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THE IMPLEMENTATION OF SOCIAL COGNITIVE THEORY IN THE UNDERSTANDING OF THE UNAUTHORISED COPYING OF SOFTWARE

Alethea Wentzell

0205317T

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A Research Report submitted to the Faculty of Humanities, University of the Witwatersrand, Johannesburg, in partial fulfilment of the requirements for the degree Master of Arts by Coursework and Research Report in the Field of Industrial Psychology.

DECLARATION

I hereby declare that this research report is my own unaided work, except where due acknowledgement is made to others. It is being submitted in partial fulfillment for the degree of Master of Arts by Coursework and Research Report in the field of Industrial Psychology at the University of the Witwatersrand, Johannesburg. It has not been submitted for any degree or examination to any other university.

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Alethea Wentzell

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Date

ABSTRACT

Bandura's (1986) Social Cognitive Theory (SCT) embraces an interactional model of causation in which environmental events, personal factors and behaviour all operate as interacting determinants of each other. This study aims to develop a model that predicts and explains incidents of unauthorised copying of software using SCT. To do this, the current study explored the relationship between attitudes, self-efficacy and social norms, with an individual's intention to copy software illegally. In addition, moral disengagement was considered as a mediator of the relationship.

The study was conducted within one medium-sized South African Information Technology (IT) organisation, and one department of a large South African production organisation, within the surrounding Johannesburg area. In addition, a sample was also collected from four Zambian banking industries. The researcher received responses from 217 participants from across the organisations.

Firstly the relationship between attitudes, self-efficacy and social norms with regard to intentions were analysed, by using correlations. The results of the correlation indicated that there is a significant positive relationship between each of the variables and intention to the unauthorised copying of software. The model predicted by the researcher is then tested empirically according to Structural Equation Modelling (SEM). The results of the SEM presented the researcher with four models, which will each be discussed independently, as well as suggesting the model that best fits the data. A discussion of the findings is presented, in addition to the limitations of the study and possible recommendations for improvement.

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CHAPTER 1

INTRODUCTION

Societies of today are undergoing extraordinary informational, social and technological transformations and growth. Social changes and growth are not new over the course of history, but what is new is their enormity and accelerated pace. Rapid cycles of drastic change require continuous personal and social renewal (Bandura, 1997). One such societal growth is Information Technology, in particular, the software industry which is at the cutting edge of the information age and a major player in the global market (Gopal & Sanders, 1998). Gattiker and Kelly (1999, p. 233) have noted that "during the past two decades, society has witnessed a rapid evolution in and adoption of computer technologies and the Internet". These advances have brought forth many great accomplishments in many aspects of society, however, along with this development, it has "spawned new ethical dilemmas for computer users" (Simpson, Banerjee & Simpson, 1994, p. 431).

Software products or intellectual property is often the most valuable corporate asset in an increasingly information intensive economy, and is therefore particularly vulnerable to theft (Lending & Slaughter, 1999). The explosive growth of the Internet and other technologies has accentuated the software piracy problem (Lending & Slaughter, 1999). In South Africa there has been a proliferation of computer use, computer technology, and the introduction of new technology and the Internet. This has made the illegal reproduction and distribution of protected software material much easier to accomplish and more difficult to control, as it can be done with the click of a button (Beruk, 2000; Lending & Slaughter, 1999).

The unauthorised copying of software, which is better known as software piracy or softlifting, has become an increasing concern to businesses and software developers throughout the world (Beruk, 2000), especially in developing countries, where the unauthorised copying of software is extremely high (Gopal & Sanders, 1998). In these countries the demand for software is usually being met by piracy, and not by publishers. Software publishers are unable to compete with counterfeit operations that duplicate their programmes and distribute them directly to consumers throughout the world at cut-throat prices (Traphagan & Griffith, 1998).

In addition, the unauthorised copying of software is a major drain on the global economy, as losses of $200 billion are expected worldwide in a four year period (Business Software Alliance, 2006). The BSA estimated that in 2005 the worldwide software piracy rate was unchanged since 2004, with a rate of 35 % (BSA, 2007). However, the losses due to the unauthorised copying of software have increased from 2004 to 2005 by over $ 1.6 billion, to an estimated total of $34 billion. South Africa is one of the countries with the lowest piracy rates, but it still exceeds the world average rate. In 2004 South Africa had a piracy rate of 37%. This decreased to 36% for 2005 (BSA, 2007). Even though the piracy rate dropped by one percent the losses due to the unauthorised copied software increased dramatically as the losses for South Africa during 2004 were estimated around $196 million. This total has increased to $212 million for 2005 (BSA, 2007).

The BSA (2007, p. 1) stated that for “every two dollars’ worth of software purchased legitimately, one dollar’s worth was obtained illegally”. Other than creating a significant drain on the economy it impedes the continued growth of the software publishing industry

(Software Piracy Report, 1997). It is suggested that by lowering the piracy rates, countries are able to gain more economically, as more jobs and businesses are created (BSA, 2007).

Although some caution is necessary in interpreting the statistics provided by BSA, it is obvious that piracy is an increasingly important problem that educational institutions and companies are required to deal with (Limayem, Khalifa & Chin, 2004). Gopal and Sanders (1998) suggested that the unauthorised copying of software is by far the worst problem threatening the software industry; it is for this reason that it is important to understand why individuals choose to copy software illegally. This understanding could lead to more effective strategies for preventing the unauthorised copying of software (Lending & Slaughter, 1999).

The unauthorised copying of software is considered a prevalent problem in companies, academic institutions, and among individuals (Cheng, Sims & Teegen, 1997), as such there have been increased efforts to identify and prosecute these individuals. The fact that the unauthorised copying of software cost manufacturers billions yearly is one reason why manufacturers continuously seek new ways of discouraging these practises (Simpson, Banerjee & Simpson, 1994). Manufacturers and educators alike have implemented various policies, and examined a variety of influencing factors as a means to reduce the piracy problem. Despite these efforts to dampen the proliferation of piracy, the problem continues unabated (Simpson, Banerjee & Simpson, 1994). According to Forester and Morrison (1990), unauthorised copying of software is a widespread social problem that is here to stay.

Questions arise around what motivates people to copy software illegally. Many theorists have given answers to these questions, such as costs, economics and ease of copying, however,

considering the apparent failure of previous efforts to reduce software piracy, a new approach must be adopted. In particular, the purpose of the current research is to expand on the minimal research performed on Social Cognitive Theory (SCT) and the unauthorised copying of software. SCT embraces an interactional model of causation in which environmental events, personal factors and behaviour all operate as interacting determinants of each other (Bandura, 1986). SCT suggests that people are not only knowers and performers; they are also self-reactors with a capacity for self-direction. An individual's self-regulation of their motivation and action operates partly through their internal standards and evaluative reactions to their own performances (Bandura, 1996).

An important aim for this study is to develop a model that both predicts and explains incidents of unauthorised software copying. To do this, the current study will explore the possibility of a relationship between attitudes, self-efficacy and social norms of individuals to copy software illegally with an individual's intention to copy software. Further, one variable in particular, that is, moral disengagement will be considered as a mediator of the relationship. Moral disengagement however has not been empirically examined in terms of its capacity as a mediator in such a relationship. In addition, moral disengagement has been the focus of many studies focusing on violence and inhumanities towards individuals, with no focus on unauthorised copying of software. This limited focus tends to convey the impression that selective disengagement of moral self-sanctions occur only under extraordinary circumstances (Bandura, 1991; Bandura, 2000). However, this is quite the opposite as "such mechanisms operate in everyday situations in which decent people routinely perform activities that further their own interests but have injurious human effects" (Bandura, 1990, p. 162). In doing so, the current research is important to further the literature on information

technology and computer ethics, as it may lead to valuable theoretical insights into individuals' perspective on the unauthorised copying of software.

The outline of this report is as follows: The second chapter of the study will present the Social Cognitive Theory (SCT), the variables underlying it such as moral disengagement and self-efficacy. In addition, the past research completed on intentions, social norms and attitudes towards the unauthorised copying of software and the relationship of each of these concepts will be discussed. Chapter three will outline the method of the study, with particular reference to the research design adopted, the details of the sample and procedures, as well as the measuring instruments that were used for collecting the data. Chapter four will present the statistical results and findings, with relevant tables and graphs. Chapter five will discuss the result obtained from the previous chapter, as well as the limitations of the current study and future recommendations. Chapter six will be the concluding chapter, which will highlight the most important points of the research.

CHAPTER 2

LITERATURE REVIEW

As long as the personal computer has existed, unauthorised copying of software has been an important issue (Swineyard, Rinne & Kau, 1990). The BSA (2007) has established that unauthorised copied software is being used on desktops, laptops and ultra-portables. Firstly it is necessary to define software. Software is defined as "the set of instructions which tell a computer what to do" (Forester & Morrison, 1990, p. 27), thus without software, a computer is useless. Software is therefore an important asset, as all computers need it to function. Software categories include operating systems, systems software such as databases and security packages, applications software such as office automation packages, finance and tax packages, computer games, and industry specific applications (BSA, 2007).

Partly as a result, the unauthorised copying of computer programmes has become a major growth industry (Forester & Morrison, 1990). The unauthorised copying of software, better known as software piracy or softlifting, is the "making of unauthorised copies of software by individuals or businesses for resale or to use in the workplace, school or home" (Kini, Rominger & Vijayaran, 2001, p. 1). Gupta, Gould and Pola (2004) have taken their definition a step further by suggesting that it involves the copying and, or distribution of copyrighted software without the permission of the software manufacturer. The only exception is the user's right to make a single backup copy for archival purposes.

The unauthorised copying of software can be committed in a wide variety of ways, such as, the unauthorised temporary rental of software for monetary use, and installing unauthorised copies of software onto the hard disks of personal computers, which is often an incentive for the end user to buy the hardware from that unauthorised dealer (Beruk, 2000). Softlifting for

one is described as the purchasing of a single licensed copy of software and then distributing it amongst friends, co-workers and others (Beruk, 2000). This 'sharing' of software is the most pervasive form of unauthorised copying of software encountered and is estimated to be responsible for more than half the total revenues lost by the industry (Beruk, 2000).

The unauthorised duplication and distribution of software, are other forms designed to make pirated software appear to be legitimate. This is seen as software counterfeiting (Beruk, 2000). The inherent features of personal computers make the prevention of unauthorised copying of software a unique and difficult problem, as the duplication of most software packages requires only simple commands and mouse manipulations, and in addition, the quality of the duplicated software is high (Cheng, Sims & Teegen, 1997).

The Internet and other communication technologies has come a long way since its inception, creating various avenues of how one transfers data over the Internet, such as, Web sites, e-mail, online chat and file transfer protocols (FTP) (Beruk, 2000). Although this may be good for developing the Internet into a global information centre, it is not so good for preventing unauthorised copying of software from taking place, as these avenues create ways for piracy to thrive, and as such accentuate the piracy problem (Lending & Slaughter, 1999). This is due to the fact that ways of making unauthorised copies of software are available to others by electronic means, and the problem is likely to worsen with the further spread and development of these infrastructures (Beruk, 2000, Lending & Slaughter, 1999).

Today people use Internet Relay Chat (IRC) to discuss just about any subject with anyone, anywhere, in real-time. Software pirates use IRC to create chat rooms in which they can come together and discuss anything about software piracy (Beruk, 2000). They confer in

relation to the terms for breaking software program codes, and the serial numbers of software programmes, as well as where to find the software free or for an extremely discounted price (Beruk, 2000). Software pirates however do not only distribute amongst themselves; they are now selling unauthorised copies of software on illegal online auction sites to the general public.

These programmes are sold for a fraction of the original price (Beruk, 2000). In addition, software pirates are setting up their own Web sites allowing illegal distribution of software and digital content, either by allowing the public to download software illegally from a Website, or software pirates sell the illegally manufactured software copies that they have recorded to blank recordable CDs, via e-mails (Beruk, 2000). The ease of duplication, coupled with the ease of downloads from the Internet through DSL and cable modem connections, means that law enforcement agencies are faced with various new and challenging avenues of trafficking pirated software (Beruk, 2000).

2.1. PAST RESEARCH WITHIN THE FIELD OF UNAUTHORISED SOFTWARE COPYING

In order to understand the relevance of this research and the impact it may have on future research, it is important to examine previous studies that report correlates of unauthorised software behaviour. Many studies approached this unauthorised software copying behaviour as dimensions of demographic factors, such as gender, career orientation, age and computer use (Gopal & Sanders, 1997; Seale, Polakowski & Schneider, 1998; Siponen & Vartainen, 2005; Solomon & O'Brian, 1991). These earlier research attempts aimed specifically at understanding unauthorised software copying, despite being valuable, provide somewhat limited theoretical direction. Recognising that this behaviour may hinge on moral, ethical or

attitudinal concerns, researchers turned to popular theories to explain the motivation behind the unauthorised copying of software. To date, the theory on which this line of research is frequently based is the Theory of Reasoned Action (TRA), proposed by Ajzen and Fishbein (1980). However, it is important to note that this study is not approaching the unauthorised copying of software from a TRA or Theory of Planned Behaviour (TPB) perspective. The study is focusing on the main concepts, such as attitudes, social norms and intentions within these theories as a means to apply them in Social Cognitive Theory.

The TRA relates an individual's attitudes and social norms to intentions to act (Al-Rafee & Cronan, 2006; Lending & Slaughter, 1999; Limayem, Khalifa & Chin, 2004; Vallerand, Cuerrier, Pelletier & Mongeau, 1992). Intentions are believed to capture the sum of an individual's intention to perform a given behaviour; they are indicators of planned effort, or how hard a person is willing to work to perform certain behaviour. There are two main determinants of intention: attitudes and social norms (Seale, Polakowski & Schneider, 1998).

Attitudes for one are defined as "enduring, learned predispositions toward responses directed at some object, person, or group" (Loch & Conger, 1996, p. 75). Attitudes are a function of the salient beliefs a person holds regarding the perceived consequences of performing a behaviour and the evaluation of these consequences (Seale, Polakowski & Schneider, 1998). It is suggested that if an individual views the unauthorised copying of software as wrong, they are unlikely to intend to steal it. According to Al-Rafee and Cronan (2006), attitude is seen to be the best predictor of intention. Social norms on the other hand are defined as "perceived social pressure to an individuals' perception of whether most people important to them think that the behaviour should be performed or not" (Limayem, Khalifa & Chin, 2004, p. 416). Thus, it is seen as the norms and values at the societal level that are conveyed

through interactions with friends, colleagues and family members (Limayem, Khalifa & Chin, 2004). As attitudes and social norms become more favourable, the likelihood of performing certain behaviour increases (Seale, Polakowski & Schneider, 1998). Intentions indicate "how hard a person is willing to try, and how much effort he or she plans to exert, in order to perform a behaviour" (Rahim, Seyal & Rahman, 2001). Thus, the stronger the intent to perform a behaviour, the greater the likelihood that an individual will engage in that behaviour. Azjen and Fishbein (1980) postulated that an individual will behave in accordance with his or her intention, therefore, within the context of the unauthorised copying of software, if an individual intends to pirate software, he or she is likely to carry out the actual behaviour, unless something intervenes.

Loch and Conger (1996) found that attitudes and social norms significantly affect intentions to perform unauthorised software copying. Trafimow and Finlay (1996) found that attitudes are the most significant predictor of intention to pirate software compared to social norms. However, social norms account for a significant proportion of variance in intentions. In addition, many theorists have employed TPB towards the unauthorised copying of software (Al-Rafee & Cronan, 2006; Lending & Slaughter, 1999; Limayem, Khalifa & Chin, 2004).The TPB is an extension of the TRA, whereby a third construct, perceived behavioural control (PBC) is added to the original TRA. PBC refers to the "perceived control over a given behaviour or behavioural goals" (Ajzen, 1989, p. 105).

However, the appropriateness of TRA and TPB in the line of unauthorised software copying has been questioned by researchers. Loch and Conger (1996) believe that unauthorised copying of software involves complexities and other factors that cannot be captured in their entirety by just focusing on two concepts, namely, attitudes and social norms. In addition, it

is believed that, the perceived behavioural control construct within TPB is not well defined, and as such, could be a problematic construct, based on the principle of compatibility (Kuo & Hsu, 2001).

The purpose of this research is to develop a model, based on Bandura's SCT to serve as an additional avenue to focus on unauthorised copying of software. Concepts such as social norms, attitudes, self-efficacy and intentions towards the unauthorised copying of software will be taken into consideration. The relative importance of these concepts in predicting behaviour is important to the current research, therefore from the above discussion, will be included in the study. In doing so, the current research is important to further the literature on Information Technology and computer ethics, as it will hopefully lead to valuable theoretical insights into individuals' perspective on the unauthorised copying of software.

2.1. SOCIAL COGNITIVE THEORY (SCT)

Bandura (1986) advanced the view of human functioning that accords a central role to cognitive, self-regulatory and self-reflective processes in human adaptation and change. People are viewed as self-organizing, proactive, self-reflecting and self-regulating rather than as reactive organisms shaped and driven by environmental forces, or motivated by hidden inner impulses (Bandura, 1986: Bandura, 1997). From this theoretical perspective, human functioning is viewed as the product of a dynamic interplay of personal, behavioural, and environmental influences. This is the foundation of Bandura's (1986) conception of interaction, based on triadic reciprocality, as seen in Figure 1.

In this transactional view of self and society, internal personal factors in the form of cognitive, affective and biological events; behaviour and environmental events, all function

as interacting determinants that influence one another bidirectionally (Bandura, 1986; Bandura, 1997). For example, how people interpret the results of their own behaviour informs and alters their environments and the personal factors they posses, which in turn, inform and alter subsequent behaviour.

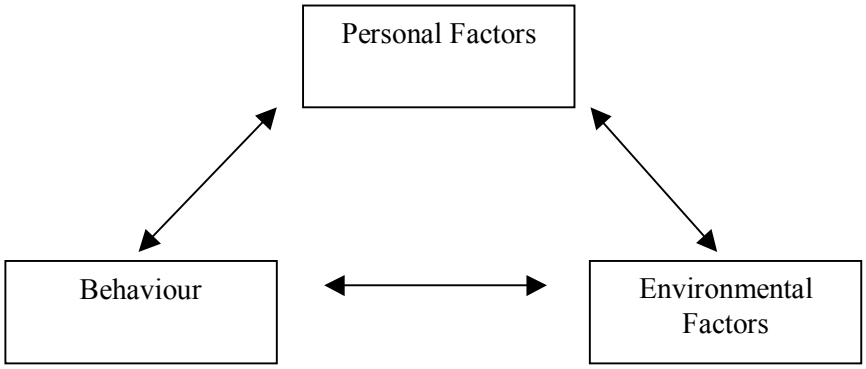


FIGURE 1: The relationship between the three major classes of determinants in triadic reciprocal determinism. (Adapted from Bandura, 1986, p. 263)

Social cognitive theory is rooted in the view of human agency, in which individuals are agents proactively engaged in their own development and can make things happen by their actions (Bandura, 1991). Bandura (1986) suggested that desire and intention alone, do not have much effect if people lack the capability for exercising influence over their own motivation and behaviour. Through agentic action, people devise ways of adapting flexibly to remarkably diverse social environments; individuals figure out ways to circumvent physical and environmental constraints; redesign and construct environments to their liking; and create styles of behaviour that enable them to acquire desired outcomes (Bandura, 2001).

