, *62*, 98-109.
- Venables, P. (1955). Changes in motor response with increase and decrease in task difficulty in normal industrial and psychiatric patient subjects. *British Journal of Psychology*, *XLVI*, 101-110. As cited in Cooper, R., & Payne, R. (1966). Extraversion and some aspects of work behavior. *Personnel Psychology*, *29*, 45-57.
- Wall, S. A., & Nolan, L. L. (1987). Small group conflict: A look at equity satisfaction and styles of conflict. *Small Group Behaviour*, *18*, 188-211.
- Ward, C. O., Zanna, M. P., & Cooper, J. (1974). The non-verbal mediation of self-fulfilling prophecies in interracial interaction. *Journal of Experimental Social Psychology*, *10*, 109-120.
- Wexley, R. N., & Nemeroff, W. F. (1974). The effects of racial prejudice, race of applicant and biographical similarity on interviewer evaluation of job applicants. *Journal of Social and Behavioural Sciences*, *20*, 66-78.
- Whitney, D. J., Diaz, J., Mineghino, M. E., & Powers, K. (1999). Perceptions of overt and personality-based integrity tests. *Personnel Psychology*, *7*, 35-45.
- Wiesner, W. H., & Cronshaw, S. F. (1988). A meta-analytic investigation of the impact of interview format and degree of structure on the validity of the employment interview. *Journal of Occupational Psychology*, *61*, 275-290.

Wilson, C. (1988). *New developments in selection interviewing*. Paper presented at the Training '88 Conference for Human Resource Professionals, New York. As cited in Jones, J. W., & Terris, W. (1991). Selection Alternatives to the Preemployment Polygraph. In Jones, J. W. (Ed.), *Preemployment Integrity testing: Current Research and Future Directions* (pp. 39-52). Connecticut: Quorum Books.

Wimbush, J. C., & Dalton, D. R. (1997). Base rate for employee theft: Convergence of multiple methods. *Journal of Applied Psychology, 82*, 756-763.

Wood, R. (1997). The interview: Just when you thought it was safe. *Selection and Development Review, 13*, 15-17.

Woolley, R. M., & Hakstian, A. R. (1992). An examination of the construct validity of personality based and overt measures of integrity. *Educational and Psychological Measurement, 52*, 475-489.

Woolley, R. M., & Hakstian, A. R. (1993). A comparative study of integrity tests: The criterion-related validity of personality-based and overt measures of integrity. *International Journal of Selection and Assessment, 1*, 27-40.

Appendix 1: Summary of principal integrity tests

Overt Integrity Tests

1. Personnel Selection Inventory (PSI) - London House Inc. The PSI has a number of subscales but the ones more relevant to integrity include Honesty, Drug Avoidance, Nonviolence Safety and Tenure. The Honesty subscale comprises items such as “How often in recent years have you simply thought about taking money without actually doing it?”; “Will everyone steal if conditions are right?” and “How many executives will steal from their company?” (Bernadin and Cooke, 1993).
2. Reid Report (RR) – Reid Psychological Systems. The RR comprises 3 main sections (Ash, 1971). Section 1 examines attitudes towards the punishment of crimes (“Do you believe there are some special cases where a person has a right to steal from an employer?”) and attitudes to theft (“Are you too honest to steal?”). Section 2 exams previous employment history, financial history and personal history (including previous theft-related crimes). Section 3 is an admission scale of committed theft activity (“Did you make a false insurance claim for personal gain?”).
3. Station Employment Applicant Inventory (SEAI) – London House Inc. The 168-item SEAI comprises a number of subscales that combine to create an overall employability index. The honesty subscale measures the likelihood that an employee will not steal cash and merchandise from work.

Covert Integrity Tests

1. Personnel Reaction Blank (PRB) – Consulting Psychologists Press. The 70 item PRB purports to measure dependability, trustworthiness and conscientiousness. The scale was developed using a criterion-based approach, as it discriminated between a sample of delinquents and non-delinquents (Bernadin and Cooke, 1993).
2. PDI-Employment Inventory – Personnel Decisions Inc. The PDI-EI comprises 97 items and produces 2 scores. The Performance score purports to measure employee productivity including efficiency and shrinkage. The Tenure scale relates to length of service on the job (Berman, 1993).

