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Bandura's social cognitive theory (SCT) in a cross-nation study of software piracy.

Matthews, M. S.

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Chapter 1: Introduction

Computer software comes with a licensed agreement stating how it can be used legally. Software piracy occurs when people, intentionally or unintentionally, make copies of the computer software without permission or they load the computer software onto more machines than the licensed agreement says they can. Over the years the amount of money that is lost to software piracy has increased (Business Software Alliance [BSA] & IDC, 2007). In 2006 monetary losses from software piracy increased by \$5 billion (BSA & IDC, 2007). Some countries have drastically different piracy rates. For instance the piracy rate in Zambia is 81% and South Africa is 36% (BSA & IDC, 2007). These differential piracy rates imply that there are local contextual factors (i.e. culture) that account for these differences.

Research has tried to account for why some people choose to pirate while others do not and what could cause such different piracy rates. They have offered economic, psychological and cultural explanations. However software piracy is a behaviour and therefore the researcher believes it is important to try to ascertain why this behaviour differs so much between two countries from a psychological perspective (Limayem, Khalifa & Chin, 2004). Most of the previous psychological research has studied single variables, variables without a psychological framework or not at a cross-national level. However, a cross-national framework has been advocated by Gopal and Sanders (1993). Therefore the aim of this research is to use Bandura's Social Cognitive Theory (SCT) (1984) to explore if previously studied psychological variables can offer any insight into the radically different piracy rates. The SCT is utilised because it has been successfully used in previous software piracy research (e.g. Kuo & Hsu, 2001) and because Bandura (1984) has argued that it has predictive and explanatory power at a cross-national level.

The study will not be able to make any broad generalization since only a student population will be utilised and the sample size will be limited by the scope of the study. However the study will serve as a basis for future research and recommendations. This study is designed to examine possible cross-national differences between a Zambian and a South Africa student sample on specific aspects

of Bandura's SCT model in relation to software piracy. The aim of the study is to see if Bandura's SCT theory can offer any insight into Zambia and South Africa's radically different software piracy rates on a selected sample. To achieve this goal this research report first gives an overview on the current literature in this field. This chapter ends with the research questions that arose as a result of the review. The next chapter addresses the method used to answer the research questions. The results chapter is presented next before a chapter discussing the implications of the findings. The last chapter concludes this research report.

Chapter 2: Literature Review

This chapter addresses the literature on software piracy as a phenomenon and then as a topic of research. In terms of the research on software piracy this chapter first gives an overall perspective of the type of studies conducted in this field and then looks at how anti-piracy campaigns have used these findings to address the problem. The psychological framework for the study is then presented in a concise form before addressing each variable in the model that forms the focus of the research. Each variable is discussed in terms of the psychological framework and the current research findings. This builds up to the end of the chapter where the model for the study is presented along with the research questions.

2.1. Software Piracy

Computer software comes with a licensed agreement that states how the technology can be used legally (Software and Information Industry Association [SIIA], 2007). This is often referred to as the terms and conditions of use. To help ensure that people adhere to these conditions copyright laws are designed to protect this form of intellectual property (Traphagan & Griffith, 1998). One of the ways this is achieved is by giving the owner of the software the exclusive rights to it (Traphagan & Griffith, 1998). When these laws are breached people can face civil and criminal charges (Chikampu, 2007).

Software piracy and the breach of the copyright laws, intentionally or unintentionally, can occur in numerous ways. The SIIA (2007) has identified ten forms of software piracy that are not necessarily mutually exclusive categories: softlifting, unrestricted client access, hard-disc loading, OEM Piracy/Unbundling, Commercial Use of Non-commercial Software, Counterfeiting, CD-R piracy, Internet Piracy, Manufacturing Plant Sale of Overruns and 'Scraps' and Renting. While the specific terms and conditions of the use of software are program specific these categories are only effective when the person's behaviour breaches the software's license agreement. The different categories of software piracy are reflective of the fact that software piracy varies in terms of its degrees of intensity. The categories indicate that piracy

can vary from one extreme of sharing the software with a friend (softlifting) to the other extreme of duplicating and selling the unauthorised copies under the pretence that they are legal copies (counterfeiting). Therefore for the purpose of this research software piracy is defined as occurring when people make copies of the computer software without permission or they load the computer software onto more machines than the licensed agreement says they can. Examples of computer software are databases, security packages, PC Games and reference software (SIIA, 2007).