This multifaceted self-directedness operates through self-regulatory processes that link thought to action (Bandura, 2001). In this self-regulatory process, individuals engage in a

number of cognitive functions by monitoring their behaviour and the environmental conditions under which it occurs; judging their actions in relation to their moral standards and perceived circumstances; and regulating their actions anticipatorily by the consequences they would apply to themselves (Bandura, 1999; Osofsky, Bandura & Zimbardo, 2005).

In SCT, transgressive conduct is regulated by both social sanctions and internalised self-sanctions that operate concurrently and anticipatorily. In control arising from social sanctions, people refrain from transgressing because they anticipate that such conduct will bring them self-censure and other adverse consequences (Bandura, 1991). In self-reactive control, they behave prosocially out of self-satisfaction and self-respect and they refrain from transgressing because such conduct will give rise to self-reproof (Bandura, 1991). Thus, anticipatory self-sanctions keeps conduct in line with internal standards. It is through this ongoing process of self influence that moral conduct is motivated and regulated (Bandura, Barbaranelli, Caprara & Pastorelli, 1996). Individuals can therefore choose to behave other than in unfavourable ways (Jackson & Sparr, 2005). Such self-regulatory processes can operate inhibitively or proactively. Bandura (1999) suggests that abstaining from unfavourable behaviour represents the inhibitive form of moral agency, whereas behaving in an unfavourable manner reflects the proactive form.

However, one important factor in the effect of self-regulation is the need to activation. The self-regulatory functions do not create an invariant control system within a person, as these self-reactive influences do not operate unless they are activated, and there are many psychosocial processes by which self-sanctions can be disengaged from unfavourable behaviour (Bandura, 1990; Bandura, 1991). Selective activation and disengagement of internal control permits different types of conduct with the same moral standards (Bandura,

1986). If self-sanctions are not activated to some extent or fail to be activated completely, they do not come into play (Jackson & Sparr, 2005). As such, they become disengaged from unfavourable behaviour which can be shown without the negative consequences on one's self, such as guilt (Caprara & Capanna, 2004).

Social norms, as well as intentions play a prominent role in the self-regulation of behaviour, which is an integral part of SCT (Bandura, 1986). Norms according to LaRose and Kim (2007), act through the judgemental process component of the self-regulatory mechanism, whereby individuals are constantly observing their behaviour and judging its appropriateness compared to the norms of appropriate conduct. If an individual finds his behaviour inconsistent with the norm then he or she may apply self-reactive incentives to modify their behaviour (LaRose & Kim, 2007). These incentives might include indulging feelings of guilt or providing themselves with rewards for improved behaviour, that would bring the individual back to norm compliance. In TPB, social norms are believed to act directly on behavioural intentions, rather than through intermediate processes of self-regulation, as SCT would suggest (LaRose & Kim, 2007).

As discussed earlier, individuals can choose to behave accommodatively or, behave otherwise through the exercise of self-influence (Bandura, 2001). Intentions according to Bandura (1986) are seen as the determination of a person to perform certain activities or to bring about a certain future state of affairs. Thus, Bandura (2001) speaks of intentions grounded in self-motivations affecting the likelihood of actions at a future point in time. Self-regulatory systems lie at the heart of causal processes, they not only mediate the effects of most external influences but also provide the very basis for purposeful action (Bandura, 1997). Most behaviour however is seen as being purposeful, and thus regulated by forethought. Individuals form beliefs about what they can do, they anticipate the likely

consequences of prospective actions, and set goals for themselves, and they otherwise plan courses of action that are likely to produce desired outcomes. Intentions are mediated by self-influences, whereby individuals seek self-satisfaction from fulfilling valued standards and are prompted to intensify their efforts by discontent with substandard performances (Bandura, 1997).

Self-regulation also encompasses the self-efficacy mechanism, which plays a central role in the exercise of personal agency by its strong impact on thought, affect, motivation and action (Bandura, 1991; Bandura, 1997).

2.3. SELF-EFFICACY

People are not only agents, but self examiners of their own functioning, whereby they are able to reflect upon themselves and the adequacy of their thoughts and actions. Individuals evaluate their motivation, values and the meaning of their pursuits (Bandura, 2001). Among the mechanisms of personal agency, none is more central or pervasive than an individual's beliefs in their capability to exercise some control over their own functioning and over environmental beliefs (Bandura, 1991). Unless people believe they can produce desired results and prevent detrimental ones by their actions, they have little incentive to act or to persevere with difficult or unfavourable situations. Self-efficacy refers to an individual's convictions (or confidence) about their abilities to mobilise cognitive resources and courses of action needed to execute a task successfully within a given context (Bandura, 1989; Bandura, 1991).

Bandura's (1997, p. 2) key argument regarding the role of self-efficacy beliefs is that "people's level of motivation, affective states, and actions are based more on what they

believe than on what is objectively true". SCT suggests that people base their behaviour on both the effects of contingent reinforcement and their self-efficacy judgments of how well they can perform the behaviours necessary to achieve the consequences. An important theoretical property of self-efficacy is that it is concerned not with the skills a person has but with "judgments of what one can do with whatever skills he or she possesses" (Bandura, 1986, p. 391). That is, it is necessary to distinguish between one's component skills e.g. driving a motorcar. An individual would use component skills such as steering, braking and signalling. In addition, his or her ability to organize and execute courses of action e.g. while driving a motorcar, an individual would accomplish certain behaviours like driving in traffic or navigating through winding mountain roads (Bandura, 1986).

Individuals tend to select tasks and activities in which they feel competent and confident and avoid those in which they are not, thus when an individual has high self-efficacy, they feel confident that they can execute the responses necessary to earn reinforcers (Bandura, 1997). When self-efficacy is low, individuals worry that the necessary responses may be beyond their abilities. In addition, the higher the sense of self-efficacy, the greater the effort, persistence and resilience will be in the face of adverse or difficult situations (Bandura, 1986; Bandura, 1997) As such, self-efficacy influences the choices and courses of action individuals pursue, and how much effort an individual will expend on an activity.

Individuals operate collectively as well as individually; therefore self-efficacy is both a personal and a social construct (Pajares, 2002). The stronger the perceived self-regulatory efficacy, the more perseverant people are in their self-controlling efforts and the greater is their success in resisting social pressures to behave in ways that violate their standards.

Conversely, a low sense of self-regulatory efficacy heightens vulnerability to social pressures for illegal conduct (Bandura, 1991).

Efficacy beliefs play a key role in influencing the types of activities and environments people choose to get into (Bandura, 2001). The rapid growth of informational, social and technological change is placing a premium on personal efficacy for self-development and self-renewal throughout the life course (Bandura, 2001). Today, the Internet provides vast opportunities for individuals to access unauthorised copied software, which is unrestricted by time and place.

Bandura (1986) suggested that self-efficacy beliefs play an important role in mediating a person's goal-setting, thought patterns, strategies and actions chosen for the exercise of human agency and behaviour. This statement would suggest that the more capable individuals judge themselves to be, the higher the goals they set for themselves and the more firmly committed they remain to them (Bandura, 1991). In addition, even highly self-efficacious individuals may choose not to behave in concert with their beliefs and abilities, because they simply lack the incentive to do so, because they lack the necessary resources or, they perceive social constraints in their envisioned path or outcome. As such, efficacy will fail to predict performance, as individuals may feel capable, but do not act, due to feeling impeded by real or imaginary constraints (Pajares, 2002).

Much research has been conducted in applying self-efficacy to research human behaviour (Bandura, 1997; Compeau & Higgins, 1995). Bandura and Wood (1989) found self-efficacy perceptions to influence decisions on what behaviours to undertake, and the level of commitment and persistence in attempting those behaviours (Hollenbeck & Brief, 1987). In

general, researchers have established that self-efficacy is an excellent and more consistent predictor of behavioural outcomes than any other motivational construct (Graham & Weiner, 1996). Compeau and Higgins (1995) discussed the importance of self-efficacy on an individuals' reaction towards computer technology, and as such created the construct of computer self-efficacy. This term is defined as "an individual judgement of one's capability to use a computer" (Compeau & Higgins, 1995, p. 192). As such, in a study conducted by Kuo and Hsu (2001), using a sample of 243 students, they found that self-efficacy was an important aspect in the unauthorised copying of software, as individuals with higher levels of self-efficacy were more likely to engage in illegal software copying.

2.3. MORAL DISENGAGEMENT

"Morality is concerned with the behaviour of individuals who choose, implement, and bear the consequences of their actions" (Gattiker & Kelley, 1999, p. 235). Morality is seen to exert an objective restriction on the pursuit of individual interests in the face of societal objectives and, as such, provide an individual with the necessary constraints to function in society (Gattiker & Kelley, 1999). Clear-cut moral issues have become more difficult to define in a society in which technological change occurs at an increasing rate, and where national boundaries are becoming more obscure (Gattiker & Kelley, 1999). Bandura (1999) describes morality as the mechanisms that help people live in agreement with their moral standards. These moral standards are adopted during the course of socialisation, from information expressed by direct guidance, evaluative social reactions to one's behaviour, and exposure to the self-evaluative standards represented by others. In addition, these moral standards act as guidelines for behaviour (Bandura, Barbaranelli, Caprara & Pastorelli, 1996).

Bandura (1999) views moral disengagement as the cognitive mechanism that allows the restructuring of malign behaviour into benign behaviour. According to Bandura (1999), when people become morally disengaged they are able to justify illegal acts with a clear conscience. Moral disengagement has been examined most extensively in the area of political and military violence (Bandura, 1990). This limited focus tends to convey the impression that selective disengagement of moral self-sanctions occurs only under extraordinary circumstances. However, these mechanisms operate in everyday situations in which normal people routinely perform activities that further their interests but have negative effects on others (Bandura, 1990). Gabor (1994) for one, documents the pervasiveness of moral disengagement by people of all statuses in all walks of life.

The Processes of Moral Disengagement

Mechanisms of moral disengagement, specifically, the psychological manoeuvres by which moral self-sanctions get disengaged giving free way to a variety of transgressions without carrying any moral concern, have been originally investigated in relation to aggression and inhumane conduct leading to the identification of eight mechanisms (Bandura, 1986). They are moral justification, euphemistic labelling, advantageous comparison, displacement of responsibility, diffusion of responsibility, distortion of consequences, dehumanisation and the attribution of blame (Bandura, 1986).

Bandura (1986; 1999) (See Figure 2) identified four major points in the self-regulatory system, at which internal moral control can be disengaged from transgressive behaviour. The disengagement may centre on the conduct itself so it is not viewed as immoral; the operation of the agency of action so that the perpetrators can minimize their role in causing harm; in the

consequences that flow from actions; or on how the victims of maltreatment are regarded (Bandura, 1999).

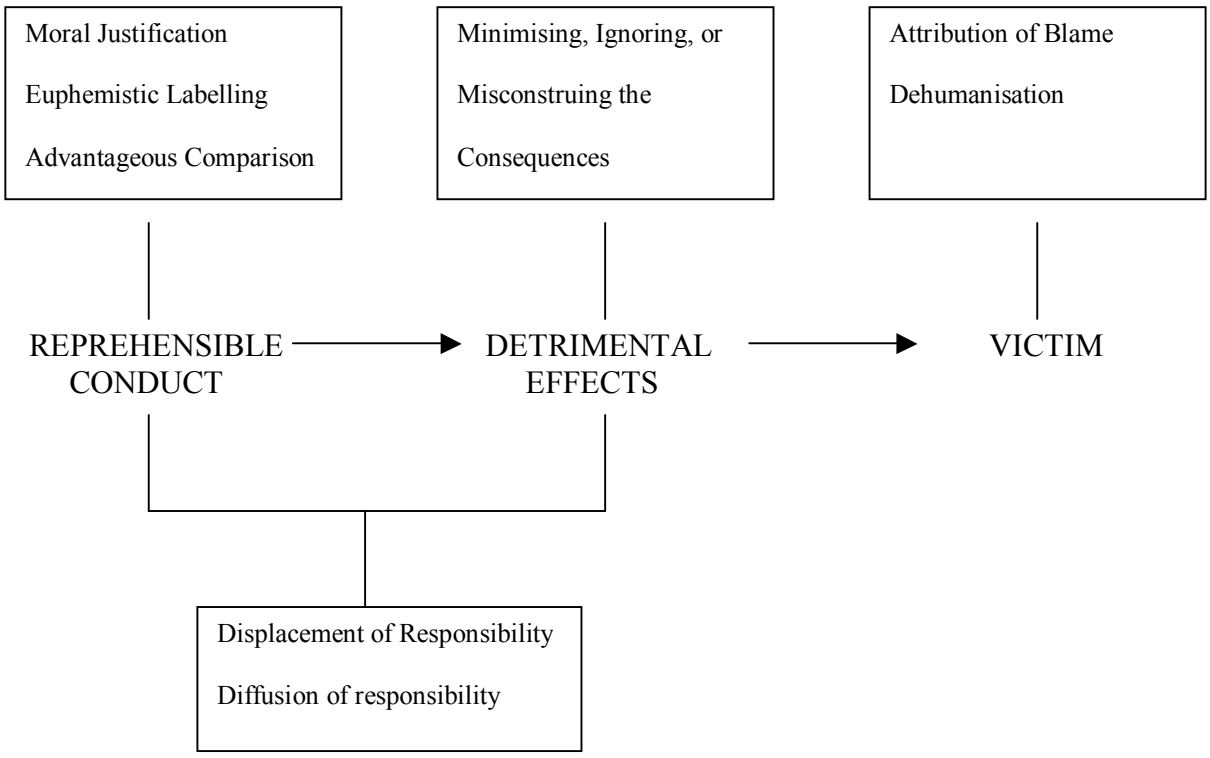


FIGURE 2: Mechanisms through which internal control is selectively activated or disengaged from conduct at different points in the self-regulatory process (Bandura, 1986, p. 376).

Conduct as the focus of moral disengagement

Negative and immoral actions cannot simply be conducted without negative consequences for the self. Therefore the behaviour itself needs to be reconstructed (Jackson & Sparr, 2005). Functioning at the behaviour locus are three separate disengagement mechanisms that convert the construal of injurious conduct into righteous conduct (Osofsky, Bandura & Zimbardo, 2005), namely, moral justification, euphemistic labelling and advantageous comparisons (Bandura, 1986).

People do not ordinarily engage in reprehensible conduct until they have justified to themselves the morality of their actions (Bandura, 1999). Moral justification describes how harmful behaviour is portrayed as serving morally right, acceptable or even desirable outcomes and purposes (Bandura, Caprara & Zsolnai, 2000). In this process transgressive behaviour is made personally and socially acceptable by portraying it as righteous, or even a necessity for reaching desirable goals (Jackson & Sparr, 2005).

Language shapes people's thought patterns on which they base many of their actions (Bandura, Barbaranelli, Caprara & Pastorelli, 1996). Activities can take on markedly different appearances depending on what they are called. Euphemistic labelling thus provides a convenient tool for masking reprehensible behaviour or even conferring a respectable status upon them (Bandura, 1986). Words with negative connotations are avoided or replaced by paraphrases or images with positive implications (Bandura, 1999). Passively phrased passages also serve the purpose of sanitizing language by suggesting an action is agentless (Bolinger, cited in Bandura, 1999). By doing this the transgressive behaviour is made benign and those who engage in it are relieved a sense of personal agency (Bandura, 1986).

Behaviour can also assume very different qualities depending on what it is contrasted with (Bandura, Barbaranelli, Caprara & Pastorelli, 1996). Advantageous comparison, as the third disengagement mechanism on the conduct-level, describes the tendency to contrast negative or harmful behaviour against even greater atrocities or wrongdoings. In that way, reprehensible conduct can be turned into acceptable, righteous behaviour (Bandura, 1986; Jackson & Sparr, 2005). The more deliberate the contrasted activities, the more likely it is that one's own injurious conduct will appear insignificant or even benevolent (Bandura, Caprara & Zsolnai, 2000).

Cognitive restructuring of behaviour through moral justification and advantageous comparison is the most effective self-disinhibitor because it not only eradicates self-generated restraints but engages self-reward in the service of transgressive enterprises. What was once morally unacceptable becomes a source of self-pride (Bandura, 1986).

The agentic role of action as the focus of moral disengagement

The second set of disengagement mechanisms operates at the agency locus by obscuring or minimizing the perpetrator's agentic role in the transgressive behaviour (Osofsky, Bandura & Zimbardo, 2005). A necessity for moral control is the acknowledgement of one's own wrongdoings. If, however, the responsibility for the harm one causes is reduced or obscured, the possibility of acknowledgement of responsibility and self-control is lessened. Two disengagement mechanisms operate through disavowal of personal agency in the harm one causes. This is achieved by diffusion and displacement of responsibility (McAlister, Bandura & Owen, 2006).

Displacement of responsibility allows reprehensible conduct, as a person's behaviour is merely seen as simply following orders (Bandura, 1986; 2002). Thus, people do not feel personally responsible for their actions, and as such they are spared self-prohibiting reactions (Bandura, 1986). Consequently, they are willing to behave in ways they normally renounce if a legitimate authority accepts responsibility for the effects of their actions (Bandura, Caprara & Zsolnai, 2000).

The exercise of moral control is also weakened when personal agency is obscured by diffusion of responsibility for negative behaviour (Bandura, Barbaranelli, Caprara & Pastorelli, 1996). Responsibility can be diffused in three ways; by division of labour, group decision-making and collective action. Division of labour for tasks is the means by which different members perform subdivided tasks that seem harmless in themselves but harmful in its entirety (Bandura, Caprara & Zsolnai, 2000; Osofsky, Bandura & Zimbardo, 2005). Group decision-making is another common practice, one that enables otherwise considerate people to behave in a disapproving manner, as any harm done by a group can always be attributed largely to the behaviour of others, thereby releasing any individual from feeling personally responsible (Bandura, 1986). Lastly, stemming from the prior argument, it suggests that by engaging in collective action, it provides some degree of personal anonymity while minimizing individual accountability (McAlister, Bandura & Owen, 2006). Bandura (1999, p. 198) stated that diffusion of responsibility could be explained by one statement, "When everyone is responsible, nobody feels responsible".

The effects of action as the focus of moral disengagement

For self-censure and self-sanctions to take place, not only the action itself and responsibility for the action have to be accepted, but also the negative effects of detrimental behaviour have

to be recognized, and therefore perceived as such (Jackson & Sparr, 2005). The third set of disengagement mechanisms looks at the outcome locus, which is achieved by minimizing or disregarding the harmful consequences of one's action, this is called distortion of consequences (Bandura, 1999).

Distortion of consequences is when people pursue transgressive activities that are harmful to others for personal gain, or because of social pressures. Thus, by doing this they avoid facing the harm they cause or they minimize it (Bandura, Caprara & Zsolnai, 2000). As long as the negative outcomes are ignored, minimized, or disbelieved there is little reason for moral self-regulation to be activated (Bandura, 1986; Osofsky, Bandura & Zimbardo, 2005).