3. Reliability Scale of the Hogan Personality Inventory (HPI) – Hogan Assessment Systems. This 18-item scale is composed from 4 Homogenous Item Composites (HIC's) from the Adjustment, Agreeability and Prudence scales of the HPI. Items include "I rarely do things on impulse" and "I am rarely irritated by faults in others" (Hogan and Hogan, 1995).

Appendix 2: Personnel Managers' Survey questionnaire

American research into workplace dishonesty indicates that as many as 50% of employees steal from employers to some degree and 30% of all business failures can be directly related to employee theft. The cost to American businesses is estimated to exceed \$40 billion per year.

To date there has been no comparative data collected for organisations operating within Britain. The attached questionnaire is designed as part of a study to help fill that gap. Through the use of this questionnaire and further research we will identify if there is a problem not just of theft but of other counterproductive behaviours within organisations operating in Britain. Information will be collected across business sectors to identify any differences in levels and/or types of counterproductive behaviours.

All information received will be treated in strict confidence. As such there is **no** need to identify yourself or your organisation anywhere on the questionnaire. I realise that you have many demands on your time, but I would appreciate it if you could set aside a few minutes to complete this survey. The information you provide will be of real benefit to industry and commerce and to further our understanding of employee behaviour.

The questionnaire comprises of 3 separate sections. There is no requirement to complete every section of the questionnaire, but please provide as much information as possible. Once completed could you place the questionnaire in the pre-addressed envelope provided and mail it to me.

Thank you for your participation.

Please indicate (✓) the appropriate category for your organisation:

Construction ___ Manufacturing ___ Wholesale ___
 Transport & Communication ___ Public Administration ___ Retail ___
 Services ___ Financial, Insurance & Real Estate ___ Other ___
 (specify)

Please indicate (✓) the location of your organisation (tick more than one if appropriate)

Scotland ___ N. Ireland ___ Wales ___ West Midlands ___
 London ___ Eastern Counties ___ North East ___
 North West ___ South West ___ South East ___

What is the approximate size of your organisation in terms of:

Number of employees _____

Annual turnover _____

SECTION 1

This section assesses your perceptions of the relative importance of different characteristics in an employee within your company. Please indicate by circling the number which best describe **your** perception of the relative importance of characteristics in an employee.

Please rate on the scale: 1 = 'not at all important'; 2 = 'not important'; 3 = 'important'; 4 = 'very important'.

- | | |
|---------------------------------------|---|
| 1) Motivation and drive | <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 |
| 2) Vocational qualifications | <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 |
| 3) Work experience related to the job | <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 |
| 4) Conscientiousness | <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 |
| 5) General Health | <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 |
| 6) Accent and speaking manner | <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 |
| 7) Mobility | <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 |
| 8) Honesty and Integrity | <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 |
| 9) Evidence of trainability | <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 |
| 10) Academic/school qualifications | <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 |

11) Other interests (hobbies, sport etc.)

|_____|_____|_____|_____|
1 2 3 4

12) Interest in the work

|_____|_____|_____|_____|
1 2 3 4

13) Evidence of general ability

|_____|_____|_____|_____|
1 2 3 4

14) Other work experience

|_____|_____|_____|_____|
1 2 3 4

15) Physical appearance

|_____|_____|_____|_____|
1 2 3 4

16) General personality

|_____|_____|_____|_____|
1 2 3 4

SECTION 2

A number of counterproductive behaviours are listed below. For each behaviour could you indicate by placing a circle around the appropriate number how frequent each behaviour is within your organisation.

Please rate on the scale: 1 = 'Not at all Frequent'; 2 = 'Not frequent'; 3 = 'Frequent'; 4 = 'Very Frequent'.