Software Piracy directly harms the firms producing the software (Cooner & Rumelt, 1991). This is because it acts as a disincentive for people to produce innovative technology since they are not guaranteed to benefit from their hard work (Steidlmeier, 1993). This then impacts on the customers as the reduction in profits is passed onto the consumer in the form of higher prices (Cooner & Rumelt, 1991). Not only does it hamper the development of software it also reduces the exportation of the products (Traphagan & Griffith, 1998). This has a negative impact on the wealth of a country since the Software Industry can act as an economic driver (BSA & IDC, 2007). For instance it provides jobs, business opportunities and tax revenues (BSA & IDC, 2007). The software industry also contributes to the world economy by advancing society through technological innovations (BSA & IDC, 2007).

The negative impact software piracy has on peoples' lives has often led researches to classify this form of behaviour as an immoral and illegal act (Kini, Rominger & Vijayaraman, 2000). Computer software is easy to pirate because it is relatively easy to copy and does not result in a degradation of the quality of the product (Traphagan & Griffith, 1998). Researchers also hypothesise that people pirate computer software because of the high number of personal computers now available (Tang & Farn, 2005).

“Software piracy is one of the most important issues for the development of the software industry” (Tang & Farn, 2005, p. 149). Software companies have responded by either placing preventative or deterrent measures in place (Gopal & Sanders, 1997). Preventative measures are aimed at wearing the pirate down by putting in measures that make it hard to pirate such as coder cards and hardware locks. These controls are aimed at wearing the pirate down to reduce its appeal. However, this has

not been very effective since Goode and Cruise (2006) found that the challenge of overcoming preventative devices was the main incentive for people to use their skill and knowledge to remove the copy protection. This has a detrimental affect on piracy because these people play a pivotal role in distribution of illegal software since it could not occur without this (Goode & Cruise, 2006). Deterrent controls try to encourage people not to pirate software by threatening legal sanctions. Gopal and Sanders (1997) found that only deterrent measures help save a company's profits. Al-Rafee and Cronan (2006) state that it is evident that these two measures are not effective in combating software piracy since the respective companies are still facing increasing loses.

Software piracy is a common phenomenon. The worldwide average piracy rate was 35% in 2006 (BSA & IDC, 2007). Half of the countries' surveyed piracy rates were 62% or higher (BSA & IDC, 2007). Although, Zambia and South Africa are relatively close in terms of geographic location (See Figure 1) their piracy rates are radically different. In 2006 Zambia had the fourteenth highest computer software piracy rate in the world: 81% (BSA & IDC, 2007). According to BSA and IDC (2007, p.2) this equates to a relationship where "for every \$1.00 spent on PC hardware, less than seven cents was spent on legitimate software". South Africa had the eighteenth lowest piracy rate in the world: 36%. However, this still costs South Africa \$225 million in 2006 (BSA & IDC, 2007). These differential piracy rates imply that there may be local contextual factors (i.e. culture) that account for these differences. Before presenting the various explanations the literature offers for these differences the accuracy of the piracy rates must be examined.

The piracy rates in the BSA and IDC (2007) report were calculated as a percentage based on "the total number of units of pirated software" used in the year of study "divided by the total units of software installed" in the same year (BSA & IDC, 2007, p.16). The number of the units of pirated software was obtained by calculating the value of industry losses. The BSA and IDC report (2007) justify equating the two because they state that research has confirmed that a linear relationship exists between piracy rate and software industry revenue. Therefore the BSA and IDC (2007) report appears to believe that their measure of piracy was valid and therefore reliable. However, due to the fact that the reader is not given any statistical information

regarding the significance or the strength of the relationship and the fact that there are a number of extraneous variables in this relationship, the validity and the reliability of the measure is questioned. In terms of units installed this figure was based on a model that was derived from results of “surveys, analyst estimates, spot inventories, and other local research” (BSA & IDC, 2007, p.16). The BSA and IDC (2007) report does not specify exactly where these studies were conducted but only that they were not conducted in every country included in their report. This raises questions around the accuracy of these measurements in terms of their reliability and validity since the model is not based on research done in every country. The report should also provide more information on the exact model so a more critical understanding of the piracy rates can be obtained. The study’s methodology section also makes reference to the fact that the model was based on profiles of the countries in terms of “demographics, computer sophistication and comparisons to like countries” (BSA & IDC, 2007, p.16). This is a very general statement that does not offer any insight into the exact methodology. This again raises caution around the accuracy of the piracy rates. However, since the piracy rates are so radically different the author believes that large differences still do exist.