The victim as the focus of moral disengagement

The final set of moral disengagement mechanisms operates at the locus of the recipients' consequences. The strength of self-evaluative reactions partly depends on how the perpetrators view the people toward whom the behaviour is directed (Bandura, 1986). Transgressive behaviour is therefore morally disengaged through dehumanisation and attribution of blame (Bandura, 1999). Dehumanisation refers to the process of divesting people of human qualities or attributes bestial qualities, thus viewing them as subhuman objects (Bandura, 1986). When this happens, it becomes possible to discriminate against individuals, and deprive them of their basic rights and opportunities (Jackson & Sparr, 2005).

Blaming one's adversaries or circumstances is still another manoeuvre that can serve self-exonerative purposes. In attribution of blame, people view themselves as flawless victims motivated to injurious conduct by forcible provocation (Bandura, Barbaranelli, Caprara & Pastorelli, 1996). Victims are therefore blamed for bringing the transgressive behaviour onto

themselves (Bandura, 1986). Forcing the blame on others or on circumstances, not only excuses the individual's own transgressive behaviour, but it could also result in feelings of self-righteousness in the process (Bandura, Caprara & Zsolnai, 2000).

Moral disengagement can affect transgressive behaviour both directly and indirectly (Bandura, 2002). People have little reason to be troubled by guilt or to feel any need to make amends for harmful conduct if they reconstruct it as serving worthy purposes or if they disown personal agency for it. High moral disengagement is accompanied by low guilt, thus weakening anticipatory self-restraints against engagement in negative behaviour (Bandura, Caprara & Zsolnai, 2000). Morally disengaged people assign high precedence to self-enhanced ideals. As such, they are constantly seen as pursuing their own relative success, while they do not take others into consideration because their interests are more important (Bandura, 2002).

Likely, similar self-exonerative manoeuvres operate to justify reprehensible behaviours and rule violations other than aggression and violence (Caprara & Capanna, 2004). It is not difficult to evoke behaviours that attest to mechanisms of moral disengagement, not only in the sphere of aggression, violence and inhumane conduct. Likely moral thought and behaviour can dissociate from each other in the service of self-interest in a variety of contexts like the family, the work setting, and the school (Caprara & Capanna, 2004). For this reason, moral disengagement could be viewed within the research context of unauthorised software copying.

Lucidi, Zelli, Mallia, Grano, Russo and Violani (2008) assessed social cognitive mechanisms on the use of doping substances among students. Their data showed that individuals'

intention to use substances increased with stronger attitudes about substance use, stronger beliefs that significant others would approve of their use, a stronger conviction that doping could be justified, and a lowered capacity to resist social pressures. In turn, stronger intentions and moral disengagement contributed to a greater use of substances.

In terms of SCT there is no available past research with regard to the unauthorised copying of software. One study did focus on SCT in music downloading (LaRose & Kim, 2006), however, this research paper presented many problems. Firstly it should be noted that the sample used in LaRose and Kim's (2006) study consisted of 134 participants of a proposed 600 individuals, suggesting a low response rate. Additionally, 70% of the sample was below the age of 21. The participants were recruited via campus email invitation, which did not result in a representative sample, even if computer ownership was a prerequisite for each student attending the University. In addition, these participants can be viewed as volunteers, suggesting that volunteers are more likely to be high risk seekers (Rosnow & Rosenthal, 1991), and as such more inclined to the unauthorised copying of software. Thus the sample is not representative of the population. With regard to the measuring instruments, it is suggested by Terre Blanche and Durrheim (1999) that .75 is seen as an acceptable cut off point for an alpha coefficient. However, internal reliability for half the scales were below average and unacceptable, (e.g. subjective norms .63, download intention .66, economic outcomes .64, moral justification .69, and self-efficacy .71) (LaRose & Kim, 2006, p. 274). In addition, the design of the study was cross sectional, which does not allow for causal interpretations.

LaRose and Kim (2006) took moral justification into consideration in their study. They proposed that moral justification is a predictor of intentions to continue illegal downloading. However from the results, the researchers found weak correlations between moral

justification with regard to self-efficacy (r= 0.38; p ‹ 0.01), with intention (r= 0.32; p ‹ 0.01), and subjective norms (r= - 0.21; p ‹ 0.05). In addition, from the structural equation model the researchers presented, they found the path between moral justification and intentions to continue downloading music to be nonsignificant.

These results could be due to the fact that the researchers used a structural equation model (SEM) to analyze the data on 134 participants, which is not feasible, as SEM is very sensitive to sample size, and a minimum of 200 participants is required (Hardy & Bryman, 2004). Yuan and Bentler (1999) suggested that if a sample size is not large enough it could lead to the rejection of an apparently well-fitting model. In addition, the model is only fitted according to three indices such as CFI, RMSEA and χ^2, which is not sufficient. As such, the model presented by LaRose and Kim (2006) is questionable.

Model Proposed for this Study

A mediator is a "variable that stands causally between a predictor and some variable on which it has an effect, and that account, in whole or in part, for that effect" (Cohen, Cohen, West & Aiken, 2003, p. 676). Figure 3 depicts a simple standard mediation, which will be used to clarify the meaning of mediation.

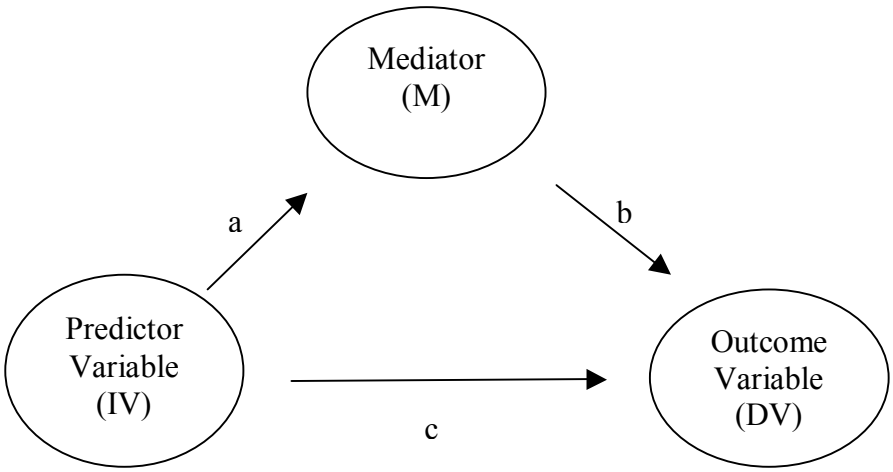


FIGURE 3: Simple and Standard Mediation Model (adapted from Baron & Kenny, 1986).

The model assumes a three-variable system, creating two paths feeding into the outcome variable (DV). The direct impact of the independent variable (predictor) on the outcome variable (Path c), and the impact of the mediator on the outcome variable (Path b), in addition there is also a path from the independent variable (predictor) to the mediator (Path a) (Baron & Kenny, 1986). According to Iacobucci, Saldanha and Deng (2006), some extent of mediation is indicated when both of the relationships between predictor (IV) and mediator, and mediator and outcome (DV) coefficients are significant.

A model developed by the researcher is presented in Figure 4. The model tied together three predictor variables (i.e. self-efficacy, social norms and attitudes), and a mediator (moral disengagement) with the outcome variable (intentions).

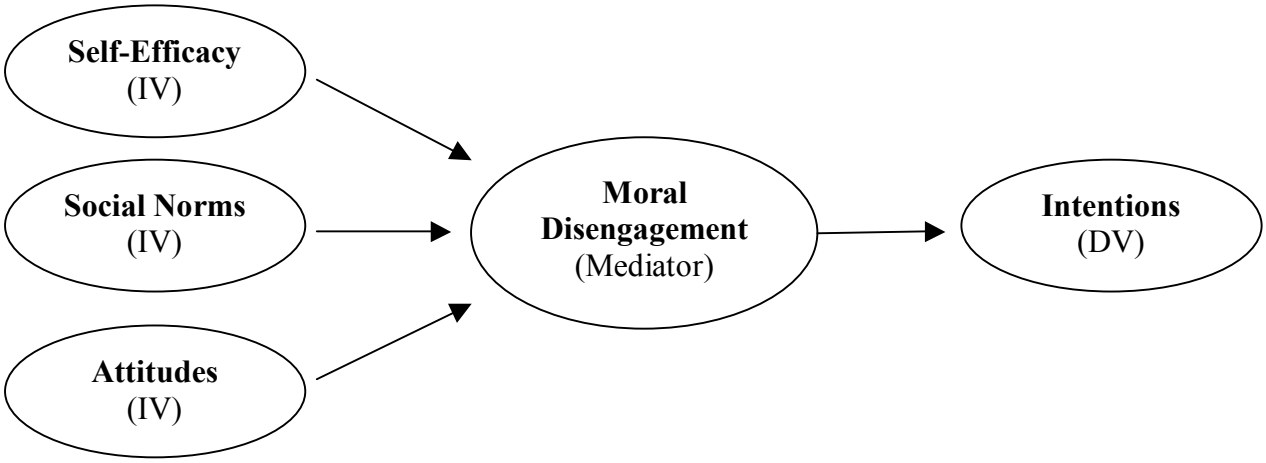


FIGURE 4: Theoretical model of Moral Disengagement as a mediator for the relationship between the predictors (i.e. attitudes, social norms and self-efficacy) with an individuals' intention to the unauthorised copying of software.

Moral disengagement for one has not been empirically examined in terms of its capacity as a mediator in such a relationship. It is predicted that if an individual is involved in the unauthorised copying of software, he or she will show higher levels of moral disengagement compared to those individuals who do not copy software illegally. In addition, it is also predicted that positive attitudes, social norms and self-efficacy beliefs towards the unauthorised copying of software, would show higher levels of moral disengagement, compared to individuals who do not favour illegal software copying. It is also predicted that moral disengagement positively relates to intentions to unauthorised copying of software, since individuals with strong intentions to unauthorised copying of software may disengage to maintain their behaviour as being innocent. If this is the case, then the researcher expects

moral disengagement to mediate the relationship between attitudes, social norms and self-efficacy, with an individual's intention to unauthorised copying of software.

This mediation could effect this relationship in numerous ways. For one, social norms act through the judgemental process component of the self-regulatory mechanism, whereby individuals are constantly observing their behaviour and judging its appropriateness compared to what is morally right. Thus if an individual views important others as participating in the unauthorised copying of software, they have low self-efficacy, and they have favourable attitudes towards the unauthorised copying of software, they are likely to perform the act of illegal software copying. However, this act is strengthened as the individual will morally disengage themselves from this transgressive conduct, so they would not feel guilty or self-censure. Thus, moral disengagement is included as a mediator in attempting to explain the basic relationship.

2.4. RESEARCH QUESTIONS

From the above discussion it is clear that there could be possible relationships between these variables. The study intends to provide a greater understanding and a more in-depth description of the relationship between these variables, as well as providing a model which could build on SCT within the area of unauthorised software copying. The aim of the research is twofold: Firstly, to use SCT in the elaboration of a model that can identify key factors influencing software piracy. This model should also explain the relationship between individuals' intentions to pirate software and individuals' attitude, social norms and self-efficacy of software piracy. Secondly, the research is considering moral disengagement as a mediator within the developed model. Moral disengagement for one has not been empirically examined in terms of its capacity as a mediator in such a relationship.

As such, the research questions for the current study are:

1. There is a positive relationship between attitudes and intentions to unauthorised copying of software.

2. There is a positive relationship between self-efficacy and intentions to unauthorised copying of software.

3. There is a positive relationship between social pressures and intentions to unauthorised copying of software.

4. Moral disengagement mediates the relationship between self-efficacy, attitudes and social norms; and intention to unauthorised copying of software.

CHAPTER 3

METHOD

This chapter provides information on the methods used and procedures followed in completing the current research. The purpose for this is to indicate that the methods and procedures used are plausible and reliable, and generalizable to the population. The chapter includes a detailed description of the research design and sample, the data collection procedures, the instruments and measures that were utilised, and the analysis techniques that were carried out in the research.

3.1. RESEARCH DESIGN

Terre Blanche and Durrheim (p. 483, 1999) describe a research design as "a strategic framework or plan that guides research activity to ensure that sound conclusions are reached". As such, a research design attempts to answer the research questions, by employing different combinations of methods and procedures, such as the types of measurements, sampling, data-collection and data-analysis methods that were employed in the current study, as well as the sequence in which they were employed (Babbie & Mouton, 2004). The current study adopted a quantitative, non-experimental, exploratory, cross-sectional, correlational research design.

The current research is exploratory in nature, as the subject of study is relatively new (Babbie & Mouton, 2004). The relationship between certain aspects of Social Cognitive Theory, such as moral justification, self-efficacy, social norms and intentions to unauthorised copying of software have been given some attention, however no previous attempts have been made to intentionally explore Moral Disengagement as a Mediator. As such, this research attempts to establish the nature of the relationship between attitudes, self-efficacy, social norms and an

individual's intention to unauthorised copying of software and to examine Moral Disengagement as a Mediator of the relationship between attitudes, self-efficacy, social norms and intentions to unauthorised copying of software.

The design is non-experimental as there is no control or manipulation of the independent variable. In addition to this, there is no control group or random assignment (Leedy, 1993). Non-experimental research is the most logical, practical analysis from which inferences about the relationship between variables can be made, rather than cause and effect relationships (Kerlinger, 1986).

As this research involves the observation of the variables at a single point in time, it is cross-sectional in nature (Babbie & Mouton, 2004; Rosnow & Rosenthal, 1991). Finally, in attempting to describe relationships and associations that exist between the variables, the current research is correlational in nature (Rosnow & Rosenthal, 1991; Terre Blanche & Durrheim, 1999).

3.2. SAMPLE

The selection of participants for the study presented a considerable challenge, as the number of computer-users within South Africa and organisations have increased at a considerable rate. It is therefore difficult to select a representative sample, for this reason the researcher felt that using probability sampling would not be appropriate or feasible for the current study, as such, the researcher focused on organisations where computer use was a fundamental feature in the job design. Non-probability sampling was utilised as the sampling procedure within the current study, in particular, purposive or judgemental sampling.

Non-probability samples are not selected according to the principle of statistical randomness, but rather, it was selected according to its convenience or accessibility (Terre Blanche & Durrheim, 1999). This creates two problems for the researcher, firstly, that there is no way to estimate the probability of each element being included in the sample, and secondly, no guarantee that each element has some chance of being included (Babbie & Mouton, 2004). Purposive sampling suggests that the researcher selects a sample with a "specific purpose in mind" (Terre Blanche & Durrheim, p. 281, 1999). The organisations selected were those that have certain characteristics and could provide useful information for the purpose of the study, i.e. these organisations use computers and software programmes on a regular basis, which is an important aspect in the study.

The study was conducted within one medium-sized South African Information Technology (IT) organisation, and one department of a large South African production organisation. In addition, a sample was also collected from four Zambian banking industries. The Zambian banking industries were included in the study as this African country is one of the top twenty countries with the highest piracy rates, compared to South Africa, which was one of the countries with the lowest piracy rates (BSA, 2007). Due to confidentiality purposes their names will not be mentioned. All of the individuals in these organisations rely heavily on computers as a part of their daily work routine and thus, utilise a variety of software. The sample comprised of 43% (n=94) from the production industry, 29% (n=62) from IT industry, and 28% (n=61) from the banking industry.

Of the 125 questionnaires distributed in the production industry, 111 were returned. This represents an 88% response rate. Of those returned, 31 questionnaires were spoilt, as a result of the questionnaires being incomplete, and were omitted from the study. This represents a

usability rate of 80% for the production industry. In the IT industry 102 questionnaires were distributed of which 71 were returned to the researcher, this represents a response rate of 71%. Of those returned however, 9 were identified as incomplete and omitted from the study, which represents a usability rate of 61% for the IT industry.

Within the Zambian banking industries, 30 questionnaires were distributed in each of the four banking industries. In the first bank 18 questionnaires were returned, with a response rate of 60%, of which 16 were usable. This represents a usability rate of 53%. The second bank 22 questionnaires were returned, with a response rate of 73%, of which 19 were usable. This represents a usability rate of 63%. The third bank, 14 questionnaires were returned, with a response rate of 46%, of which all the questionnaires were usable. The fourth bank 12 questionnaires were returned, with a response rate of 40%, of which all the questionnaires were usable.

A total of 217 responses were used in the study**.** The overall response rate was 71%, and the overall usability rate was 63% for all the organisations. The good response rate can be as a result of the interesting nature of the study as well as the media attention that unauthorised copying of software has gained over the last few years. Those individuals that did not return their questionnaires or left them blank could be due to the contentious nature of the research, as we were examining at moral behaviour, and how people felt about the unauthorised copying of software.

The ages of the participants (See Table 1) were divided into six groupings, with ten years between each grouping. The first grouping, 18-28 years of age, n=86 (40%), the second grouping, 29-38 years of age, n=78 (36%). The third grouping, 39-48 years of age, n=32 with

14%, and the fourth grouping, 49-59 years of age, n=14 (7%). The fifth grouping, 60 and above years of age, n=5 with 2%. The largest proportion of the sample fell between the first grouping of 18-28 years. There were considerably fewer participants over the age of 49. Two participants did not indicate their age grouping. In the table provided (Table 2), it is evident that the sample consisted of 55% male (n=118), and 45% (n=96) females. Three participants did not identify their gender.

TABLE 1: Frequency and Percentages of Participants Age Groups

Variable	**N**	**%**
Age:		
18-28	86	40
29-38	78	36
39-48	32	15
48-59	14	7
60+	5	2

Racially, the sample is composed of Black, White, Coloured, Indian and Other participants (See Table 2). The majority of the participants were White (n=96, 45%), followed closely by African (n=94, 43%). The rest of the sample, 6% (n=13) were Indian, 5% (n=11) were Coloured, and finally 1% (n=2) were identified as Other. The racial composition of the sample is not representative of the broader South African population, where Whites are a minority.

With regard to education level (See Table 2), the sample ranged from participants with a High School education to those with a Postgraduate Degree. The table shows that only 1% (n=3) had some form of High School education, 9% (n=20) had obtained a Matric Certificate, 33% (n=71) had completed a Diploma Course, 27% (n=57) had completed undergraduate degrees, and 30% (n=63) had completed postgraduate degrees. This is in line with the nature of the industries and occupations, which make use of qualified individuals.

It is evident from Table 2 that participant's occupation ranged from 78% (n=169) employed professionals, 13% (n=29) semi-employed professionals, while the remainder of the sample consisted of, 4% (n=9) part-time working students, 4% (n=8) self-employed, and one retired participant, these participants made up a very small proportion of the overall total. In relation to generalisability, this sample is not typical of the public at large. With regard to the departments the participants work in (See Table 2), the sample comprised of 36% (n=75) from the IT department, 25% (n=53) from sales and marketing, 13% (n=27) in the financial department, 10% (n=21) in HR, 5% (n=10) in a technical department, and 4% (n=9) in consulting. Within the smaller proportion of the sample, 1% (n=2) were from a legal

department, 2% (n=3) education, and 3% (n=6) only specified their department as other. Eleven participants did not indicate which department they were from.

TABLE 2: Frequencies and Percentages of Participants Gender, Race, Education, Occupation and Department.