1. Absenteeism - persistent uncertified sick leave or other unauthorised absence.

1	2	3	4
Not at all Frequent	Not Frequent	Frequent	Very Frequent

2. Theft - stealing of equipment or money from the organisation.

1	2	3	4
Not at all Frequent	Not Frequent	Frequent	Very Frequent

3. Lateness - consistent bad time keeping and general tardiness.

1	2	3	4
Not at all Frequent	Not Frequent	Frequent	Very Frequent

4. Drug & alcohol abuse - being under the influence of drugs and/or alcohol whilst at work.

1	2	3	4
Not at all Frequent	Not Frequent	Frequent	Very Frequent

5. Damage to equipment - conscious action to damage the work environment.

1	2	3	4
Not at all Frequent	Not Frequent	Frequent	Very Frequent

6. Violence - physical injury or harm or threat of harm to a fellow worker or to a customer.

1	2	3	4
Not at all Frequent	Not Frequent	Frequent	Very Frequent

7. Slowing of work - conscious restriction of production or performance by slowing the work process.

1	2	3	4
Not at all Frequent	Not Frequent	Frequent	Very Frequent

8. Unauthorised breaks - taking long lunch or tea breaks without permission.

1	2	3	4
Not at all Frequent	Not Frequent	Frequent	Very Frequent

9. Unauthorised use of company resources - frequent use of company telephones for personal calls or the use of a company car or for non-approved purposes.

1	2	3	4
Not at all Frequent	Not Frequent	Frequent	Very Frequent

10. Rule avoiding - disregard for explicitly stated organisational policies and procedures, disregard of health and safety rules etc.

1	2	3	4
Not at all Frequent	Not Frequent	Frequent	Very Frequent

SECTION 3

This section examines the use of different methods of assessment procedures. Below is a list of assessment procedures:

- 1) Interview 2) Interest inventories 3) Personality questionnaires
 4) Aptitude/ability tests 5) Work sample, job simulation
 6) Honesty/Integrity tests 7) Group exercises 8) CV
 9) References 10) Application forms 11) Other - please specify

Next to each of the characteristics listed below (these are the same as in section 1) write the number or numbers of the assessment procedure(s) you use to assess each characteristic. If you do not assess the characteristic at all then just write NONE on the line.

Please ensure that if more than one technique applies a comma is placed after each number so that there can be no confusion as to what the number is.

For example:

Motivation and drive: 1, 3, 10,

Characteristics:

Motivation and drive: _____

Vocational Qualifications: _____

Work experience related to the job: _____

Conscientiousness: _____

General Health: _____

Accent and speaking manner _____

Mobility: _____

Honesty and Integrity: _____

Evidence of trainability: _____

Academic/school qualifications: _____

Other interests (hobbies, sport etc.): _____

Interest in the work: _____

Evidence of general trainability: _____

Other work experience: _____

Physical appearance: _____

General personality: _____

Thank you for completing the questionnaire

Appendix 3: ANOVA summary tables for dishonesty factors scores across type of organisation (Study 3.1)

1. *Dependent variable = Counterproductivity Factor*

Source	Sum Squares	DF	Mean square	F	p
Organisation	2.144	7	0.306	1.121	0.351
Error	70.533	258	0.273		
Total	72.677	265			

2. *Dependent variable = Workplace Abuse Factor*

Source	Sum Squares	DF	Mean square	F	p
Organisation	2.953	7	0.422	1.426	0.195
Error	76.332	258	0.296		
Total	79.285	265			

3. *Dependent variable = Time/Property Theft*

Source	Sum Squares	DF	Mean square	F	p
Organisation	4.939	7	0.706	2.150	<0.05
Error	84.660	258	0.328		
Total	89.599	265			

**Appendix 4: ANOVA summary tables for conscientiousness rating
across type of organisation (Study 3.1)**

1. Dependent variable = Conscientiousness rating

Source	Sum Squares	DF	Mean square	F	p
Organisation	3.663	7	0.523	1.916	0.068
Error	70.816	259	0.273		
Total	74.479	266			

Appendix 5: Sample items from the scenarios sectioned into production and property deviance (Study 6.1)

Production deviance

- Should you carry on with the same amount of break-time or, as fellow colleagues do, take longer breaks?
- Do you clock a fellow staff member back in work even though they are not there when the organisation's rule is that nobody else can clock another person in?
- Would you arrive late for work now and then when you realise that there is a lack of checks by the organisation on employee punctuality?
- Would you intentionally miss a management project meeting because you feel a lack of commitment to the project?
- You wonder whether to sleep in a bit longer on a Sunday and arrive to work late as management are not around until later in that day anyway?