Figure 1: Map of Southern Africa.

2.2. Possible Explanations Offered For Drastic Cross-Nation Differences

Researchers have studied software piracy to try explain why some people pirate software and others do not by focusing on economic, cultural, demographic and psychological reasons.

Economic

Various studies have explored the relationship between software piracy rates and various economic factors. These relationships have been used as explanations for radically different piracy rates. Shin, Gopal, Sanders and Whinston (2004) found that Gross Domestic Product (GDP) per-capita is inversely associated with piracy rates. This is reflected in Zambia and South Africa's situations since Zambia's GDP in 2007 per capita was \$1,400 and in South Africa it was \$10,600 (Central Intelligence Agency [CIA], 2007). Husted (2000) also found a similar relationship with countries' Gross National Product (GNP) per capita and income inequality.

Husted (2000) found that GNP and income inequality were significantly negatively related to software piracy rates. This means that he found higher levels of economic development coupled with lower piracy rates and lower levels of economic development with higher piracy rates. He also found higher piracy rates in countries with low levels of income inequality (the larger the middle class). Husted (2000) explains his findings on the assumption that people who are either very wealthy or very poor do not need to pirate because either they can afford the software or they do not have access to the software. Therefore a large middle class represents a large number of people who are likely to pirate software (Husted, 2000). Husted (2000) based his results on an analysis of archival data collected by different sources (namely the World Bank, BSA and Hofstede). The problem with his method is that he relied on the reliability and validity of these sources without a thorough analysis of them. Although he does refer to Sondergaard's study (as cited in Husted, 2000) that found that the cultural measures were confirmed and validated he does not present the exact results to allow the reader to draw their own conclusions.

In another study on economic factors Bagchi, Kirs and Cervený (2006) found that the software piracy rate of a country in 1996 was inversely related to its information technology structure. This is consistent with Gopal and Sanders' (1998, p.395) finding that piracy rates are inversely "related to the size of the domestic software industry, regardless of the income levels of the country". These findings suggest that people are more likely to pirate computer software when they do not have access to the originals. However, Bagchi et al. (2006) did not find this relationship to be consistent since in 2001 and 2003 the relationship between the variables was no longer significant. Bagchi et al. (2006) also found that the effect of GDP on a country's piracy rate varied. For instance they found that it was a significant predictor of piracy in 1996, where it explained 62% of the variance in piracy rates, but not in 2001 or 2003. They concluded that there had to be other factors involved in determining piracy rates.

Cultural

Economic factors are not the only determinant of software piracy rates. Husted (2000) and Bagchi et al. (2006) concluded that culture plays a vital role in determining the software piracy rate. In particular Husted's (2000) study looked at specific aspects of a country's culture and its relationship to software piracy and found that the degree of individualism expressed in a country was negatively related to the rate of software piracy. This is consistent with Bagchi et al. (2006) who found that collectivism was positively related to the piracy level in a country. Both of these studies rely on Hofstede's classification of countries. This is problematic since the difference between individualistic and collectivistic countries is not as clear-cut and rather attributes of both sides of the dimension exist within the country. This means that countries should rather be seen as existing on a continuum measuring this dimension. It is also a problematic distinction since Bandura (2002) rejects this tendency to see whole countries as existing on one pole of a dualistic variable since intra-cultural differences are often greater than inter-cultural differences.

Demographic explanations

Researchers have also looked at profiling people who pirate computer software. The most common demographic variables that have been studied are gender and age. Peace (1997), Gopal and Sanders (1997), and Gupta et al. (2004) found that younger people were more likely to pirate than older people. These findings are consistent with Peace's (1997) finding that younger professionals pirate more frequently than older professionals. However this changes slightly when looking at younger people in terms of graduate versus non-graduate students. This is because Sims, Cheng and Teegen (1996) found that graduate students pirate more than undergraduate students.