Variable	N	%
Gender:		
Male	118	55
Female	96	45
Race:		
African	94	43
Indian	13	6
Coloured	11	5
White	96	45
Other	2	1
Education:		
Primary School	0	0
High School	3	1
Matric	20	9
Diploma	71	33
Undergraduate	57	27
Postgraduate	63	30
Occupation:		
Student	9	4
Employed/ Professional	169	78
Employed Semi/ Professional	29	13
Self-Employed	8	4
Unemployed	0	0
Retired	1	1
Department:		
IT	75	36
Legal	2	1
Sales & Marketing	53	26
Technical	10	5
Consulting	9	4
Education	3	2
Engineering	0	0
Financial	27	13
Government	0	0
HR	21	10
Other	6	3

In addition to this, participants were asked (See Table 3) the number of years and hours of computer use, as well as how frequently in a week they use programming packages, office programs, technical software, computer games and the Internet. This was done as a means of gaining a greater insight into the participants' computer usage. It is suggested that the more computer experience an individual has, the higher their literacy and knowledge of certain computer programmes, and the more likely that individual is to copy software illegally (Rahim & Seyal, 2001).

From Table 3, it is apparent that the average years for computer usage was between 10-15 years (n=76, 35%). This is followed by those who had 5-10 years with 28% (n=61). With regard to the number of hours a day that participants use a computer, 66% (n=142) used computers between 5-10 hours a day. In addition, the average numbers of participants do not use programming packages such as C++, Java, Perl etc., as 52% (n=111) indicated that they do not use this type of software. With regard to office program use, such as word processing, spreadsheet etc., 42% (n=90) of the participants use this type of software 2-8 hours a day.

The same can be said for technical software usage such as DTP, CAD, SAP and other statistical and accounting applications, as (n=77, 36%) of the participants do not use this type of software. Participants using computer games followed the same trend as 50% (n=112) of the participants did not use computer games. The average weekly Internet use by participants is once to a few times a week (n=92, 43%). Participants in the research were all moderate computer users, however a large proportion of these participants do not use most of the software packages presented in the questionnaire.

TABLE 3: Frequencies and Percentages of Participants Computer Usage.

Variable	N	%
Years of computer use:		
Less one year	4	2
1-5 yrs	21	10
5-10yrs	61	28
10-15yrs	76	35
15-20yrs	40	19
20+ yrs	14	6
Hours of computer use (per day):		
1-5 hrs	55	25
5-10hrs	142	66
15-20hrs	17	8
20+ hrs	1	1
Programming package use (weekly):		
Never	111	52
Less once a week	43	20
Once to few times	21	10
Up to 2hrs a day	6	3
2-8 hrs a day	19	9
More 40+ hrs	14	6
Office program use (weekly):		
Never	2	1
Less once a week	4	2
Once to few times	45	21
Up to 2hrs a day	35	16
2-8 hrs a day	90	42
More 40+ hrs	39	18
Technical software use (weekly):		
Never	77	36
Less once a week	35	16
Once to few times	40	19
Up to 2hrs a day	19	9
2-8 hrs a day	34	16
More 40+ hrs	9	4
Computer game use (weekly):		
Never	112	52
Less once a week	58	27
Once to few times	36	16
Up to 2hrs a day	6	3
2-8 hrs a day	4	2
More 40+ hrs	0	0
Internet usage (weekly):		
Never	3	1
Less once a week	11	5
Once to few times	92	43
Up to 2hrs a day	49	23
2-8 hrs a day	47	22
More 40+ hrs	14	6

3.3. PROCEDURE

Permission to conduct this study was obtained from Human Resource Managers from the various organisations in the Johannesburg and Lusaka areas. These organisations were approached by the researcher via the researcher's contacts in the various organisations; this was done by providing the contacts with an Organisation Participant Information Sheet for each of the Human Resource Managers (See Appendix 1), which briefly explained the aim and nature of the research. The researcher contacted the Human Resource Managers within each of the organisations and arrangements were made to distribute and collect the questionnaires. Members of these organisations were then addressed by their Human Resource Managers and informed about the research, so that employees were made aware that the study was being conducted entirely independently of the organisation.

In addition to this a participant information sheet (See Appendix 2) was attached to the questionnaires which briefly explained the aim and nature of the research. Individuals were made aware that they would not be advantaged or disadvantaged in any way if they chose to complete or not complete the questionnaire. In addition to this, it was stated that the completed questionnaires were to be regarded as informed consent from individuals to participate in the study. Participants were asked to complete the questionnaires voluntarily, and place the completed questionnaire in the accompanying envelope, and seal it. The participants were then asked to place the envelopes in a sealed box, which was left in the reception areas of the aforesaid organisations. This would ensure that no one but the researcher would have access to the completed questionnaires, which on the completion of the research, would be destroyed. Additionally, the participant information sheet stated that anonymity and confidentiality would be assured in all instances as participants were not asked to provide any identifying information.

A time limit of one week was given to participants to return the questionnaires, which were collected from the organisation by the researcher. Once all the completed questionnaires were collected by the researcher, the data was captured and subsequently analysed.

3.4. MEASURING INSTRUMENTS

The questionnaire that was administered was a self-report, structured questionnaire, whereby participants were asked to read and respond to questions themselves, by selecting a particular choice to describe their own actions (Rosnow & Rosenthal, 1991). The researcher utilized the following instruments in order to answer the research questions: biographical, attitude, self-efficacy, social norms, moral disengagement and intention instruments.

3.4.1. BIOGRAPHICAL INFROMATION SHEET

A biographical blank (See Appendix 3) was designed in order to collect data regarding demographic information, the following variables were seen as being relevant within the context of the present study: age, gender, race, education, occupation, department, years of computer use, hours of computer use, programming package use, use of office programmes, use of technical software, use of computer games, and use of the Internet. It is suggested that the more computer experience an individual has, the higher his literacy and knowledge of certain computer programmes, and the more likely that individual is to copy software illegally (Rahim & Seyal, 2001).

3.4.2. ATTITUDES TO UNAUTHORISED COPYING OF SOFTWARE SCALE

The attitudes scale is adapted from a study conducted by Swinyard, Rinne and Kau (1990) and investigates attitudes to unauthorised copying of software. Reliability and validity scores were not reported in the original study. Statements were measured on a 5-point Likert scale

(1= Strongly Disagree, 2= Somewhat Disagree, 3= Neutral, 4= Somewhat Agree, 5= Strongly Agree). A high score therefore would mean that an individual has a positive attitude towards the unauthorised copying of software. Participants were asked to indicate their view towards these statements:

1. I would feel guilty about being in possession of unauthorised copies of software. (Reversed Scored)
2. I would not feel badly about making unauthorised copies of software.
3. I would feel guilty about giving my close friends unauthorised copies of copyrighted software. (Reversed Scored)
4. I feel that making unauthorised copies of software is fine.
5. The benefits of unauthorised copying of software outweigh the possible consequences.

The first three statements were taken from the Swinyard, et al. (1990) study and the fourth and fifth statements were self-developed. The fourth statement was developed as the original question dealt with individual's actual unauthorised copying of software behaviour; therefore due to ethical considerations it was rephrased. The fifth statement was developed as the original questionnaire did not take into account important aspects, such as the perceived consequences of performing certain behaviours, as discussed in the theory. Attitudes towards a behaviour actually stem from salient beliefs, that performing the behaviour will lead to certain consequences. Thus, if an individual feels that there is more to be gained than lost by the unauthorised copying of software, they would have more favourable attributes towards software piracy (Rahin, Seyal & Rahman, 2001; Randall, 1989). The total scale consisted of 5 items, of which items one and three were reversed scored.

3.4.3. SELF-EFFICACY TO UNAUTHORISED COPYING OF SOFTWARE SCALE

The self-efficacy scale (See Appendix 4) was constructed by Kuo and Hsu (2001), which is based on Bandura's SCT, and examines participants' conduct towards unauthorised copying of software. The self-efficacy scale consists of 12 items, revealing three dimensions within the construct. These dimensions are termed 'use and keep' (do not use or keep unauthorised copied software), 'distribution' (do not distribute unauthorised copied software) and 'persuasion' (persuade others not to commit unauthorised copying of software). Of these 12 items, 6 items measured use and keep self-efficacy, 3 items measured distribution self-efficacy and persuasion self-efficacy respectively. Kuo and Hsu (2001) reported a Cronbach alpha of .70.

Statements were measured on a 5-point Likert scale (1= Not at All Confident, 2=Not Very Confident, 3= Neutral, 4= Relatively Confident, 5= Extremely Confident). A high score therefore would mean that an individual has the ability to sanction themselves against making difficult ethical-violation decisions. Thus an individual with high self-efficacy might not use, keep or distribute unauthorised copied software; in addition, they might persuade others not to commit unauthorised copying of software, than those individuals with lower judgements of self-efficacy.

For the purpose of the study all 12 items were reverse scored, as a means to circumvent the use of negative correlations, as all the other measurement instruments favour the unauthorised copying of software, whereas self-efficacy does not. Therefore if an individual scores high on self-efficacy, they are more likely to use, keep or distribute unauthorised copied software, in addition, they would be more likely to try and persuade others to commit

unauthorised copying of software, than those individuals with higher judgements of self-efficacy.

3.4.4. SOCIAL NORMS TO UNAUTHORISED COPYING OF SOFTWARE SCALE

The subjective norms scale is adapted from a study conducted by Povey, Conner, Sparks, James and Shephard (2000), to investigate societal norms to unauthorised copying of software. The scale was adapted by changing certain words in the questions to suite the current study, as Povey et al. (2000) examined social norms with regards to dietary behaviour (e.g. Most of the people I know eat a low-fat diet). Cronbach alpha of .74 was reported in the original study. Statements were measured on a 5-point Likert scale (1= Strongly Disagree, 2= Disagree, 3= Neutral, 4= Agree, 5= Strongly Agree). A high score therefore would mean that an individual has a positive regard towards the unauthorised copying of software, i.e. if important others view unauthorised copying of software as appropriate behaviour, these individuals would usually comply with this behaviour (Seale, Polakowski & Schneider, 1998). Participants were asked to indicate their view towards these statements:

1. Most people I know make unauthorised copies of software.
2. People who are important to me think I should not make unauthorised copies of software. (Reversed Scored)
3. People who are important to me would approve of my making unauthorised copies of software.
4. People who are important to me want me to make unauthorised copies of software.
5. I feel under social pressure to make unauthorised copies of software.
6. People who are important to me do not influence my decision to make unauthorised copies of software. (Reversed Scored)
7. My work colleagues would approve of my making unauthorised software copies.

8. My manager would think that I should not make unauthorised software copies. (Reverse Scored)
9. My organisation does not support making unauthorised software copies.

The first 6 statements were taken from Povey, et al. (2000), which only addressed social norms with regard to important social figures. The last three statements were self-developed. These statements were added as the original questionnaire did not take organisational norms with regards to colleagues, managers and organisational views, into consideration. The total scale consists of 9 items, of which items 2, 8 and 9 were reversed scored.

3.4.5. INTENTIONS TO UNAUTHORISED COPYING OF SOFTWARE SCALE

The intention scale was also adapted from the study conducted by Povey, et al. (2000), to investigate an individuals' intent to unauthorised copying of software. The scale was adapted by changing certain words in the questions to suite the current study, as Povey et al. (2000) examined intentions with regards to dietary behaviour (e.g. I intend to eat a low-fat diet). A Cronbach alpha of .95 was reported. Subjects were asked to indicate their view towards these statements:

1. I intend to make unauthorised software copies in the future.
2. I plan to make unauthorised software copies in the future.
3. I am tempted to make unauthorised software copies in the future.

These items where rephrased to fit the current study. Statements were measured on a 5-point Likert scale (1= Strongly Disagree, 2= Disagree, 3= Neutral, 4= Agree, 5= Strongly Agree). A high score therefore would mean that an individuals' intent to engage in unauthorised software copying would be greater.

3.4.6. MORAL DISENGAGEMENT TO UNAUTHORISED COPYING OF SOFTWARE SCALE

This moral disengagement scale was developed by the researcher in her previous year of study (Wentzell, 2006), as a means to measure moral disengagement in the exercise of unauthorised copying of software. It is assumed that moral disengagement, which takes place in a person over time, manifests itself in an attitude, which in turn can be measured by strength of agreement with a statement (Jackson & Sparr, 2005). For instance, repeated exposure or engagement in moral justification should lead to accepting and agreeing with arguments reflecting this mechanism more often (Bandura, 1986).

The items developed in the research corresponded to the various mechanisms of moral disengagement namely, moral justification, euphemistic labelling, advantageous comparison, displacement of responsibility, diffusion of responsibility, distortion of consequences, attribution of blame and dehumanisation. The questionnaire contains eight subscales, each one measuring a different moral disengagement mechanism. The original questionnaire represented each mechanism with 5 items. The total scale consisted of 40 items. A Cronbach Alpha of .92 was reported.

Items within the mechanisms were correlated; those that did not correlate within the subscales were deleted from the questionnaire. The moral disengagement statements were measured on a 5-point Likert scale (1= Strongly Disagree, 2= Somewhat Disagree, 3= Indifferent, 4= Somewhat Agree, 5= Strongly Agree). The final adapted questionnaire consisted of 20 items (See Appendix 5).

3.5. STATISTICAL ANALYSIS

The following section details the statistical techniques utilised in the analysis of the results. This consisted of both preliminary and exploratory statistics.

3.5.1. PRELIMINARY STATISTICS

Basic descriptive analysis is usually conducted and necessary to make results meaningful, and are used to describe the characteristics of a sample, and the relationship among the variables in a sample (Babbie & Mouton, 2004). To conduct the preliminary analysis, the researcher examined the means and frequencies of the variables, as well as the internal reliabilities of the scales. The frequencies and percentages of the sample can be found in Table 2 (p. 37).

Internal Reliability Analysis

Reliability refers to the extent to which the scale is consistently measuring the instrument at hand (Anastasi, 1976). Internal reliability measures assess the homogeneity of test items (DeVellis, 1991), or the extent to which items on a given scale correlate with each other (Rosenthal & Rosnow, 1991). The higher the inter-item correlation, the more consistently the scale is measuring the same construct (Murphy & Davidshofer, 2001). The internal reliabilities of the scale and sub scales used in the current research were calculated using Cronbach's alpha. A Cronbach's alpha coefficient of 0.60 and above is regarded by some theorists as acceptable for the Social Sciences (McKennell, 1970), while others maintain that 0.75 is a more suitable cut off point (Terre Blanche & Durrheim, 1999).

3.5.2. EXPLORATORY STATISTICS

The secondary analysis consists of a Pearson's Correlation Coefficient to test research questions one, two and three. This is conducted before the structural equation modelling to see whether the variables do correlate with one another respectively. Structural equation modelling is used to answer the final question.

Correlations

Correlations indicate the degree to which two variables are related (Howell, 2004). Rosnow and Rosenthal (1991) describe a linear relationship as one where a fixed change in one variable is always associated with a fixed change in another variable. A correlational analysis is a technique that allows for the directionality and a degree of linear relationships between two variables to be established (Terre Blanche & Durrheim, 1999). A correlation coefficient is a number from –1.00 through to +1.00, which reflects the nature of the linear relationship. A 0.00 correlation indicates no relationship, with –1.00 reflecting a perfect negative relationship and +1.00 perfect positive one (Howell, 2004).

Correlation analyses, using the Pearson' Product Moment Correlation Coefficient, were conducted in order to establish whether associations existed between the IVs (attitudes, self-efficacy and social norms) and the DV (intentions). In addition, correlations were done between all variables, including the mediating variable. Baron and Kenny (1989) suggested that associations need to be established between IVs, DV and mediator before proceeding with the mediational analysis.

Structural Equation Modelling (SEM)

Structural equation modelling (SEM) is a set of statistical procedures for estimating the relationship between underlying constructs (latent variables) and measured variables (the measurement model), and among both measured variables and the latent variables themselves (the structural model) (Cohen, Cohen, West & Aiken, 2003; Hardy & Bryman, 2004). SEM is a widely used approach to testing for mediated relationships among constructs or variables particularly when multiple items have been measured to capture the focal construct (Iacobucci, Saldanha & Deng, 2007).

The structural equation model centres around two steps: validating the measurement model and fitting the structural model. The former is accomplished through exploratory factor analysis, and latter, primarily through path analysis with latent variables (Garson, 1998).

Latent (or unobserved and factor) variables are estimated by factor analytic methods (Cohen, Cohen, West & Aiken, 2003). Validity refers to the extent to which a scale measures what it is supposed to measure (Murphy & Davidshofer, 2001). Construct validity is the extent to which the scale actually captures the theoretical construct or trait that it is supposed to measure (Rosenthal & Rosnow, 1991). Factor analysis is one of the most common statistical measures of construct validity. The purpose of factor analysis is to describe relationships among many variables in terms of a few underlying quantities termed factors (DeVellis, 1991; Johnson & Wichern, 1998).

A factor is a grouping of variables that have a high correlation with one another but a low correlation with variables in another group. As such, it is argued that each group of variables represents a single underlying construct (Johnson & Wichern, 1998). Each variable in the

model is conceptualised as a latent one, measured by multiple manifest (or observed, measured and indicator) variables. As such, manifests (indicators) are developed for each model, with at least three per latent variable (Garson, 1998). Factor analysis is thus utilised in the study to establish if the manifest variables seem to measure the corresponding latent variables, represented by the factors and to group manifest variables into parcels if the theory did not specify this.

Path analysis is fundamental to SEM, as this step allows the researcher to diagram the hypothesized set of relationships (i.e. the model), including the estimation of the parameters of the model, as well as model fit (Hardy & Bryman, 2004). The diagram presents the theoretical constructs in the study and represents all latent variables as ovals and circles, and manifest variables are represented as rectangles (Cohen, Cohen, West & Aiken, 2003; Garson, 1998; Hardy & Bryman, 2004).

The estimation of parameters, takes the potential relationships, and the direction of effect, as well as significant paths between each pair of variables (latent and manifest) into consideration (Hardy & Bryman, 2003). Model fit on the other hand determines if the model being tested should be accepted or rejected, this is accomplished through fit tests (Garson, 1998). Standards for adequate fit in SEM require that certain indices fit certain criteria. The goodness of fit measures used in this study is the Goodness of Fit Index (GFI), Adjusted GFI (AGFI), Bentler and Bonett's (1980) Non-Normed Fit Index (NNFI), Bentler's Comparative Fit Index (CFI), Root Mean Square Error of Approximation (RMSEA), Root Mean Square (RMR), Probability of Close Fit and Hoelter's (1983) Critical N.

The assumptions of a structural equation model are (Garson, 1998; Cohen, Cohen, West & Aiken, 2003):

- Normality- Each variable in the model should be normally distributed.
- Linearity- SEM assumes linear relationships between variables.
- Modelling error- This requires that there should be three or more measures for each latent variable in the model, to prevent underidentification and lower measurement error.
- Measurement error- measured variables should be measured without error.
- Homogeneity- SEM is sensitive to sample size; therefore a minimum of 200 participants in needed for central limit theorem to have ensured that coefficients will be good estimates.
- Multicollinearity- Complete multicollinearity is assumed to be absent.