Property deviance

- Do you set up machinery incorrectly so that it cannot cope with the day's tasks and therefore allow you to go home early?
- Do you claim money for petrol on a journey where someone else gave you a lift?
- Will you copy the office's computer accounts package to use on you home computer?
- Will you take some of the company's materials with you to your new job appointment before you leave the current post?
- Do you take some unsold food home from where you work which is only going to be thrown away?
- Do you break old, out of date machinery that would have to be replaced because other factories have newer machinery?

Appendix 6: Correlation matrix between intention and minor scales of ICES (Study 6.1).

	I1	I2	C1	C2	E1	E2	S1	S2	SD
Intent	-0.05	0.01	-0.60	-0.47	0.22	0.22	-0.19	-0.12	-0.51
I1	-	0.30	0.21**	0.19**	-0.02	-0.13*	-0.26	-0.17*	0.05
I2	-	-	-0.02	-0.08	0.14*	0.37	0.05	0.14*	-0.06
C1	-	-	-	0.57	-0.29	-0.30	0.05	0.03	0.63
C2	-	-	-	-	-0.23**	-0.25**	0.06	0.03	0.48
E1	-	-	-	-	-	0.67	0.04	0.09	-0.18*
E2	-	-	-	-	-	-	0.02	0.11	-0.20**
S1	-	-	-	-	-	-	-	0.60	0.20**
S2	-	-	-	-	-	-	-	-	0.19**
SD	-	-	-	-	-	-	-	-	-

* p<0.05

** p<0.01

Bold = p<0.001

Appendix 7: Correlation matrix between reported behaviour scale and HPI main scales (Study 6.2).

	Pru	Adj	Amb	Soc	Agr	Int	Sch
Behav	-0.42	-0.06	0.10	0.32**	-0.07	0.07	0.01
Pru	-	0.26*	0.22*	-0.36**	0.26*	-0.07	-0.26*
Adj	-	-	0.47	0.15	0.41	0.03	0.10
Amb	-	-	-	0.11	0.49	-0.01	0.11
Soc	-	-	-	-	0.25*	0.41	0.20
Agr	-	-	-	-	-	0.25*	0.01
Int	-	-	-	-	-	-	0.33**
Sch	-	-	-	-	-	-	-

* p<0.05

** p<0.01

Bold = p<0.001

Key:

Pru = Prudence

Adj = Adjustment

Amb = Ambition

Soc = Sociability

Agr = Agreeability

Int = Intellectance

Sch = School Success

Appendix 8: Correlation matrix between reported behaviour scale and HIC's, structured within HPI main scales (Study 6.2).

Adjustment

	Behav	Emp	Not anx	No gui	Calm	Even	No som	Trust	Good att
Behav	-	-0.28*	-0.01	-0.03	0.01	0.01	0.15	-0.22*	-0.01
Emp	-	-	0.51	0.36**	0.25*	0.40**	0.24*	0.14	0.21
Not anx	-	-	-	0.38**	0.41**	0.40**	0.23*	-0.04	0.17
No gui	-	-	-	-	0.54	0.35**	0.40**	0.26*	0.35**
Calm	-	-	-	-	-	0.48	0.40**	-0.12	0.16
Even	-	-	-	-	-	-	0.40**	0.09	0.09
No som	-	-	-	-	-	-	-	0.02	0.31**
Trust	-	-	-	-	-	-	-	-	0.40**
Good att	-	-	-	-	-	-	-	-	-

* p<0.05 **p<0.01 **Bold = p<0.001**

Emp = Empathy; Not anx = Not Anxious; No gui = No Guilt; Calm = Calmness; Even = Even Tempered; No som = No Somatic Complaints; Trust = Trusting; Good att = Good Attachment.