In terms of gender, Peace (1997) and Sims et al. (1996) found that women pirate less than men. Sims et al. (1996) found that male students were more likely to pirate software than female students. However, Al-Rafee and Cronan (2006) did not find that a person's gender influence their attitude towards software piracy.

Psychological factors

The influence of various psychological variables has been studied to try and explain why some people pirate software and why others do not. According to Lian and Yan (2005) software piracy studies that have adopted a psychological approach have focused on two approaches. They either study what factors (e.g. demographic variables) influence software piracy behaviour or how the factors influence a person's behaviour through the use of various models e.g. Peace and Galletta (1996) and Glass and Wood (1996). Peace and Galletta's model (1996) is very comprehensive since it integrates a psychological, economic and criminal aspect software piracy through the integration of three theories: the planned behaviour theory, the expected utility theory and the deterrence theory respectively. However, the model fails to look at the role of self-efficacy (the belief a person has about their own ability to engage in a behaviour) which has been shown to be an important aspect of software piracy (Kuo & Hsu, 2002). Glass and Wood's (1996) study acknowledges that software piracy should also be considered as a rational and not just ethical decision making process. This approach is consistent with Swinyard, Rinne and Kau's (1990) finding that software pirating behaviour is not always determined by ethical judgements.

Cross-national studies have also been conducted to try to explore how these psychological variables differ on a national scale. For example Swinyard et al. (1990) examined the influence of morality on behaviour in an Asian and an American sample. This study provides a good starting point for examining the moral dimension of software piracy in a cross-nation study. However it looks at psychological variables (morality, behaviour intentions and attitudes) without a psychological model, which could add depth to their argument. The section on the measures of the psychological variables was also inadequate since no information on the scales' reliability or validity was provided forcing the reader to question the reliability and validity of the findings. Therefore the purpose of this research is to try to explore previously studied variables in a cross-national setting while using a psychological framework to examine the relationship between these variables in the different contexts using more valid and reliable measures.

This is important because software piracy is behaviour. Therefore to understand the behaviour and why it differs so drastically at a national level we need to examine the possible psychological explanations. Gopal and Sanders (1998) support this type of research method. This approach will also help offer insight for effective anti-piracy strategies.

2.3. Anti-Piracy Strategies

Studies on piracy are crucial because they can help us develop more suitable approaches for anti-piracy strategies and tactics. This has been the aim of most research done in this area (Kini et al., 2003). Various ways of tackling software piracy have been proposed. For instance forming alliances between software companies, ethical codes of conduct, lowering the price of software, utilising psychological persuasion and/or technical mechanisms, and tougher legislation (Siponen & Vartianinene, 2007). Liang and Yan (2005) classify these approaches into three main strategies used against software piracy.

The first anti-piracy strategy involves technical strategies such as disk copy resistance, access locks, encryption and digital watermarks. These are preventative

measures since they restrict the users' ability to pirate software. Unfortunately, most of the time they are only temporary as people find means of overcoming them (Liang & Yan, 2005). The next strategy adopted in anti-piracy campaigns uses legislation to act as a deterrent. The three main legal mechanisms are: copyrights (focus on restricting unauthorised copying and reproduction of the software), patents (give the inventor the right to determine the use, sale and production of the software) and classifying software as trade secrets to protect the developers competitive advantage over others (Liang & Yan, 2005). The third anti-piracy strategy is an educational strategy since its focus is on educating people on the laws around software piracy, changing attitudes favourably, raising moral intensity, increasing ethical standards and informing people on the punishment certainty and severity.

Educational strategies have been the focus of a lot of research implications. Kreie and Cronan (1999) suggest implementing training programs in the workplace in conjunction with a reporting culture that encourages people to report piracy quickly and the adoption of tougher sanctions. The sanctions they believe should be based on formal codes of conduct, policies and rules. However, Taylor and Shim (1993) found that the presence, absence or uncertainty of a formal business policy against software piracy within the workplace had no effect on the executives' or academics' perceptions of the social context and therefore it did not affect their behaviour.