3.6 ETHICAL CONSIDERATIONS

Participation in the research entailed completing a questionnaire. This questionnaire did not entail individuals answering any questions based on their unauthorised copying of software behaviour. A participant information sheet was attached to each questionnaire, which presented a complete, non-technical and comprehensible explanation of the intended research and the tasks expected from the participants. This is done with the intention that participants can make an informed choice to participate voluntarily in the research. No identifying information, such as the respondent's name was asked for, and as such the participant remained anonymous. Confidentiality and anonymity was guaranteed as participants placed their completed questionnaires in the accompanying envelope, and placed in a sealed box, which was left at the organisation's reception areas for the researcher to collect. Only the researcher saw the completed questionnaire with no identifying information on it. Participation was voluntary, and no individual was advantaged or disadvantaged in any way for choosing to complete or not complete the questionnaire. The analysis only reported general trends and differences between groups, not individual perceptions. A summary of end results was reported to the organisation; in addition, the results were also posted within the organisation for all participants who participated in the research to give them feedback.

CHAPTER 4

RESULTS

The following chapter presents the results of the statistical analysis. The raw data were analysed using SAS Enterprise Guide Version 5. First the researcher examined at the means and frequencies of the demographic variables, as well as the internal reliabilities of the measuring instruments. This will be followed by correlation analysis and Structural equation modelling (SEM) (using PROC CALIS, a SAS procedure) to analyse the data.

4.1 PRELIMINARY ANALYSIS RESULTS

MEAN, FREQUENCIES AND INTERNAL RELIABILITY

The demographic information of the sample was presented in Table 2 (Chapter 3, p. 39); this information is of importance to understand the sample used within the current study. The table below reflects the means, standard deviation, maximum and minimum scores, skewness and kurtosis, as well as the internal consistency reliability coefficients for each of the scales used within the study. Where appropriate missing data were replaced with mean values.

The results from Table 4 show that the intentions scale ranged from a minimum of 3 to a maximum score of 15. The mean was 6.94 and the standard deviation 3.41. The skewness was 0.46 and kurtosis –0.82. The results suggest that the mean of the intentions scale is slightly skewed to the right, and platykurtic (i.e. flat unimodal symmetric distribution), thus resulting in people having positive intentions towards the unauthorised copying of software. With regard to attitudes the scores range from 5 to 25, with a mean of 12.82, standard deviation of 4.52, skewness of 0.26 and kurtosis of 0.04. This mean reveals a slight skewness

to the right and platykurtic, thus resulting in more participants having a positive attitude towards unauthorised copying of software.

TABLE 4: Means, Standard Deviations, Minimum and Maximum, Skewness and Kurtosis, and Internal Consistency Reliabilities of Measuring Instruments.

Variable	N	Mean	Std.	Min	Max	Skewness	Kurtosis	Reliability
INTENTIONS	217	6.93	3.41	3	15	0.46	-0.82	.91
ATTITUDES	217	12.83	4.52	5	25	0.26	0.04	.81
SOCIAL NORMS	217	22.47	5.41	10	39	0.09	-0.11	.79
SELF-EFFICACY	217	34.73	12.40	12	60	-0.06	-0.56	.93
MORAL DISENGAGEMENT	217	48.37	16.02	19	98	0.25	0.08	.94

The social norms scale ranged from 10 to 39, with a mean score of 22.47, standard deviation of 5.41, skewness of 0.09 and kurtosis of -0.11. These scores reflect a slight skewness to the right, and platykurtic, suggesting that participant' social norms are positive towards the unauthorised copying of software. With regard to self-efficacy the scale scores ranged from 12 to 60, with a mean score of 34.73 and standard deviation of 12.40, skewness of -0.06 and kurtosis of -0.56. These scores reflect a slightly skewed distribution to the left, and platykurtic, suggesting that participants' self-efficacy is negative towards the unauthorised copying of software. The moral disengagement scale ranged from 19 to 98, with a mean score of 48.37, standard deviation 16.02, skewness of 0.25 and kurtosis of 0.08. The mean reveals a slight skewness to the right, and platykurtic, which suggests that participants' moral disengagement is positive towards unauthorised copying of software.

From the Table it is also evident that Intentions, self-efficacy and moral disengagement have high alpha values of .91, .93 and .94 respectively. This is followed by attitudes with a moderately high alpha value of .81. Social norms had an original low but satisfactory alpha of .73. However, item 6 (i.e. People who are important to me do not influence my decision to make unauthorised copies of software) did not correlate with the rest of the items in the scale. This could be due to the fact that the question was double-barrelled, and consequently the item was deleted from the study. This presented a higher alpha value of .79 for the social norm scale.

4.2. EXPLORATORY ANALYSIS RESULTS

4.2.1. PEARSON'S PRODUCT MOMENT CORRELATION COEFFICIENT RESULTS

Pearson Product Moment Correlation was used to test the degree of association between the independent variables and the dependent variable. The correlation analysis is answering questions:

1. There is a positive relationship between attitudes and intentions to unauthorised copying of software.
2. There is a positive relationship between self-efficacy and intentions to unauthorised copying of software.
3. There is a positive relationship between social norms and intentions to unauthorised copying of software.

In addition, correlations were done between all variables, including the mediating variable, to see if there were associations, before the structural equation model could be undertaken. Results of the correlation analysis are presented in Table 5.

Firstly with regard to question 1: There is a positive relationship between attitudes and intentions to unauthorised copying of software; there is a strong positive correlation (r=0.75, p ‹ 0.05) between these variables. Thus suggesting, that the higher an individuals' attitude towards the unauthorised copying of software, the higher his intention would be to copy software illegally. Secondly the results for question 2: There is a positive relationship between self-efficacy and intentions to unauthorised copying of software; was a moderate positive correlation (r= 0.64; p ‹ 0.05). This would suggest that the lower an individuals' self-efficacy is (i.e. they are willing to copy software illegally) the more likely their intentions would be to the unauthorised copying of software. With regards to the third question: There is a positive relationship between social norms and intentions to the unauthorised copying of software, had a strong positive correlation (r=0.72; p ‹ 0.05). This would suggest that if important others favoured unauthorised copying of software, an individuals' intention to copy software illegally would be high.

With regard to the relationship between all the IVs and the DV with the mediator, it is evident that the mediating variable, moral disengagement has a moderate positive correlation with attitudes (r= 0.69; p ‹ 0.05), with social norms (r=0.58; p ‹ 0.05), with intentions (r=0.62; p ‹ 0.05), and lastly self-efficacy (r= 0.58; p ‹ 0.05). This would suggest that if an individual has disengaged their behaviour, their attitude and intention towards the unauthorised copying of software would be high. If an individual has disengaged their behaviour they are more likely to follow social norms. In addition to this, if a person has low self-efficacy towards unauthorised copying of software (i.e. they are more likely to copy software illegally), they are more willing to use these disengagement mechanisms.

TABLE 5: Pearson's Correlations for Independent, Dependent and Mediating Variables.

Scale	SELF-EFFICACY	2	3	4	5
2. ATTITUDES	0.65*				
3. SOCIAL NORMS	0.57*	0.71*			
4. INTENTIONS	0.64*	0.75*	0.72*		
5. MORAL DISENGAGEMENT	0.58*	0.69*	0.58*	0.62*	

* Correlation is significant at ‹ 0.05 level.

With regard to the IVs, self-efficacy and its relationship between attitudes and social norms, it is clear from the above table, that there is a positive moderate relationship (r= 0.65; p ‹ 0.05) with attitudes and a positive moderate relationship (r= 0.57; p ‹ 0.05) with social norms respectively. This would suggest that an individual with low self-efficacy is more likely to have a positive attitude towards unauthorised copying of software, as well as being more likely to follow social norms if they favour the unauthorised copying of software. This would suggest that there is some degree of mediation, as there is an association between predictors (IVs) and the mediator, and between the mediator and the outcome variable (DV). Therefore the researcher could continue with structural equation modelling (SEM).

4.2.2. STRUCTURAL EQUATION MODELLING (SEM) RESULTS

The structural equation model results are presented in two steps: first, validating the measurement model and then fitting the structural model. The former is accomplished through factor analysis, and latter, primarily through path analysis with latent variables.

Exploratory Factor Analysis

Each variable in the model is conceptualised as a latent one, measured by multiple manifest (or observed, measured and indicator) variables, as such manifests (indicators) are developed for each model, with at least three per latent variable. Factor analysis is thus utilised in the study to establish if the manifest variables seem to measure the corresponding latent variables, represented by the factors, as stated by the theory.

With regard to the attitudes of unauthorised software copying (See Table 9), two measures suggesting that 'not feeling guilty' about unauthorised copying of software had high loadings of .88 and .82 on factor 1 respectively. These two items were placed together as a 'guilty attitude' manifest variable. In addition, two measures suggesting that unauthorised software copying is fine, and the individual would not feel badly for taking part in such behaviour, had a high loading of .94 and a low loading of .55 on factor 2 respectively. These two items were placed as 'feeling towards unauthorised copying of software' manifest variable. Finally, one measure suggesting the benefits of unauthorised software copying, had a high loading of .94 on factor 3. This item was placed as the 'benefit' manifest variable for attitudes. Convergent validity refers to the extent to which multiple measures of the construct agree with one another, strong evidence is achieved when the factor loading is greater than .50. As shown in Table 9, factor loadings for all items were greater than .55. The manifest variables for the latent attitude variable were presented as follows in the path analysis: guilty attitude (GT);

Feelings towards unauthorised software copying (FT), and finally benefit to unauthorised software copying (BT).

TABLE 6: Exploratory Factor Analysis with Varimax Rotation Method of Attitude Measures.

Attitude	Factor 1	Factor 2	Factor 3
1. I would not feel guilty about being in possession of unauthorised copies of software.	0.88		
2. I would not feel badly about making unauthorised copies of software.		0.94	
3. I would not feel guilty about giving my close friends unauthorised copies of copyrighted software.	0.82		
4. I feel that making unauthorised copies of software is fine.		0.55	
5. The benefits of unauthorised software copying outweigh the possible consequences.			0.94

With regard to self-efficacy, the theory suggested that there are three dimensions to the construct, use and keep, distribution and persuasion to the unauthorised copying of software. From Table 7, the expected outcomes were categorised as, use and keep, distribution and persuasion, which is consistent with the theory. Distribution self-efficacy presented high loadings of .80, .75 and .74 on factor 1; in addition persuasion self-efficacy also presented high loadings of .70, .82 and .80 respectively on factor 3. However, three items within use and keep self-efficacy had loadings on factor 1 and factor 2. Strong evidence of convergent

validity is achieved as all factor loadings are greater than .51. The manifest variables for the latent self-efficacy variable were presented as follows in the path analysis: use and keep self-efficacy (UT); distribution self-efficacy (DT), and finally persuasion self-efficacy (PT).

TABLE 7: Exploratory Factor Analysis with Varimax Rotation Method of Self-efficacy Measure.

Self-Efficacy			
	Factor 1	**Factor 2**	**Factor 3**
Use and Keep Self-Efficacy.			
1. When you badly need a software program but you feel it is too expensive, how confident are you to use an illegal copy of that software.		0.76	
2. When you badly need a software program but do not have the time to purchase a copy, how confident are you to use an illegal copy of that software.		0.81	
3. When you badly need a software program and have the opportunity to obtain an illegal copy without anybody else's knowing, how confident are you to take advantage of it.		0.64	
4. When you badly need a software program and have seen other colleagues use an illegal copy, how confident are you to take advantage of it.	0.67	0.60	
5. When you badly need an illegal copy of a software program to benefit your work, how confident are you to take advantage of it.	0.60	0.55	
6. If a colleague has a software program that you like very much, how confident are you to ask for an illegal copy of it.	0.67	0.51	
Distribution Self-Efficacy.			
7. If a good friend badly needs a software program, how confident are you to make an illegal copy for him or her.	0.80		

8. If a good friend badly needs a software program and is asking for your help to obtain an illegal copy, how confident are you to accept that request.	0.75	
9. If a good friend badly needs a software program that you own and is asking you for a copy, how confident are you to grant the request.	0.74	
Persuasion Self-Efficacy.		
10. If you see colleagues using an illegal copy of a software program, how confident are you to try and persuade them to using it.		0.70
11. If you see colleagues selling an illegal copy of a software program for profit, how confident are you to try and talk him or her not to give it up.		0.82
12. If you see colleagues attempting to make an illegal copy of a software program, how confident are you to not try to talk him or her out of it.		0.80

With regard to moral disengagement, the theory would suggest that there are four major points in the self-regulatory process, representing each of the mechanisms of moral disengagement i.e. The disengagement may centre on the reprehensible conduct itself; the operation of the agency of action; in the consequences (effects) that flow from actions; or on how the victims of maltreatment are regarded. From the factor analysis (See Table 8) it is evident that reprehensible conduct (i.e. moral justification and advantageous comparison) and the agency of action (displacement of responsibility and diffusion of responsibility) have loadings on factor 1, excluding euphemistic labelling, which loaded on factor 3. In addition, the consequences or effects of the actions (i.e. distortion of consequences) and the victim (attribution of blame and dehumanisation) have loadings on factor 2. There is evidence of convergent validity as all factor loadings are greater than .53. The manifest variables for the latent moral disengagement variable were presented as follows in the path analysis:

reprehensible conduct and agency of action (CA); consequences or effects and victim (VT), and finally euphemistic labelling (EL).

TABLE 8: Exploratory Factor Analysis with Varimax Rotation Method of Moral Disengagement Measures

Moral Disengagement	**Factor 1**	**Factor 2**	**Factor 3**
Reprehensible Conduct:			
1. There is nothing wrong in using unauthorised copied software if it is needed for the success of a social responsibility project (MJ).	0.57		
2. It is ok to use unauthorised copied software if it will improve an individual's computer literacy (MJ).	0.68		
3. The unauthorised copying of software is like playing a trick on the software company (EL).			0.81
4. Copying someone else's software is just a cheaper way of getting the product (EL).			0.57
5. The unauthorised copying of software is inventive (EL).	0.69		
6. The unauthorised copying of software is not too serious compared to those people who use spyware to steal money from people's bank accounts (AC).	0.53		
7. Individuals who copy software illegally should not be prosecuted because they are actually saving software companies on distribution costs (AC).	0.64		
Agentic Role:			
8. Individuals who cannot afford software products cannot be held responsible for the unauthorised copying of it (DS).	0.76		
9. A manager is not culpable for the unauthorised copying of software as a request from his boss to save the company some money (DS).	0.68		

10. There is no sense in worrying about those few individuals who copy software illegally since there is a big community of people copying software (DF).	0.79	
11. Individuals should not feel guilty for the unauthorised copying of software if they only contributed towards it in a very small way (DF).	0.78	
12. There is no sense in blaming a few individuals for the unauthorised copying of software when everybody else does the same thing (DF).	0.74	
Effect of Conduct:		
13. The unauthorised copying of software does not really have a significant adverse effect on the software industry as they make lots of money anyway (DC).	0.61	
14. The unauthorised copying of software is okay as software companies can afford these losses (DC).		0.57
15. The unauthorised copying of software is a way of convincing the software companies to drop their prices (DC).		0.63
Victim:		
16. Software companies are to blame for the unauthorised copying of software as they make it too easy for individuals to copy software (AB).		0.79
17. The unauthorised copying of software happens when people are given no other means to get access to the software (AB).		0.63
18. The unauthorised copying of software is not the individuals fault as software companies do not adequately protect their software (AB).		0.79
19. The software companies are corporate bloodsuckers who drain companies' finances (DH).		0.57
20. The software companies are a bunch of frauds who deserve to have their products copied illegally (DH).	0.55	

Key:

MJ: Moral Justification, EL: Euphemistic Labelling, AC: Advantageous Comparisons, DS: Displacement of Responsibility, DF: Diffusion of Responsibility, DC: Distortion of Consequences, AB: Attribution of Blame, DH: Dehumanisation.

With regard to social norms and intentions, the adapted scales had no underlying attributes. In addition, a factor analysis conducted on social norms only presented two factors for extraction. This however, is problematic for structural equation modelling, as it is suggested that a minimum of three manifest variables are needed for each latent variable (Hardy & Bryman, 2004). For this reason, items were randomly assigned to manifest variables. The first manifest variable consisted of items three and five of the social norms scale. The second manifest variable consisted of items 1, 4 and 8 of the social norms scale. The final manifest variable consisted of items 2, 7 and 9 of the social norms scale. Intentions however were only measured with three statements. Therefore each intention statement presented a manifest variable.

Path Analysis

Path analysis is the next step in SEM, as this step allows the researcher to diagram the hypothesized set of relationships (i.e. the model), including the estimation of the parameters of the model, as well as model fit. In doing so, the researcher is attempting to answer research question four: Moral disengagement mediates the relationship between self-efficacy, attitudes and social norms; and intention to unauthorised copying of software. Four different models are presented by the researcher, as a means of presenting possible model opportunities that the researcher encountered, in addition to providing the best model to predict and explain unauthorised software coping within the social cognitive framework. The models, with results will be discussed separately, as well as the researcher rationale for the inclusion of each model.

Model fit will be discussed as a means to determine if the model being tested should be accepted or rejected, this is accomplished through fit tests. Standards for adequate fit in SEM require that certain indices to fit certain criteria, these are presented in Table 9. Goodness of Fit Index (GFI), Adjusted GFI (AGFI), Bentler and Bonett's (1980) Non-Normed Fit Index (NNFI) and Bentler's Comparative Fit Index CFI), scores above 0.90 provide reliable evidence of acceptable fit. While a value below 0.06 means a good fit of the model in case of the Root Mean Square Error of Approximation (RMSEA) and the Root Mean Square (RMR), and an average fit with values between 0.08 and 0.10, a value above 0.1 is a poor fit (MacCallum, Brown & Sugawara, 1996). Probability of Close Fit, must be non-significant at α □ 0.05, in addition Hoelter's (1983) Critical N should have a value of less than 75 for the model to be adequate.

TABLE 9: Indicators for Goodness of Fit, and the Goodness of Fit Indicators for the all Four Unauthorised Copying of Software Models.