Ambition

	Behav	Comp	Self con	No dep	Lead	Ident	No soc
Behav	-	-0.06	0.17	0.11	0.06	0.10	0.06
Comp	-	-	0.60	0.63	0.21*	0.52	0.17
Self con	-	-	-	0.55	0.21*	0.53	0.47
No dep	-	-	-	-	0.19	0.53	0.24*
Lead	-	-	-	-	-	0.14	0.29**
Ident	-	-	-	-	-	-	0.18
No soc	-	-	-	-	-	-	-

* p<0.05 **p<0.01 **Bold = p<0.001**

Comp = Competitive; Self con = Self Confidence; No dep = No Depression; Lead = Leadership; Ident = Identity; No soc = No Social Anxiety.

Sociability

	Behav	Likes par	Likes cr	Exper	Exhib	Enter
Behav	-	0.16	0.18	0.23*	0.30**	0.25*
Likes par	-	-	0.45	0.45	0.31**	0.43
Likes cr	-	-	-	0.29*	0.36**	0.19
Exper	-	-	-	-	0.12	0.20
Exhib	-	-	-	-	-	0.50
Enter	-	-	-	-	-	-

* p<0.05 **p<0.01 **Bold = p<0.001**

Likes par = Likes Parties; Likes cr = Likes Crowds; Exper = Experience Seeking; Exhib = Exhibitionistic; Enter = Entertaining.

Agreeability

	Behav	Easy	Sens	Care	Likes peo	No host
Behav	-	-0.10	-0.18	-0.02	0.09	-0.08
Easy	-	-	0.57	0.67	0.71	0.09
Sens	-	-	-	0.62	0.54	0.04
Care	-	-	-	-	0.67	0.03
Likes peo	-	-	-	-	-	0.07
No host	-	-	-	-	-	-
* p<0.05	**p<0.01	Bold = p<0.001				

Easy = Easy to Live With; Sens = Sensitive; Care = Caring; Likes peo = Likes People;
No host = No Hostility.

Prudence

	Behav	Moral	Mast	Virt	Not au	Not spon	Impulse	Avoids
Behav	-	-0.35**	-0.25**	-0.31**	0.05	-0.04	-0.20	-0.32**
Moral	-	-	0.26*	0.23*	-0.30**	-0.22*	0.02	-0.09
Mast	-	-	-	0.28*	-0.07	-0.11	0.18	0.29*
Virt	-	-	-	-	-0.07	-0.16	0.06	0.26*
Not au	-	-	-	-	-	0.19	0.12	0.21
Not spon	-	-	-	-	-	-	0.49	0.18
Impulse	-	-	-	-	-	-	-	0.45
Avoids	-	-	-	-	-	-	-	-
* p<0.05	**p<0.01	Bold = p<0.001						

Moral = Moralistic; Mast = Mastery; Virt = Virtuous; Not au = Not Autonomous;
Impulse = Impulse Control; Avoids = Avoids Trouble.

Intellectance

	Behav	Scien	Cur	Thrill	Intell	Generate	Cult
Behav	-	0.12	-0.01	0.13	-0.15	0.20	-0.14
Scien	-	-	0.24*	0.39**	0.38**	0.31**	0.28*
Cur	-	-	-	0.11	0.18	0.28*	-0.14
Thrill	-	-	-	-	0.13	0.06	0.18
Intell	-	-	-	-	-	0.19	0.31**
Generate	-	-	-	-	-	-	-0.08
Cult	-	-	-	-	-	-	-
* p<0.05	**p<0.01	Bold = p<0.001					

Scien = Science; Cur = Curiosity; Thrill = Thrill Seeking; Intell = Intellectual Games;
Generate = Generates Ideas; Cult = Culture.