Numerous studies have focused specifically on moral education since they adopt the perspective that software piracy is an unethical behaviour and therefore strategies aimed to target this behaviour should do so within an ethical framework. Based on their research findings Kini et al. (2003) believe that it is necessary to raise the moral levels of people in the fight against piracy rather than having a reward-punishment policy. Logsdon, Thompson and Reid (1994) also believed that people's perceptions of the moral intensity of software piracy should be increased by highlighting the harm it has on companies and people. Siponen and Vartianinene (2007) suggest constructing exercises based on ethical dilemmas using findings from the moral literature to allow students in ethics classes to reflect on their decision-making process and the impact their actions would have on other people. They believe that students should scrutinise their decisions using various moral theories.

However, Litsky and Oz (2008) examined the effect of moral education on student's attitudes. They found that the students started and finished the course with a high likelihood of committing software piracy because they still held positive attitudes towards software piracy at the end of the course. Based on their findings Litsky and Oz (2008) suggest that moral education programs will not work. However, this should be interpreted cautiously since they did not examine the effectiveness of multiple moral education programs and their conclusion is based on the assumption that their measure indicating a participant's likelihood to pirate is directly related to actual behaviour. Based on these findings it is clear that research on software piracy is crucial to understand how to make anti-piracy campaigns more effective.

2.4. Bandura's Social Cognitive Theory (SCT) (1984)

To study software piracy and its implications for anti-piracy campaigns Bandura's Social Cognitive Theory (SCT) (1984) will be adopted as the psychological framework. This is because Bandura (1984) argues that the SCT is cross culturally applicable because it has the ability to predict and explain human behaviour in various contexts. It has also been utilised in some software piracy studies (e.g. Kuo & Hsu, 2001). This model (Bandura, 1984, p.508) subscribes to a "triadic reciprocal causation" system. The person (cognitive, affective and biological factors), the environment and their behaviour are all "interacting determinants" "of each other" (Bandura, 1984, p.508). Since "software piracy can be conceptualised as a behaviour" (Limayem et al., 2004, p.415) the other variables examined within this study were picked based on the existing software piracy literature and Bandura's SCT. The aspects of the environment in the triadic reciprocal determination system that this study will address are social norms and national culture (See Figure 2). The aspects of the person that this study will address are: attitudes, intention, moral agency, self-efficacy and perceptions of the social context (motivators and inhibitors)(See Figure 2). The final element of reciprocal determination, behaviour, will not be directly assessed due to ethical and legal ramifications. This is because as a researcher the author is obligated to protect the participants. However, if the author knows they are engaging in illegal behaviour it raises ethical and legal problems since the author may be obligated to inform authorities of the findings.

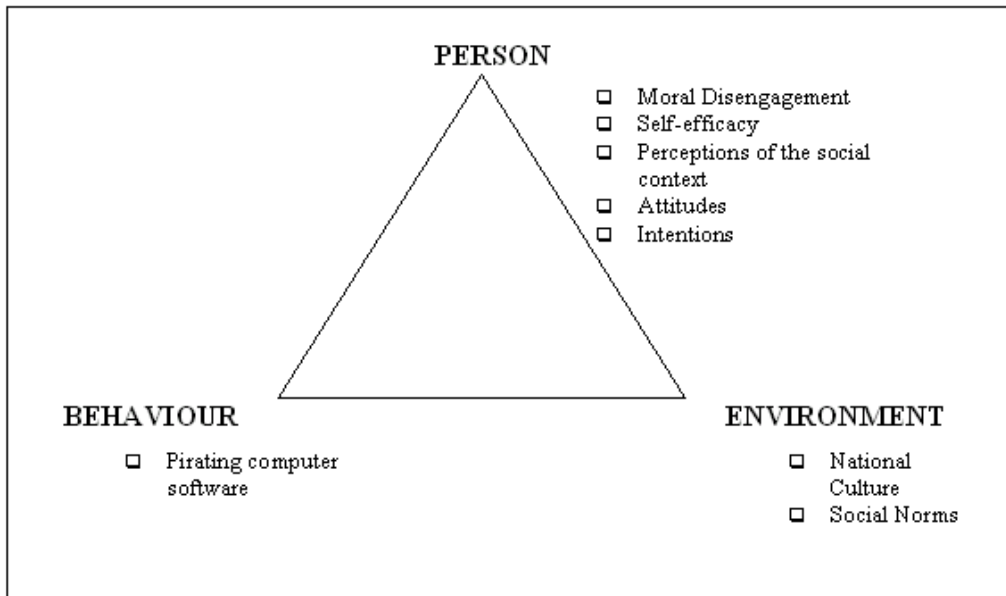


Figure 2: The aspects of Bandura’s theory that will be studied. The model is based on Bandura and Wood’s (1989) representation of the relationship between the person, their environment and their behaviour.