Index	Value	Model 1	Model 2	Model 3	Model 4
1. Goodness of Fit Index (GFI)	› 0.9	0.91*	0.93*	0.88	0.82
2. Adjusted GFI (AGFI)	› 0.9	0.87	0.90*	0.83	0.72
3. Bentler and Bonett's (1980) Non-Normed Fit Index (NNFI)	› 0.9	0.95*	0.97*	0.92*	0.73
4. Bentler Comparative Fit Index (CFI)	› 0.9	0.96*	0.97*	0.94*	0.80
5. Root Mean Square Error of Approximation (RMSEA)	‹ 0.06	0.07	0.06*	0.09	0.18
6. Root Mean Square (RMR)	‹ 0.06	0.44	0.53	0.47	7.52
7. Hoelter's (1983) Critical N	‹ 75	134	149	98	36*
8. Probability of Close Fit	Must be non-significant	0.01	0.07*	0.00	0.00

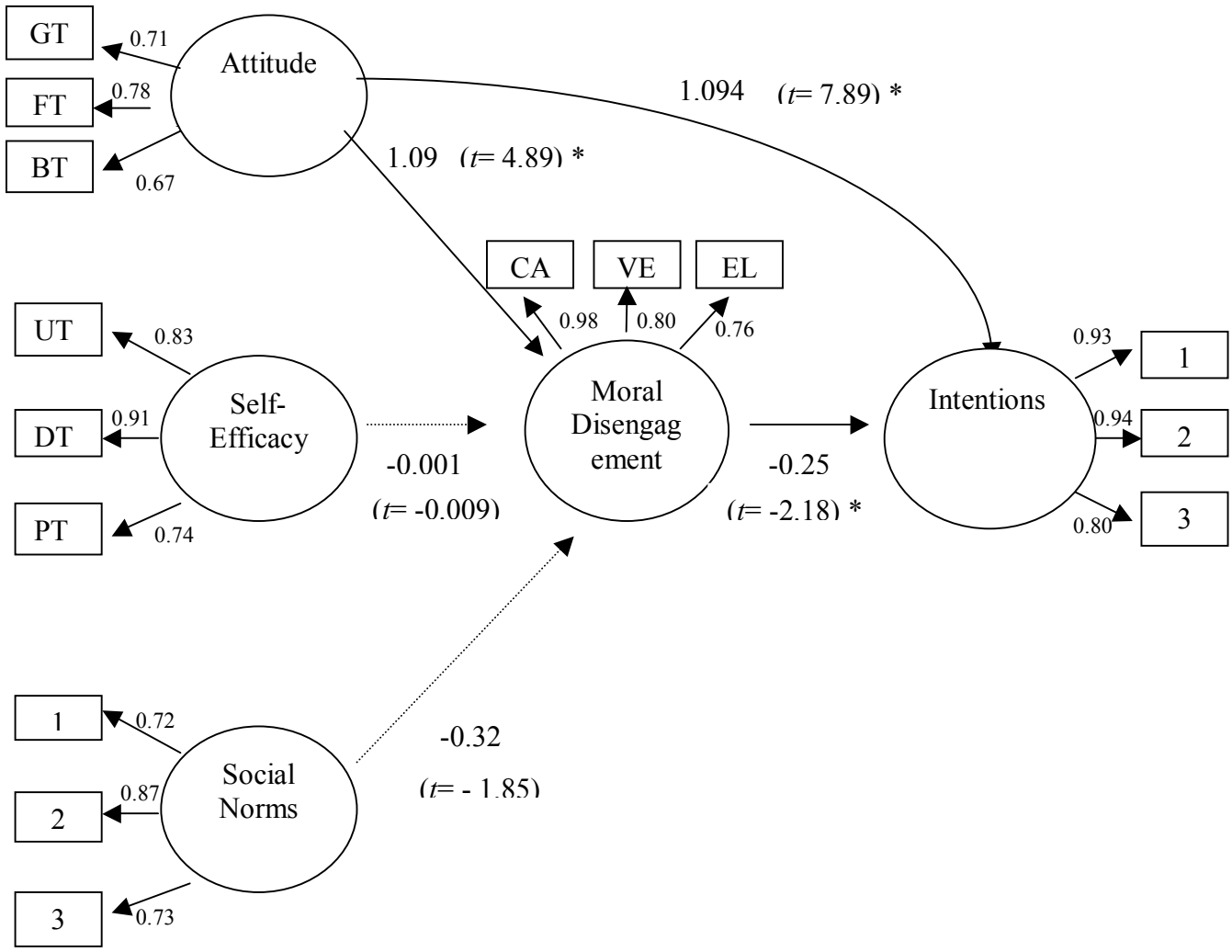
* Indices presenting good fit within each model.

In terms of Figure 5, the model presented is testing moral disengagement as a mediator in the relationship between attitudes, social norms and self-efficacy; with the intention to the unauthorised copying of software. Accordingly, Model 1, showed an acceptable fit to the model (See Table 9), with GFI= .91, CFI= .96, NNFI= .95, and a moderate RMSEA of 0.07, however, AGFI= 0.87, which is somewhat low but marginally acceptable. Further, the model did not fit according to the following indicators, Hoelter's Critical N= 134 and the probability of close fit was significant at 0.01. In sum, the fit statistics presented an acceptable model.

The structural equation describes the relationships and paths among the factors being examined. In Model 1 (See Figure 5), all the hypothesized paths in the model did not present the expected signs, and some the paths were not significant with low t-values. For one, social norms and self-efficacy had a negative relationship with moral disengagement (β= -0.32, t= -1.85, p □ 0.05) and (β= -0.001, t= -0.009 p □ 0.05), respectively, in addition, these paths were not significant. Moral disengagement also had a negative relationship with intentions (β= -0.25, t= -2.18, p □ 0.05), however this path was significant. The path between attitudes and moral disengagement was positive and significant with a high t-value (β= 1.09, t= 4.89, p □ 0.05), in addition, attitudes had a direct positive and significant path towards intentions (β= 1. 09, t= 7.89, p □ 0.05).

The Lagrange Multiplier, however did not present any sensible paths to improve the model. However, attitudes were seen as being the greatest predictor of intention, due to the direct path towards intentions and as such were removed from the model to test Model 2.

Figure 5: Maximum Likelihood Estimates and Standardized Estimates for Moral Disengagement as a Mediator in the Relationship between, social norms, attitudes, self-efficacy, with the intention to unauthorised copying of software.



Model 1:

*Significant paths in the model.

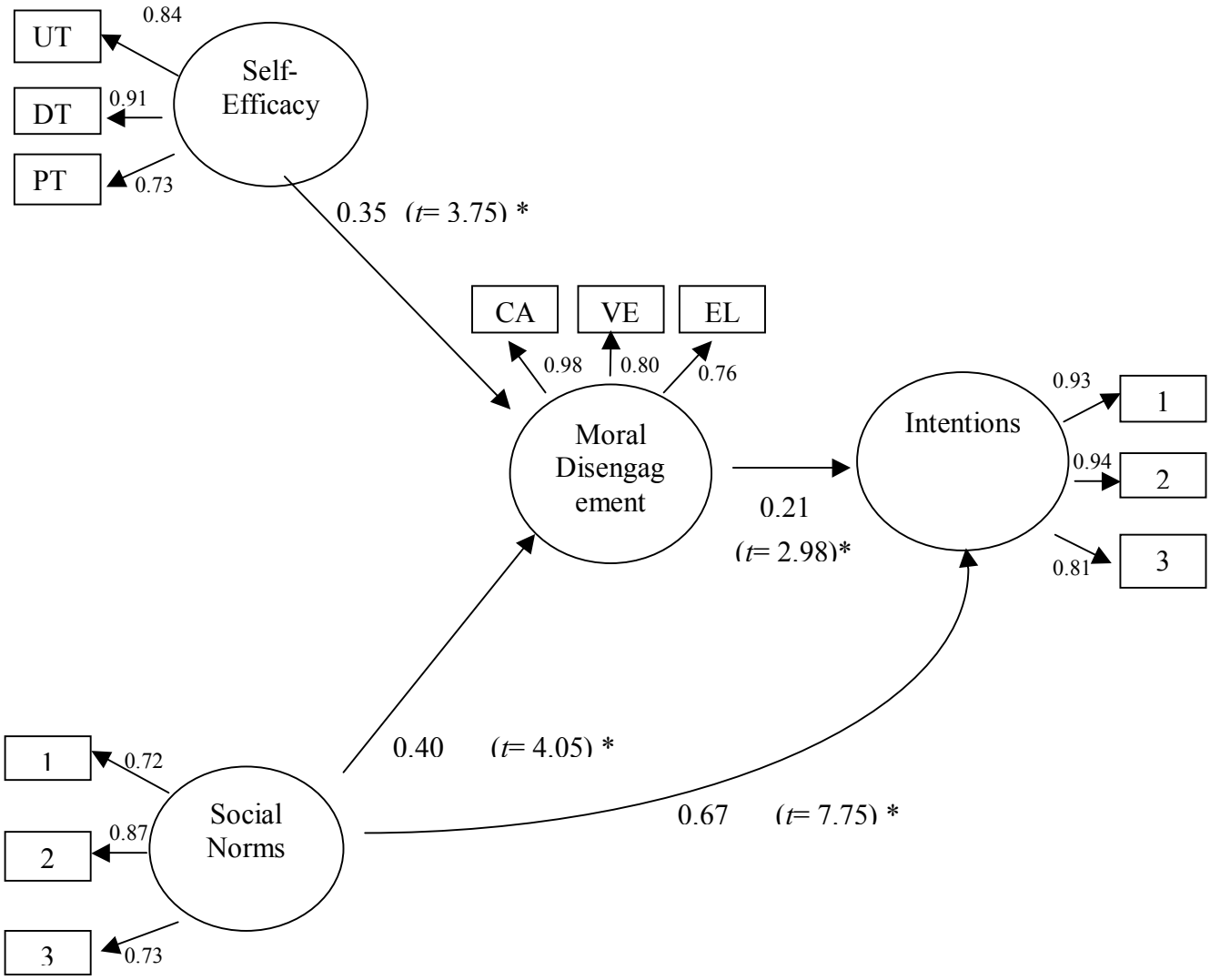
The summary results of path Model 1 as indicated by LISREL: GFI= 0.91, AGFI= 0.87, RMSEA= 0.07, CFI= 0.96, NFI= 0.93. All the paths in the model are statistically significant at t □ 2, except two paths from self-efficacy to moral disengagement, and from social norms to moral disengagement.

In terms of Figure 6, the model presented is testing moral disengagement as a mediator in the relationship between, social norms and self-efficacy; with the intention to the unauthorised copying of software. Accordingly, Model 2, showed an acceptable fit to the model (See Table 9), with GFI= .93, AGFI= 0.90, CFI= .97, NNFI= .97, and a good RMSEA of 0.06, and the probability of close fit was nonsignificant at 0.07. The model however, did not fit according to the Hoelter's Critical N= 149. In sum, the fit statistics presented an acceptable and good model, compared to Model 1.

The structural equation describes the relationships and paths among the factors being examined. In Model 2 (See Figure 6), all the hypothesized paths in the model present the expected signs, and all the paths were significant with high t-values. There was a significant positive relationship between the self-efficacy and moral disengagement path (β= 0.35, t= 3.57, p □ 0.05), and a significant positive relationship between social norms and moral disengagement (β= 0.4, t= 4.05, p □ 0.05). The path between moral disengagement and intentions to the unauthorised copying of software was positive and significant (β= 0.21, t= 2.98, p □ 0.05). In addition, there is a direct positive significant path between social norms and the intentions to the unauthorised copying of software (β= 0.67, t= 7.75, p □ 0.05).

The Lagrange Multiplier, however did not present any sensible paths to improve the model. However, according to theory presented earlier within the study, it was suggested by Bandura (1986) that self-efficacy is a strong mediator in predicting behaviour. As such Model 3 is presented.

Figure 6: Maximum Likelihood Estimates and Standardized Estimates for Moral Disengagement as a Mediator in the Relationship between, social norms and self-efficacy, with the intention to the unauthorised copying of software.



Model 2:

*Significant paths in the model.

The summary results of path Model 2 (without attitude variable) as indicated by LISREL: GFI= 0.93, AGFI= 0.91, RMSEA= 0.07, CFI= 0.96, NFI= 0.93. All the paths in the model are statistically significant at $t \geq 2$.

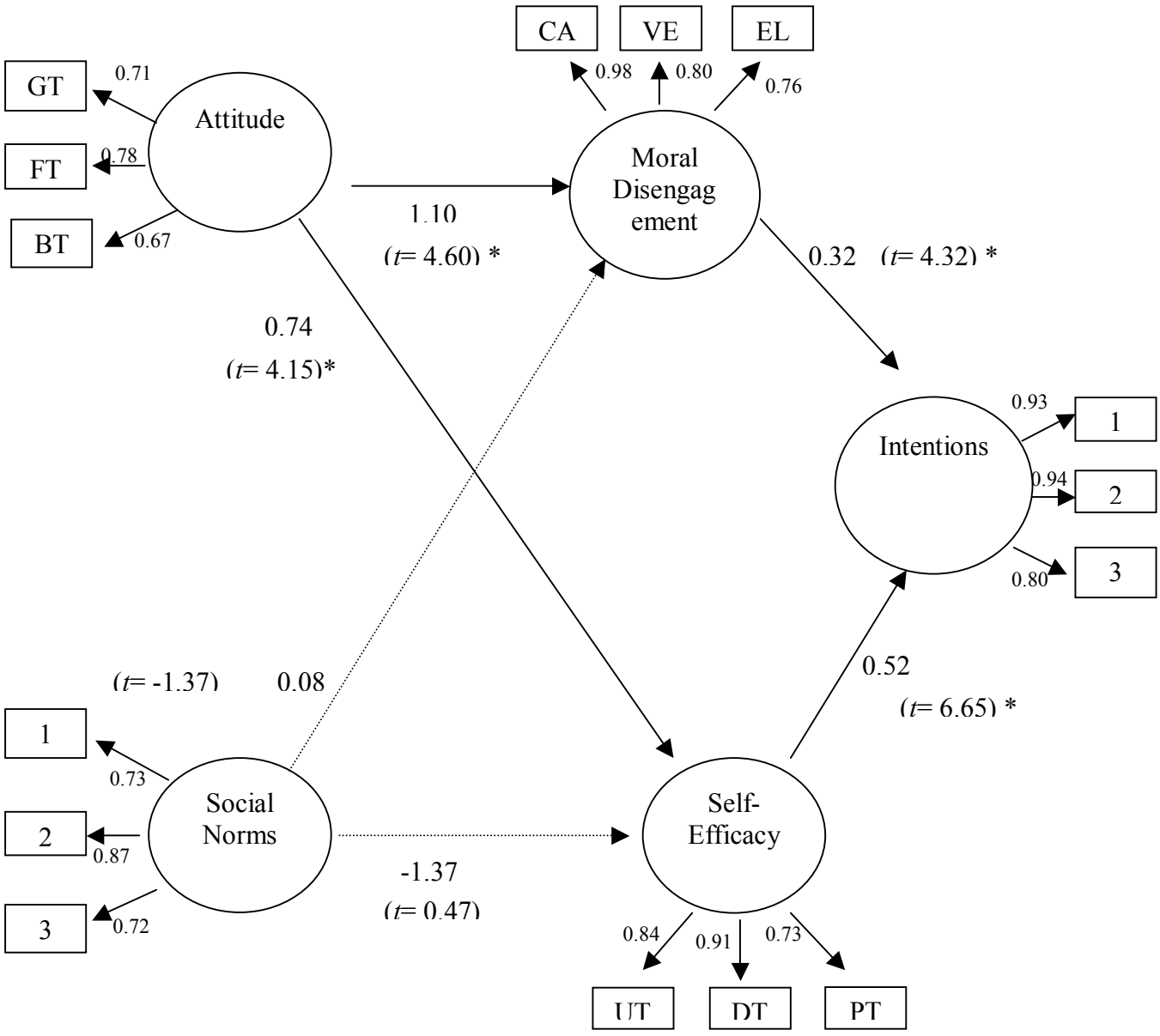
In terms of Figure 7, the model presented is testing moral disengagement and self-efficacy as a mediator in the relationship between, social norms and attitudes; with the intention to the unauthorised copying of software. Accordingly, Model 3, presented a poor fit to the model (See Table 9 pg. 67), with GFI= .88, AGFI= 0.83, Hoelter's Critical N= 98, and an average RMSEA 0f 0.09, and the probability of close fit was significant at 0.00. The model did fit according to the following indicators, CFI= .94 and NNFI= .92. In sum, the fit statistics presented a poor model, compared to Model 1 and Model 2.

The structural equation describes the relationships and paths among the factors being examined. In Model 3 (See Figure 7), all the hypothesized paths in the model present the expected signs, and all the paths were significant with high t-values, except for social norms. There was a significant positive path between attitudes and moral disengagement (β= 1.107, t= 4.60, p □ 0.05), and a significant positive path between attitudes and self-efficacy (β= 0.74, t= 4.15, p □ 0.05). In addition there is a positive significant path between moral disengagement and intentions (β= 0.32, t= 4.32, p □ 0.05), and self- efficacy and intentions to the unauthorised copying of software (β= 0.53, t= 6.65, p □ 0.05). However, there is a negative and non significant path between social norms and moral disengagement (β= -0.31, t= -1.37, p □ 0.05), and a positive non significant path between social norms and self-efficacy (β= 0.08, t= 0.47, p □ 0.05), respectively.

The Lagrange Multiplier, however suggested alternative paths to improve the model. Firstly a path between intentions and attitudes (χ^2= 57.71), and secondly a path between intentions and

social norms (χ^2= 44.72). However, this model did not make sense theoretically, in addition presented a bad fit, and consequently was not presented in the study.

Figure 7: Maximum Likelihood Estimates and Standardized Estimates for Moral Disengagement and Self-Efficacy as Mediators in the Relationship between attitudes and the intention to the unauthorised copying of software.



Model 3:

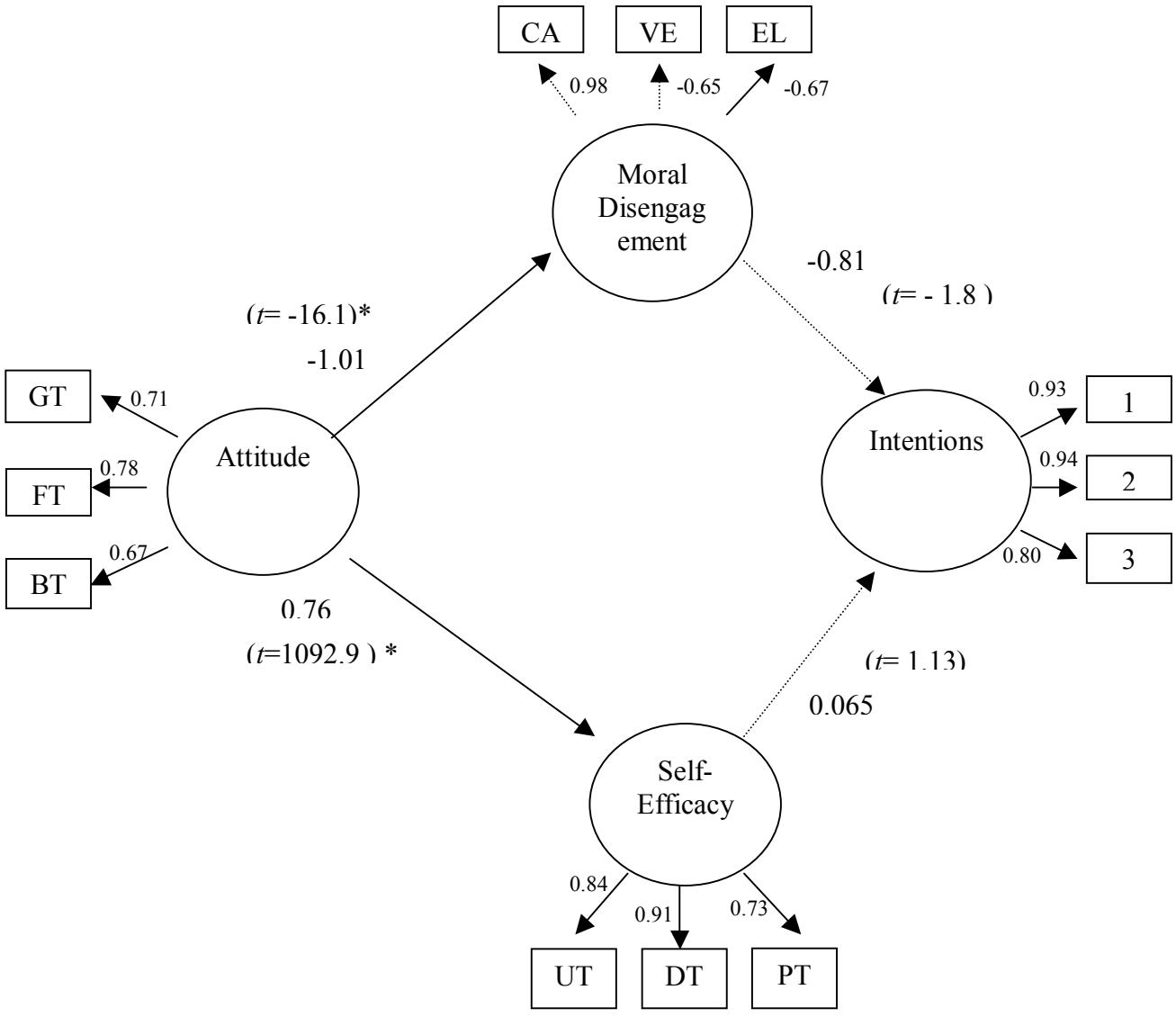
*Significant paths in the model.