School Success

	Behav	Education	Math ability	Good Memory	Reading
Behav	-	0.01	0.02	0.11	-0.11
Education	-	-	0.49	0.39**	0.25*
Math Ability	-	-	-	0.31**	0.05
Good Memory	-	-	-	-	0.34**
Reading	-	-	-	-	-
* p<0.05	**p<0.01	Bold = p<0.001			

Appendix 9: ANOVA summary tables for gender, race and age differences on sten Compliance scores (Study 7)

1. Gender differences

Source	Sum Squares	DF	Mean square	F	p
Gender	2.971	1	2.971	0.768	0.381
Error	1763.353	456	3.867		
Total	1766.324	457			

2. Race differences

Source	Sum Squares	DF	Mean square	F	p
Race	30.009	1	30.009	7.881	<0.01
Error	1736.314	456	3.808		
Total	1766.323	457			

3. Age differences

Source	Sum Squares	DF	Mean square	F	p
Age	30.481	1	30.481	8.007	<0.01
Error	1735.842	456	3.807		
Total	1766.323	457			

Appendix 10: ANOVA summary tables for main effects of risk, group norm and compliance and interactions on cheating (Study 8)

1. *Dependent variable = number of escape keys pressed*

Source	Sum Squares	DF	Mean square	F	p
Group norm (G)	0.048	1	0.048	0.397	0.536
Risk (R)	0.009	1	0.009	0.074	0.790
Compliance (C)	0.620	1	0.620	5.124	<0.05
G x R	0.095	1	0.095	0.785	0.385
G x C	0.519	1	0.519	4.290	<0.05
R x C	0.167	1	0.167	1.380	0.252
G x R x C	0.038	1	0.038	0.314	0.582
Error	2.778	23	0.121		
Total	4.274	30			

Note: ANOVA carried out on transformed scores

2. *Dependent variable = variance from required sets*

Source	Sum Squares	DF	Mean square	F	p
Group norm (G)	2.089	1	2.089	8.967	<0.01
Risk (R)	0.102	1	0.102	0.438	0.516
Compliance (C)	0.059	1	0.059	0.253	0.620
G x R	0.010	1	0.010	0.043	0.834
G x C	0.055	1	0.055	0.236	0.631
R x C	0.169	1	0.169	0.725	0.403
G x R x C	0.008	1	0.008	0.034	0.855
Error	5.120	22	0.233		
Total	7.612	29			

Note: ANOVA carried out on transformed scores

3. *Dependent variable = number of sets completed correctly*

Source	Sum Squares	DF	Mean square	F	p
Group norm (G)	6.525	1	6.525	4.307	<0.05
Risk (R)	3.140	1	3.140	2.073	0.164
Compliance (C)	10.114	1	10.114	6.676	<0.05
G x R	0.046	1	0.046	0.030	0.863
G x C	1.706	1	1.706	1.126	0.300
R x C	0.064	1	0.064	0.042	0.839
G x R x C	0.387	1	0.387	0.255	0.618
Error	33.328	22	1.515		
Total		29			

Note: ANOVA carried out on transformed scores

Appendix 11: Means, Standard deviations and t-values for control variables (Study 8)

Scale:

1 = Strongly Agree; 2 = Agree; 3 = Neither; 4 = Disagree; 5 = Strongly Disagree

Control questions for risk manipulation

Do you think there was any risk in pressing the ESC key?

Risk	N	Mean	SD	t	P
Low	16	3.50	1.03	0.23	NS
High	15	3.40	1.35		

Do you think you would get caught if you pressed the ESC key?

Risk	N	Mean	SD	t	P
Low	16	3.19	1.17	-0.03	NS
High	15	3.20	1.52		

Control questions for group norm manipulation

Do you think most others would have pressed the ESC key?

Group Norm	N	Mean	SD	t	P
Norm for	16	3.19	1.60	0.69	NS
Norm against	15	3.53	1.13		

In pressing or not pressing the ESC key were you influenced by what other people had done?

Group Norm	N	Mean	SD	t	P
Norm for	16	4.06	1.34	0.62	NS
Norm against	15	4.33	1.05		