Bandura (2002) discusses the complexity of dealing with variables at a cross-cultural level and the problem of losing the intricacies of the variables in simplified cross-cultural comparisons. He rejects the individualistic-collectivistic dualism since he argues that intra-cultural differences can be greater than inter-cultural differences and states that personal orientation is a more important determinant of human behaviour. He also argues against the definition of culture according to geographic location and the problem of electronic acculturation due to “extensive global interconnectedness” (Bandura, 2002, p.283). This is because he believes that ascribing psychosocial attributes to a nation and all its inhabitants is incorrect and inaccurate and is a form of “culturalism” (Bandura, 2002, p.276). However, he does say that the SCT is cross-culturally generally stable and it has explanatory and predictive power. This is the manner in which Bandura’s theory will be used in this context. It will be used to offer insight into possible differences on the dimensions without ascribing these differences to the whole of Zambia and South Africa. It will provide a gauge to whether there are any broad differences on these variables and the relationships between the variables. The juxtaposition of the radically different piracy rates and the analyses of these

variables at a cross-national level offers more insight than purely studying the level of the variables of one sample in one location without having a comparison group. If there are no differences between the groups on these variables the study could be replicated on different samples. It could also suggest that other factors such as GDP per capita and demographic differences are more important in determining software piracy level but this would require further studies.

2.5. The Environment

Bandura's (1984) theory of triadic reciprocal determination states that a person, their environment and their behaviour mutually influence each other. This is consistent with the literature on software piracy. Therefore this study looks at the effect of two aspects of a person's environment: their national culture and the social norms.

National Culture

National Culture will be defined in the context of geographic location and on the basis of the two countries' radically different piracy rates. Zambia and South Africa provide two extremes in terms of software piracy rates. The separation of Zambia and South Africa into two distinct national cultures is consistent with Triandis' (1989) definition of subjective culture. Triandis (1989) perceived subjective culture as consisting of a common language and the ability to interact with each other since they live in close proximity to each other within the same time period. The sample will consist of people from the same university who are taught in the same language so it is assumed that they speak a common language. The researcher chose not to utilize other measures of culture because culture is hard to define and examine (Wines & Napier, 1992). Culture has been previously studied in software piracy studies in the traditional sense of the word. It has been studied from the perspective of culture as "those abilities, notions and forms of behaviour persons have acquired as members of society" (Eriksen, 2001, p.3) (e.g. Husted, 2000). Particularly it has been divided into a theoretical dualism, e.g. individualism and collectivism, which Bandura (2002) finds simplistic and contentious. Therefore, this research will be a cross-nation study.

Social Norms

Bandura's theory (1984) stresses that a person's social environment, in particular the social norms, plays an instrumental role on their cognitions and their behaviour.

Social norms are often referred to as peer norms since they refer to the pressure that stems from an individual's peers, family, friends and authority figures (Peace, Galletta & Thong, 2003). The importance of social norms in the software piracy literature is recognised in Kuo and Hsu's (2001) study. In their study they used the term subjective norms from the Theory of Reasoned Action (TRA) by Ajzen and Fishbein (as cited in Kuo & Hsu, 2001). Subjective norms are the same as social norms since they refer to the individuals' perceptions of the social pressure to behave in a certain manner (Christensen & Eining, 1991). Limayem et al. (2004) also equated the SCT's social norms with subjective norms from the TRA.

The effect of social norms on a person's intention to pirate software has been the focus of numerous studies. For instance Limayem et al. (2004, p. 416) found that the social factors that influence a person's intention to pirate computer software are "norms, roles, and values at the societal level". The measures utilised in their study specifically looked at the effect of suggestion from family, friends and colleagues on piracy intention. Therefore although they defined it at the societal level they looked at the affect of an individual's peer group on their intentions. They found it to be a significant influence on the piracy intentions of Undergraduate business students from a Canadian University. This is consistent with Lau's study (2006) that also found that peer attitude and behaviour was predictive of people's software pirating behaviour. Lau (2006) believed that this is because peer acceptance of software piracy influenced a person's behaviour. This is consistent with the notion of social norms from Bandura's (1984) SCT.