The summary results of path Model 3 (moral disengagement and self-efficacy as mediators) as indicated by LISREL: GFI= 0.88, AGFI= 0.83, RMSEA= 0.09, CFI= 0.94, NNFI= 0.92. All the paths in the model are statistically significant at t □ 2, except two paths from social norms to self-efficacy, and social norms to moral disengagement.

In terms of Figure 8, the model presented is testing moral disengagement and self-efficacy as a mediator in the relationship between, attitudes; with the intention to the unauthorised copying of software. This Model is presented to permit a model test, by removing the non significant paths of social norms. Accordingly, Model 4, presented a poor fit to the model (See Table 9), with GFI= .82, AGFI= 0.72, CFI= .80, NNFI= .73 and a poor RMSEA 0f 0.18. The model did fit according to the following indicators, Hoelter's Critical N= 36, and the probability of close fit was not significant. In sum, the fit statistics presented a poor model, compared to Model 2.

In Model 4 (See Figure 8), all the hypothesized paths in the model did not present the expected signs, and all the paths were not significant with high t-values. There was a significant negative path between attitudes and moral disengagement (β= -1.01, t= -16.1, p □ 0.05), and a significant positive path between attitudes and self-efficacy (β= 0.76, t= 1092.9, p □ 0.05). In addition, there is a negative non significant path between moral disengagement and intentions (β= -0.81, t= -0.82, p □ 0.05), and a positive non significant path between self-efficacy and intentions to the unauthorised copying of software (β= 0.065, t= 1.13, p □ 0.05). This model also presented the manifest variables CA and VT of the latent moral disengagement to be negative and non significant. The Lagrange Multiplier, however did not present any sensible paths to improve the model.

Figure 8: Maximum Likelihood Estimates and Standardized Estimates for Moral Disengagement and Self-Efficacy as Mediators in the Relationship between social norms and the intention to the unauthorised copying of software.



Model 4:

*Significant paths in the model.

The summary results of path Model 4 (without social norms variable) as indicated by LISREL: GFI= 0.82, AGFI= 0.72, RMSEA= 0.18, CFI= 0.80, NFI= 0.78. All the paths in the model are statistically significant at t □ 2, except two paths from self-efficacy to intention, and from moral disengagement to intention of unauthorised copying of software.

No further significant improvement could be achieved by freeing substantive parameters of Model 2. Therefore Model 2 was deemed to be the most adequate model for the unauthorised software copying. This conclusion was substantiated by the incremental fit index shown in Table 9.

CHAPTER 5

5.1. DISCUSSION

This chapter will discuss the findings of the current research as presented in Chapter 4, and explain and relate these findings to the literature. These results were obtained from the research questions and the scales that were administered to measure the variables. In addition, this section will be followed by a discussion of the limitations of this study and proposed directions for future research.

The primary focus of the section is to provide possible explanations for the results obtained, and link this study to past literature. However, it should be noted that although studies have been done on this topic before, there is no other study that has specifically focused on moral disengagement towards unauthorised copying of software, (i.e. in terms of moral disengagement as a mediator between attitudes, social norms and self-efficacy, with the intention to the unauthorised copying of software). This combination of variables is a significant tool with which to assess the unauthorised copying of software.

First, the researcher will examine results within a Theory of Planned Behaviour (TPB) framework. As discussed in the literature review, it is important to consider the concepts such as attitudes, social norms and the intentions towards the unauthorised copying of software, although it is important to note that this current study is not taking a TPB or TRA perspective to answering the hypotheses. The results of the study show that there is a strong positive and

significant relationship (r=0.75; p □ 0.05) between attitudes and intentions to the unauthorised copying of software. This would suggest and confirm the results presented by Vallerand, Cuerrier, Pelletier and Mongeau, (1992), Lending and Slaughter (1999), Loch and Conger (1996) and, Al-Rafee and Cronan, (2006). The more an individual favours the unauthorised copying of software, the more likely they would intend to copy software illegally. In addition, there was a strong positive and significant relationship (r= 0.72; p□ 0.05) between social norms and the intention to unauthorised copying of software. This confirms the results of Loch and Conger (1996), which suggests that if important others, such as family, friends or colleagues favour unauthorised copying of software, an individual's intention to copy software illegally would be high. Trafimow and Finlay (1996) established that attitudes are the most significant predictor of the unauthorised copying of software compared to social norms. The results of this study were consistent with that of Trafimow and Finlay (1996), as social norms did account for a part of the variation in intentions.

With regard to self-efficacy, the results presented a moderate positive and significant relationship (r= 0.64; p □ 0.05) towards the intention to the unauthorised copying of software. Within TPB, self-efficacy was found to be an important determinant of a person's intention to perform a behaviour. In this case, the lower an individual's self-efficacy, the more likely they are to participate in illegal software copying, either by using and keeping unauthorised copied software, distributing it, and to persuade others to use unauthorised copied software. Graham and Weiner (1996), established that self-efficacy is the most consistent predictor of behaviour than any other motivational construct. However, from this study, it is evident that attitudes have the strongest relationship with regards to intention to the unauthorised copying of software.

With regard to moral disengagement, there is a moderate positive and significant correlation with attitudes (r= 0.69; p ‹ 0.05), with social norms (r= 0.58; p ‹ 0.05), with intentions (r=0.62; p ‹ 0.05), and lastly self-efficacy (r= 0.58; p ‹ 0.05). This would suggest that if an individual has disengaged their behaviour, their attitude and intention towards the unauthorised copying of software would be high. If an individual has disengaged their behaviour they are more likely to follow social norms. In addition to this, if a person has low self-efficacy towards the unauthorised copying of software, they are more likely to use, keep, distribute or persuade others to participate in the unauthorised copying of software, they are more willing to use these disengagement mechanisms.

As moral disengagement increases, so an individual's attitudes towards the negative conduct increases. This is better explained by examining the theory of moral disengagement. In the self-regulating process, individuals have the choice to disengage from negative behaviour, such as the unauthorised copying of software. As we have noted, when individuals disengage their behaviour, they try to justify this negative behaviour by applying any one of the eight moral disengagement mechanisms, and as such try and make it legitimate. Disengagement practises will not instantly transform law-abiding citizens into mass unauthorised copiers of software; rather, this change is achieved by progressive disengagement of self-censure (Bandura, 2002). Initially individuals perform these acts to a small extent, which they can tolerate with some discomfort. However, through repeated enactments, the level of the negative conduct increases, until eventually acts originally regarded as undesirable can be performed with little distress or self-censure. As such this behaviour becomes routinised (Bandura, 2002). Thus by using moral justification on a continuous basis as a means to justify negative conduct, the less guilty an individual will feel about that behaviour, and the more likely they are to participate in this conduct.

With regard to the IVs, self-efficacy and its relationship between attitudes and social norms, there is a positive moderate and significant relationship (r= 0.65; p ‹ 0.05) with attitudes and a positive moderate and significant relationship (r= 0.57; p ‹ 0.05) with social norms respectively. This would suggest that an individual with low self-efficacy is more likely to have a positive attitude towards unauthorised copying of software, as well as being more likely to follow social norms if they favour the unauthorised copying of software. This would suggest that there is some degree of mediation, as there is an association between predictors (IV's) and the mediator, and between the mediator and the outcome variable (DV).

In relation to the moderate correlations with attitudes, it could be suggested that the environment or setting the participants work in, plays a great role in their behaviour. A part of the sample is from a banking sector. Individuals that do work in these sectors might be selected by their organisation on fitting a particular ethical and moral profile, and should not favour the unauthorised copying of software. However, from the above discussion, two points should be noted regarding the construct validity of TRA. Firstly, that attitudes and social norms are direct determinants of intention, and secondly, attitudes proved to be a more important predictor of behaviour than social norms. This could be due to the fact that an attitude focuses directly on the consequences of action, whereas social norms deal with the perceptions of what others think a person should do (Vallerand, Cuerrier, Pelletier & Mongeau, 1992).

Bandura's (1986) theoretical and dynamic interplay of personal, behavioural and environmental influences, of which individuals interpret the results their own behaviour, informs and alters their environment and the personal factors they posses, which in turn,

informs and alters subsequent behaviour. As such, SCT explicitly acknowledges the existence of a continuous reciprocal interaction. Of more immediate and pragmatic concern for this study is the fact that the reciprocal nature of the relationships between the concepts (self-efficacy, moral disengagement, social norms and intentions) makes drawing conclusions more difficult. In any research, without longitudinal separation of hypothesized causes from effects, it is difficult to draw conclusions about the causal implications of the relationships observed (Rosnow & Rothenthal, 1991). Given the reciprocal relationships posed by Social Cognitive Theory, this problem is magnified.

On this note, the present study also explored moral disengagement as a mediator of the relationship between attitudes, social norms and self-efficacy with the intention to the unauthorised copying of software. A structural equation modelling was performed to predict whether this was indeed the case. The researcher presented four possible models. These will be discussed separately.

The structural equation describes the relationships and paths among the factors being examined. In Model 1 (See Figure 5), all the hypothesized paths in the model did not present the expected theoretical predictions, and some the paths were not significant with low t-values. For one, social norms and self-efficacy had a negative relationship with moral disengagement and these paths were found to be non significant. As such it could be said that moral disengagement does not mediate the relationship between these two concepts and the intention to the unauthorised copying of software. Attitudes on the other hand, had a direct positive relationship with the intention to the unauthorised copying of software. In addition, attitudes preceded moral disengagement as a predictor of intentions to unauthorised copying

of software. The direct path between attitudes and intentions was significantly greater than using moral disengagement as a mediator within this relationship. The path between moral disengagement and the intention to the unauthorised copying of software is negative (inverse relationship) and significant, this is however not what the theoretical model predicted. This would suggest that an individual used moral disengagement mechanisms would not intend to copy software illegally. Therefore, attitudes and intentions are related, but attitudes also predispose individuals to activate moral disengagement mechanisms to "justify" their actions, which in turn precipitates the intention not to copy software illegally. However, it is also important to note that if moral disengagement mechanisms are activated, it would be expected that those individuals will copy software illegally, irrespective of their feelings.

This model however, was problematic, as some of the outcomes presented were not sensible, such as the negative relationship between moral disengagement and intention to unauthorised copying of software. In addition, attitudes were seen as being the greatest predictor of intention, due to the direct path towards intentions, and the fact that it is the dominant predictor, causing other variables not to surface, and as such was removed from the model to test Model 2 as a possible improvement to the above model.

In terms of Figure 6, the model presented is testing moral disengagement as a mediator in the relationship between, social norms and self-efficacy; with the intention to the unauthorised copying of software. Accordingly, Model 2, showed an acceptable fit, compared to Model 1. All the hypothesized paths in the model presented the expected theoretical predictions, and all the paths were significant with high t-values. There was a significant positive relationship between self-efficacy and moral disengagement path (β= 0.35, t= 3.57, p □ 0.05), and a significant positive relationship between social norms and moral disengagement (β= 0.4, t=

4.05, p □ 0.05). The path between moral disengagement and intentions to the unauthorised copying of software was positive and significant (β= 0.21, t= 2.98, p □ 0.05). In addition, there is a direct positive significant path between social norms and the intentions to the unauthorised copying of software (β= 0.67, t= 7.75, p □ 0.05).

This is however, what the theoretical model predicted. With regard to Model 2, it is suggested that, self-efficacy and social norms predispose individuals to activate moral disengagement mechanisms to "justify" their illegal actions, which in turn precipitates the intention to copy software illegally. This model presents moral disengagement as a mediator in this relationship. The direct relationship presented between social norms and intention could be explained by the fact that with the elimination of attitudes this has created a direct path to intention, as it is suggested by theorists and discussed earlier within this section, that social norms are the second best predictor of intentions.

However, according to theory presented earlier within the study, it was suggested by Bandura (1986) that self-efficacy is a strong mediator in predicting behaviour. As such Model 3 is presented. In terms of Figure 7, the model presented is testing moral disengagement and self-efficacy as a mediator in the relationship between, social norms and attitudes; with the intention to the unauthorised copying of software. Model 3, presented a poor fit to the model, compared to Model 1 and Model 2, with regard to model fit indices which were borderline (See Table 9). In Model 3 all the hypothesized paths in the model present the expected signs, and all the paths were significant with high t-values, except for social norms. There was a significant positive path between attitudes and moral disengagement (β= 1.107, t= 4.60, p □ 0.05), and a significant positive path between attitudes and self-efficacy (β= 0.74, t= 4.15, p □ 0.05).In addition there was a positive significant path between moral disengagement and

intentions (β= 0.32, t= 4.32, p □ 0.05), and self- efficacy and intentions to the unauthorised copying of software (β= 0.53, t= 6.65, p □ 0.05).

With regard to the above results, attitudes predispose individuals to activate moral disengagement mechanisms to "justify" their illegal actions which in turn precipitate the intention to copy software illegally. This model presents moral disengagement as a mediator in this relationship. In addition, attitudes predispose individuals to violate their standards, as they have low self-efficacy, and as such use, keep or distributing illegal software copies, which in turn precipitate the intention to the unauthorised copying of software, and per se, presenting self-efficacy as a mediator in the relationship. However, the path between attitudes and moral disengagement explains more of the variation compared to the path between attitudes and self-efficacy. In addition, the path between self-efficacy and intention explains more of the variation compared to the path between moral disengagement and intention to the unauthorised copying of software.

Social norms however, were found to have no effect in the model. In terms of Figure 8, the model presented is testing moral disengagement and self-efficacy as a mediator in the relationship between, attitudes; with the intention to the unauthorised copying of software. This Model is presented to permit a model test, by removing the non significant paths of social norms. Accordingly, Model 4 presented a poor fit. The hypothesized paths in the model did not present the expected theoretical predictions; in addition, most of the paths were nonsignificant with low t-values. For one, there was a significant negative path between attitudes and moral disengagement (β= -1.01, t= -16.1, p □ 0.05), and a significant positive path between attitudes and self-efficacy (β= 0.76, t= 1092.9, p □ 0.05). In addition, there is a negative non significant path between moral disengagement and intentions, and a positive

non significant path between self- efficacy and intentions to the unauthorised copying of software. Within this model there is no path towards intentions, and the results are not predictive of intentions. This can also be seen in the negative (inverse relationship) path presented between attitudes and moral disengagement, which would suggest, if an individual has a positive attitude towards the unauthorised copying of software, they would not morally disengage from this negative conduct.

From the above discussion, it is clear that Model 2 is the best fitting model, and as such will be discussed further, in conjunction with the theory. Moral disengagement from transgressive behaviour is seen to mediate the relationship between self-efficacy and social norms with the intention to the unauthorised copying of software. Social norms act through the judgemental process component of the self-regulatory mechanism, whereby individuals are constantly observing their behaviour and judging its appropriateness compared to what is morally right. Thus if an individual views important others as participating in the unauthorised copying of software, and they have low self-efficacy, they are likely to perform the act of illegal software copying. However, this act is strengthened as the individual will morally disengage themselves from this transgressive conduct, so they would not feel guilty or self-censure. It is also important to note that according to TPB, social norms are believed to act directly on intentions, which is presented with the direct path between the two variables (this path explained more variation, than the path between social norms and moral disengagement). With regard to high self-efficacy, the more confident a person is in their beliefs that unauthorised copying is in violation of their standards, the more likely an individual will persist in not doing it.

Attitudes, although not a predictor in the best fitting model (Model 2), still plays an important role within the unauthorised copying of software. Attitudes, however does have an indirect effect on intentions through moral disengagement, but this effect is not as strong as the direct effect on the intention to unauthorised software copying. Therefore the findings of Al-Rafee and Cronan (2006), have been supported, attitude is seen to be the best predictor of intention.

Consequently, these findings have provided a more in-depth exploratory analysis of the relationship between attitudes, self-efficacy, social norms and the intention to unauthorised copying of software, as well as providing a framework in Social Cognitive Theory on which to build on the unauthorised copying of software. It is however important to note that the current study is exploratory in nature and as such is attempting to establish this area of research as worthy for future attention.

5.2. LIMITATIONS

Particular attention has been paid to the content, method and statistical analysis of the study. However, a number of limitations can be identified. Firstly, some of the major methodological issues will be discussed, in terms of the research design, sample, procedures, measuring instruments, and the data analysis.

The study makes use of a non-experimental, correlational and cross-sectional design. Although it is easy to implement, time and cost efficient, it has many limitations. This design has no control group (can only associate between variables), no manipulation of IV (no directionality can be established), no random assignment (non-spuriousness cannot be demonstrated and many threats to internal validity), and it also does not allow for causal inferences (Terre Blanche & Durrheim, 1999). In addition to this, the cross-sectional design

only enables associations to be made and does not allow for causation to be established (Wadee, 2001, p. 25). Lastly, by conducting research within a quantitative paradigm, it makes it difficult to tap into the context of unauthorised copying of software, as individuals are selecting replies, which might not be an accurate reflection of their thoughts. It would be advised to use a multi-method approach, as this would be more beneficial to provide the researcher with in-depth material.

The current study used a non-probability sampling method, due to its convenience and accessibility. This created two problems for the researcher, firstly, that there is no way to estimate the probability of each element being included in the sample, and secondly, no guarantee that each element has some chance of being included (Babbie & Mouton, 2004). Thus generalisability may be reduced. Purposive sampling was used to obtain the sample, as the organisations selected were those who have certain characteristics and could provide useful information for the purpose of the study, i.e. these organisations use computers and software programmes on a regular basis, which is an important aspect in the study. However, although these organisations and participants would certainly be a prime target for the study of unauthorised copying of software, other consumers might also engage in software piracy.

Although the questionnaires were distributed throughout the organisations, and individuals agreed to participate, the response rate was comparatively poor. There might have been some reason why certain individuals agreed to participate while others did not, this could be due to the contentious nature of the study. However, there might be some volunteer bias present, which is described as "the systematic error resulting when participants who volunteer, respond differently from those in the general population would have" (Rosnow & Rosenthal, 1991, p. 632), which might have influenced the results of the study.