Another important study is Tang and Farn's (2005). They conducted two studies of undergraduate Taiwanese students to establish the effect of interpersonal influences on pirating intention and actual software pirating behaviour. In the first study they found participants' intentions to be positively affected by group pressure and financial gains but the effect of group pressure was moderated by the financial gains.

Therefore group pressure has a greater influence on a person's intention when the financial gains are low. In the second study they specifically looked at group pressure in terms of normative and informational influence. According to Tang and Farn (2005) normative influence refers to the influence that stems from the desire to conform to peers' expectations. Therefore normative influence refers to conforming to the social norm (i.e. what is acceptable behaviour in terms of your reference group's norms). Informational influence is the influence that stems from accepting information on reality, such as what software to pirate and how it can be achieved, from peers. Based on their results Tang and Farn (2005) concluded that only normative influences are a significant determinant of software piracy. Therefore it is the effect of group pressure and group norms that influence an individual's intentions. They rationalised their findings in terms of Harrington's (as cited in Tang & Farn, 2005) findings that group pressure helps individual's rationalise their behaviour and thus deny their individual responsibility. Although not stated specifically, Tang and Farn's (2005) analysis of the situation suggests that moral disengagement, which is addressed later, may influence the relationship between social norms and piracy intentions.

Peace et al. (2003) conducted a survey on employed adults taking part in part time classes in an American university. Through structural equation modeling they found attitudes, subjective norms and behavioural controls were significant determinants of piracy intention. Subjective norms, they concluded, are "precursors to the intention to illegal copy software" (Peace et al., 2003, p.153). The notion that social norms are significant determinants of a person's piracy intentions in their own right is supported by Kuo and Hsu's (2001) finding that subjective norms influence behavioural intentions and are separate from attitudes. These findings are also supported by Christensen and Eining (1991) and Gupta et al. (2004) who found that pirating software tends to be reflective of a conducive social environment.

Finally, Al-Jabri and Abdul-Gader (1997) specifically referred to Bandura's SCT model to explain the importance of peer beliefs on piracy intention. In their study they found piracy intention to be significantly related to a peer's belief in terms of viewing it as acceptable or being indifferent to it. Based on the literature it is evident that researchers are in consensus about the effects of social norms on attitudes

towards piracy, intentions and behaviours. Therefore, in terms of Bandura's theory and the literature, people are more likely to pirate computer software when the social environment supports their behaviour.

2.6. The Person

Bandura's theory of triadic reciprocal determination also acknowledges the mutual influence of the person on their behaviour and the environment. This notion is supported by the literature on software piracy. Therefore, this study will also examine moral disengagement, self-efficacy, perceptions of the social context, attitudes and lastly piracy intentions in terms of software piracy. The section on the perceptions of the social context is unique from the social norms section previously covered because it refers to possible incentives and deterrents offered by the social context. The actual software piracy behaviour is also examined in this section since it is not a separate variable in this study but rather examined through a person's intentions.

Moral Disengagement

Software piracy has been defined as an illegal and an unethical form of behaviour (Kini et al., 2000). In terms of Bandura's SCT (2000) moral agency falls under personal factors, in terms of the triadic reciprocal determination model, because it is a form of self-regulation of behaviour (Bandura, Caprara & Zsolnai, 2000). Moral agency can be inhibitive by restraining people from behaving inhumanely or proactive by encouraging people to behave humanely (Bandura, 1999).

Bandura's SCT (Bandura et al., 2000) says that people adopt a moral standard. This standard can be breached by "selectively engaging or disengaging" using various mechanisms (Bandura et al., 2000, p.58). What this means is that, according to Bandura, people can activate various mechanisms to disengage the self-sanctions they would not experience when breaching their own personal standard. This allows individuals to transgress their moral standards without experiencing any distress caused by social sanctions or self-sanctions (Bandura et al., 2000). Social sanctions refer to a person's behaviour receiving negative reactions from their social

environment. Self-sanctions refer to the internal disapproval they experience if they breach their own standards (Bandura, 1991). Therefore moral conduct is regulated by self and social sanctions. Social influences also shape the moral standards people adopt. This suggests that moral disengagement is likely to moderate the relationship between social norms and piracy intentions.