The sample was slightly biased towards men and educated individuals, as many participants had a diploma, degree or postgraduate degree. This however limits the extent to which the findings can be generalized to other computer users. A further limitation to the study is its sample size. Although the sample size was adequate for the statistical procedures, a larger sample would have been more adequate for the use of SEM, as this statistical procedure is very sensitive to sample size; and the power of the test, i.e. the smaller the sample the lower the power of the test. In addition, due to not having a large enough sample size it could have lead to the rejection of an apparently well-fitting model. Thus it would be beneficial for future studies to use a larger sample size.

The questions in the questionnaire might have been seen as repetitive by many participants, although the questions measured different aspects. This redundancy could have caused individuals to answer all the questions in a similar fashion, as there was a tendency for participants to respond all positively or all negatively to items. A further limitation of the study involves the reliance on self-report data. While this is an easy and time effective method, there may have been biases in individual responses. Terre Blanche and Durrheim (1999) describe social desirability bias, which may have caused participants to try and present themselves in a favourable light, particularly in relation to the way they feel and perceive the unauthorised copying of software, as this is viewed as a criminal offence. Lastly, there could be good subject effect, where participants may provide answers they feel the researcher would want to find (Rosnow & Rosenthal, 1991).

There are certain limitations related to the instruments used to measure the constructs in the study. Most of the questionnaires used were adapted from other studies, whereby words were changed to fit the current study, which could have had an impact on how the participants

understood the questions, therefore a pilot study could have been conducted at the onset of the study. In addition, the instruments that were used lacked certain psychometric information, such as test-retest reliability, and convergent and discriminant validity. Despite these limitations, the good reliabilities of the scales that were obtained, would suggest that there is some consistency.

The factor analysis presented that certain constructs did not load on the desired and predicted underlying variables as presented in the theory, such as moral disengagement and self-efficacy. However, these instruments are newly developed and have not been administered in wider contexts. These measures however need to be applied to more contexts, to mend this problem.

When interpreting the results of the study, it is important to note that SEM provides a strong indication about directionality of relationships. However, the researcher applied SEM to cross-sectional data, and thus no definite conclusions about causality can be drawn. In addition, the models presented adequate fit, and as such need improvement. SCT, in contrast, explicitly acknowledges the existence of a continuous reciprocal interaction and causation between the environment in which an individual operates, his or her cognitive perceptions (self-efficacy and outcome expectations), and behaviour (Bandura 1986). Thus there is indeed a likelihood of reciprocal causation among the variables in the current study.

Despite the weaknesses, this study plays an important role in the study of unauthorised copying of software. This study helped validate previous studies in this area, and as such allows for better conceptualisation of the motivation behind the unauthorised copying of software. In addition, the models proposed here are not meant to be definitive, but need to be

refined and tested with other populations, thus this research is meant to be a starting point for further work in this important and developing area.

5.3. DIRECTIONS FOR FUTURE RESEARCH

The research presented sheds some light on variables that play a role in the unauthorised copying of software. However, future research is needed in these areas to help validate the study, and to allow for better conceptualisations of the models presented. The limitations of this study, as discussed above, indicate possible future directions for research. Studies with samples of different profiles, as well as studies with larger samples are warranted, such studies would also enhance the generalisability of the results.

In addition, the current research is exploratory in nature, and as such is attempting to establish this area of research as worthy for future attention, thus more research is needed within this area. Longitudinal studies, for one are needed for the establishment of causation. Future research should also adopt a longitudinal design to Social Cognitive Theory and its underlying concepts in the exercise of the unauthorised copying of software, as a means of producing a deeper understanding of the relationships between these variables.

CHAPTER 6

CONCLUSION

The present study attempted to provide further support for literature presented on the unauthorised copying of software, and in addition, to set out and delve into untamed waters, with regard to Social Cognitive Theory and the unauthorised copying of software.

The unauthorised copying of software is no doubt one of the most important issues confronting today's society. It is complicated, as it involves complex personal, environmental and behavioural factors that reciprocally determine one another. Successful research in this area requires researchers to constantly untangle the seemingly unlimited issues related to the environment, individual and behaviour. Thus the concept of Social Cognitive Theory and its underlying aspects can be useful in this regard.

Results from the current study revealed that:

- An individual's intention to copy software illegally increased with stronger attitudes about the unauthorised copying of software.
- Strong beliefs that significant others would approve of the unauthorised copying of software, lead to increased intention to copy software illegally.
- The lower an individual's self-efficacy beliefs, the more likely an individual would be to copy software illegally.
- Moral disengagement mediates the relationship between social norms and self-efficacy with the intention to the unauthorised copying of software.

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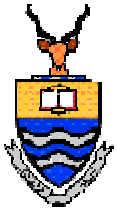
APPENDIX 1

ORGANISATIONAL INFORMATION SHEET



UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

School of Human and Community Development
Private Bag 3, Wits 2050, Johannesburg, South Africa
Tel: (011) 717-4500 Fax: (011) 717-4559
Email: 018lucy@muse.wits.ac.za

Dear Sir/ Madam

My name is Alethea Wentzell, and I am conducting research for the purpose of obtaining my masters degree in Industrial Psychology at the University of the Witwatersrand. My area of focus is on the unauthorised copying of software, and how individuals try to give good reasons for doing this and not feeling guilty. Part of the research aims to explore how individuals' attitudes and beliefs as well as how societal views affect their understanding of unauthorised copying of software. I would like to invite your organisation to participate in this research. Your organisation will remain anonymous.

Participation in this research will entail employees completing a questionnaire. Participation is voluntary, and no individual will be advantaged or disadvantaged in any way for choosing to complete or not complete the questionnaire. At no point are employees required to submit their name or any other identifying information, as such they will remain anonymous. The completed questionnaire will not be seen by anyone other than the researcher at any time. Responses will only be looked at in relation to all other responses. This means that feedback will be in the form of group responses and not individual perceptions. As such employees' answers will be confidential.

If you choose to participate in the study, employees will be asked to please complete the following questionnaire as carefully and honestly as possible, as there are no right or wrong answers. This will take approximately 20 minutes. Once employees have answered the questions, they will be asked to place the questionnaires in the envelope provided and deposit it in the sealed box in the reception area of the organisation. I will collect the questionnaires from the box at regular intervals. This will ensure that no one will have access to the completed questionnaires, and will further ensure employees anonymity and confidentiality. If employees do complete and submit their questionnaires, it will be considered consent to participate in the study.

Your participation in this study would be greatly appreciated. This research will contribute both to a larger body of knowledge on moral disengagement in unauthorised copying of software. A summary of end results will be posted on the notice board of the organisation for all participants who participated in the research to receive feedback.

Kind Regards

_____

Alethea Wentzell
alethea_wentzell@hotmail.com

APPENDIX 2

PARTICIPANT INFORMATION SHEET

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

School of Human and Community Development
Private Bag 3, Wits 2050, Johannesburg, South Africa
Tel: (011) 717-4500 Fax: (011) 717-4559
Email: 018lucy@muse.wits.ac.za

Dear Sir/ Madam

My name is Alethea Wentzell, and I am conducting research for the purpose of obtaining my masters degree in Industrial Psychology at the University of the Witwatersrand. My area of focus is on the unauthorised copying of software, and how individuals try to give good reasons for doing this and not feeling guilty. Part of the research aims to explore how individuals' attitudes and beliefs as well as how societal views affect their understanding of unauthorised copying of software. I would like to invite you to participate in this research.

Participation in this research will entail completing the following questionnaire. Participation is voluntary, and no individual will be advantaged or disadvantaged in any way for choosing to complete or not complete the questionnaire. At no point are you required to submit their name or any other identifying information, as such they will remain anonymous. Your completed questionnaire will not be seen by anyone other than the researcher at any time. Responses will only be looked at in relation to all other responses. This means that feedback will be in the form of group responses and not individual perceptions. As such your answers will be confidential.

If you choose to participate in the study, please complete the following questionnaire as carefully and honestly as possible, as there are no right or wrong answers. This will take approximately 20 minutes. Once you have answered the questions, place the questionnaires in the envelope provided and deposit it in the sealed box in the reception area of the organisation. I will collect the questionnaires from the box at regular intervals. This will ensure that no one will have access to the completed questionnaires, and will further ensure your anonymity and confidentiality. If you do complete and submit their questionnaires, it will be considered consent to participate in the study.

Your participation in this study would be greatly appreciated. This research will contribute both to a larger body of knowledge on moral disengagement in unauthorised copying of software. A summary of end results will be posted on the notice board of the organisation for all participants who participated in the research to receive feedback.

Kind Regards

_____

Alethea Wentzell
alethea_wentzell@hotmail.com

APPENDIX 3

QUESTIONNIARE

UNAUTHORISED COPYING OF SOFTWARE QUESTIONNAIRE
SECTION 1: Biographical Questions.

These questions are used for descriptive purposes only. Please mark the box that best describes you:

What is your gender?

Male	Female

What is your age in years?

18-28	29-38	39-49	49-59	60+

What is your race?

African	Indian	Coloured	White	Other

What is your highest level of education?

Primary School	High School	Matric	Diploma course	Undergraduate	Postgraduate

What is your current occupation?

Student/Pupil	Employed/ Professional	Employed Semi/ Professional	Self-Employed	Unemployed	Retired

What department do you work in?

IT	Legal	Sales & Marketing	Technical	Consulting	Education	Engineering	Financial	Government	HR

If other, please specify _____

Approximate years of computer use?

Less than 1 year	1-5 years	5-10 years	10-15 years	15-20 years	More than 20 years

How many hours a day do you use a computer?

1-5 hours	5-10 hours	15-20 hours	20+ hours

How frequently (per week) do you use programming packages (e.g. C++, Java, Perl, etc)?

Not applicable or never	Less than once a week	Once to a few times a week	Up to 2 hours every day	2-8 hours every day	More than 40 hours every week

How frequently (per week) do you use office programs (e.g. word processing, spreadsheet, etc. applications)?

Not applicable or never	Less than once a week	Once to a few times a week	Up to 2 hours every day	2-8 hours every day	More than 40 hours every week

How frequently (per week) do you use technical software (e.g. statistical, accounting, DTP, CAD, SAP, etc. applications)?

Not applicable or never	Less than once a week	Once to a few times a week	Up to 2 hours every day	2-8 hours every day	More than 40 hours every week

How frequently do you use computer games (e.g. Quake, Warcraft, etc)?

Not applicable or never	Less than once a week	Once to a few times a week	Up to 2 hours every day	2-8 hours every day	More than 40 hours every week

How frequently (per week) do you use the Internet?

Not applicable or never	Less than once a week	Once to a few times a week	Up to 2 hours every day	2-8 hours every day	More than 40 hours every week

SECTION 2:

For the following questions please indicate your degree of confidence for the following statements:

1.	When you badly need a software programme but feel it is too expensive, how confident are you to refuse to use an illegal copy of that software	Not at all confident	Not very confident	Neutral	Relatively confident	Extremely confident
2.	When you badly need a software programme but do not have time to purchase a copy, how confident are you to refuse to use an illegal copy of that software	Not at all confident	Not very confident	Neutral	Relatively confident	Extremely confident
3.	When you badly need a software program and have the opportunity to obtain an illegal copy without anybody else knowing, how confident are you not to take advantage of it	Not at all confident	Not very confident	Neutral	Relatively confident	Extremely confident
4.	When you badly need a software program and have seen other colleagues use an illegal,	Not at all confident	Not very confident	Neutral	Relatively confident	Extremely confident

	how confident are you not to take advantage of it					
5.	When you badly need an illegal copy of a software program to benefit your work, how confident are you not to take advantage of it	Not at all confident	Not very confident	Neutral	Relatively confident	Extremely confident
6.	If a colleague has a software program that you like very much, how confident are you not to ask for an illegal copy of it	Not at all confident	Not very confident	Neutral	Relatively confident	Extremely confident
7.	If a good friend badly needs a software program, how confident are you not to make an illegal copy for him or her	Not at all confident	Not very confident	Neutral	Relatively confident	Extremely confident
8.	If a good friend badly needs a software program and is asking for your help to obtain an illegal copy, how confident are you to refuse to accept that request	Not at all confident	Not very confident	Neutral	Relatively confident	Extremely confident
9.	If a good friend badly needs a software program that you own and is asking you for a copy, how confident are you to refuse to grant the request	Not at all confident	Not very confident	Neutral	Relatively confident	Extremely confident
10.	If you see colleagues using an illegal copy of a software program, how confident are you to try to dissuade them from using it	Not at all confident	Not very confident	Neutral	Relatively confident	Extremely confident
11.	If you see a colleague selling an illegal copy of a software program for profit, how confident are you to try to talk him or her to give it up	Not at all confident	Not very confident	Neutral	Relatively confident	Extremely confident
12.	If you see a colleague attempting to make an illegal copy of a software program, how confident are you to try to	Not at all confident	Not very confident	Neutral	Relatively confident	Extremely confident

	talk him or her out of it					

SECTION 3:

For the following questions please indicate your degree of agreement or disagreement with the following statements:

13.	There is nothing wrong in using unauthorised copied software if it is needed for the success of a social responsibility project	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
14.	It is okay to use unauthorised copied software if it will improve an individual's computer literacy	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
15.	The unauthorised copying of software is like playing a trick on the software company	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
16.	Copying someone else's software is just a cheaper way of getting the product	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
17.	The unauthorised copying of software is inventive	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
18.	The unauthorised copying of software is not too serious compared to those people who use spyware to steal money from people's bank accounts	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
19.	Individuals who copy software illegally should not be prosecuted because they are actually saving software companies on distribution costs	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
20.	Individuals who cannot afford software products cannot be held responsible for the unauthorised copying of it	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
21.	A manager is not culpable for the unauthorised copying of software as a request from his boss to save the company some money	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

22.	There is no sense in worrying about those few individuals who copy software illegally since there is a big community of people copying software	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
23.	Individuals should not feel guilty for the unauthorised copying of software if they only contributed towards it in a very small way	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
24.	There is no sense in blaming a few individuals for the unauthorised copying of software when everybody else does the same thing	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
25.	The unauthorised copying of software does not really have a significant adverse effect on the software industry as they make lots of money anyway	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
26.	The unauthorised copying of software is okay as software companies can afford these losses	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
27.	The unauthorised copying of software is a way of convincing the software companies to drop their prices	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
28.	Software companies are to blame for the unauthorised copying of software as they make it too easy for individuals to copy software	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
29.	The unauthorised copying of software happens when people are given no other means to get access to the software	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
30.	The unauthorised copying of software is not the individuals fault as software companies do not adequately protect their software	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
31.	The software companies are corporate bloodsuckers who drain	Strongly	Disagree	Neutral	Agree	Strongly

	companies' finances	Disagree				Agree
32.	The software companies are a bunch of frauds who deserve to have their products copied illegally	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

SECTION 4:

For the following questions please indicate your degree of agreement or disagreement with the following statements:

33.	I intend to make unauthorized software copy in the future	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
34.	I plan to make unauthorized software copy in the future	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
35.	I am tempted to make unauthorized software copy in the future	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

SECTION 5:

For the following questions please indicate your degree of agreement or disagreement with the following statements:

36.	I would feel guilty about being in possession of unauthorised copies of software	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
37.	I would not feel badly about making unauthorised copies of software	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
38.	I would feel guilty about giving my close friends unauthorised copies of copyrighted software	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
39.	I feel that making unauthorised copies of software is fine	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
40.	The benefits of unauthorised software copying outweigh the possible consequences	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

SECTION 6:

For the following questions please indicate your degree of agreement or disagreement with the following statements:

41.	Most people I know make unauthorised copies of software	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
42.	People who are important to me think I should not make unauthorised copies of software	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
43.	People who are important to me would approve of my making unauthorised copies of software	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
44.	People who are important to me want me to make unauthorised copies of software	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
45.	I feel under social pressure to make unauthorised copies of software	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
46.	People who are important to me do not influence my decision to make unauthorised software copies	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
47.	My work colleagues would approve of my making unauthorised software copies	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
48.	My manager would think that I should not make unauthorised software copies	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
49.	My organisation does not support making unauthorised software copies	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

APPENDIX 4
SELF-EFFICACY TO UNAUTHORISED COPYING OF SOFTWARE SCALE

Items of Use and Keep Self-Efficacy:

1. When you badly need a software program but feel it is too expensive, how confident are you to refuse to use an illegal copy of that software.
2. When you badly need a software program but do not have the time to purchase a copy, how confident are you to refuse to use an illegal copy of that software.
3. When you badly need a software program and have the opportunity to obtain an illegal copy without anybody else knowing, how confident are you not to take advantage of it.
4. When you badly need a software program and have seen other colleagues use an illegal copy, how confident are you not to take advantage of it.
5. When you badly need an illegal copy of a software program to benefit your work, how confident are you not to take advantage of it.
6. If a colleague has a software program that you like very much, how confident are you not to ask for an illegal copy of it.

Items of Distribution Self-Efficacy:

1. If a good friend badly needs a software program, how confident are you not to make an illegal copy for him or her.
2. If a good friend badly needs a software program and is asking for your help to obtain an illegal copy, how confident are you to refuse to accept that request.
3. If a good friend badly needs a software program that you own and is asking you for a copy, how confident are you to refuse to grant the request.

Items of Persuasion Self-Efficacy:

1. If you see colleagues using an illegal copy of a software program, how confident are you to try to dissuade them from using it.
2. If you see a colleague selling an illegal copy of software program for profit, how confident are you to try to talk him or her to give it up.
3. If you see a colleague attempting to make an illegal copy of a software program, how confident are you to try to talk him or her out of it.

APPENDIX 5
MORAL DISENGAGEMENT TO THE UNAUTHORISED COPYING OF SOFTWARE SCALE

Moral Justification:
1. There is nothing wrong in using unauthorised copied software if it is needed for the success of a social responsibility project.
2. It is okay to use unauthorised copied software if it will improve an individual's computer literacy.

Euphemistic Labelling:
1. The unauthorised copying of software is like playing a trick on the software company.
2. Copying someone else's software is just a cheaper way of getting the product.
3. The unauthorised copying of software is inventive.

Advantageous Comparisons:
1. The unauthorised copying of software is not too serious compared to those people who use spyware to steal money from people's bank accounts.
2. Individuals who copy software illegally should not be prosecuted because they are actually saving software companies on distribution costs.

Displacement of Responsibility:
1. Individuals who cannot afford software products cannot be held responsible for the unauthorised copying of it.
2. A manager is not culpable for the unauthorised copying of software as a request from his boss to save the company some money.

Diffusion of Responsibility:
1. There is no sense in worrying about those few individuals who copy software illegally since there is a big community of people copying software.
2. Individuals should not feel guilty for the unauthorised copying of software if they only contributed towards it in a very small way.
3. There is no sense in blaming a few individuals for the unauthorised copying of software when everybody else does the same thing.

Distortion of Consequences:
1. The unauthorised copying of software does not really have a significant adverse effect on the software industry as they make lots of money anyway.
2. The unauthorised copying of software is okay as software companies can afford these losses.
3. The unauthorised copying of software is a way of convincing the software companies to drop their prices.

Attribution of Blame:
1. Software companies are to blame for the unauthorised copying of software as they make it too easy for individuals to copy software.
2. The unauthorised copying of software happens when people are given no other means to get access to the software.
3. The unauthorised copying of software is not the individuals fault as software companies do not adequately protect their software.

Dehumanisation:
1. The software companies are corporate bloodsuckers who drain companies' finances.
2. The software companies are a bunch of frauds who deserve to have their products copied illegally.