There are eight mechanisms of moral disengagement (Bandura et al., 2000). (1) Moral justification occurs when people justify their behaviour, they “cognitively redefine” it as being morally or socially correct behaviour (Bandura, 2002, p.103). (2) Euphemistic labelling occurs when the behaviour is classified/named in a manner that reduces personal agency or personal responsibility for it. (3) Advantageous comparisons are made to make the activity appear more neutral. This is achieved by comparing the behaviour to another form of behaviour to make it appear less harmful and even righteous. The first three mechanisms are the most effective in “disengaging moral control” since they involve cognitively restructuring the harmful behaviour and instead perceiving the behaviour as good (Bandura, 2002, p.106).

The next mechanism is known as (4) displacement of responsibility (Bandura, 2000). This is when individuals perceive that their behaviour was caused by a social influence, e.g. pressure from others, so that they cannot accept responsibility for that action. (5) Diffusion of responsibility is similar but refers to group behaviour when responsibility is dispersed amongst the group members and thus personal accountability is reduced (Bandura, 2000). The next mechanism allows individuals to (6) disregard or distort the consequences their actions cause others. This process means that self-sanctions will not be activated since the harm being done by the person’s behaviour is not evident to the person. (7) Dehumanisation involves perceiving the person or people who the actions harm as objects and not as human beings thus also reducing the likelihood of the activation of self-sanctions (Bandura, 2000). (8) Attribution of blame is the last mechanism. It involves placing the blame for behaviour on personal circumstances or on other people.

Moral disengagement mechanisms do not work in isolation. Rather they operate together to allow people to breach their own personal standards. Bandura’s theory supports the notion that anti-piracy campaigns are crucial because he (Bandura, 1999,

p.193) states that: “given the many mechanisms for disengaging moral control, civilised life requires, in addition to humane personal standards, safeguards built into social systems that uphold compassionate behaviour and renounce cruelty”. Although Bandura said this in a paper that referred to behaviour that physically harmed others it is still applicable because software piracy involves harming companies and people who develop the software or who are employed by them.

In terms of the literature on the ethical nature of software piracy Liang and Yan (2005) conducted a review on empirical studies published in the last 30 years on software piracy and students. They analysed 150 studies and found three main factors contributing to behaviour: intentions, attitudes and moral intensity. However the research on the ethical nature of software piracy is very contradictory.

Numerous researchers have studied the perceived moral intensity of software piracy. For instance Logsdon et al. (1994) found a low, non-significant relationship between the level of moral development (according to Kohlberg’s theory) and software pirating attitudes among New Mexico students. They believed that this could possibly be because software piracy is not seen as an issue of high moral intensity.

The perception of the moral intensity of the subject has been shown to be linked to demographics variables in an American and a Taiwanese student sample. Kini et al. (2000) utilised Kohlberg’s theory of moral development to study the relationship between demographic variables and moral intensity among an American student sample. While they found very mixed results in terms of the demographic variables that affect moral intensity they found that the use of a computer and experience with computers did not affect the perceived moral intensity of the subject. In a further study Kini, Ramakrishna and Vijayaraman (2003) looked at the effect of demographic variables on moral intensity among a Taiwanese student sample. Again they found very mixed results. However, they found that some demographic variables do affect moral intensity.

The perceived moral intensity of the subject has also been shown to depend on if a person considers himself or herself to be religious. For instance Wagner and Sanders (2001) found that undergraduates in their study who considered themselves to be

religious were more likely to perceive software piracy as unfair and unethical. These people also displayed intentions and behaviours consistent with their moral beliefs. However, the main variables religion, judgement and intention were measured via one item measurements which means that the reliability of these measures can not be ascertained and the author is very cautious about these findings.

Al-Rafee and Cronan (2006) found that moral judgment was not a significant predictor of attitude. This finding is consistent with Simpson et al.'s (1994) study that found no significant effect of ethical perceptions on behaviour. Logsdon et al. (1994) also believe that software piracy behaviour is not a function of moral judgment alone since they did not find a strong relationship between the level of moral judgment and attitudes towards software piracy. Thus indicating that there are other factors at play and these may help account for all the differences found. This has been the focus of numerous research.

Siponen and Vartiainen (2007) focused on comparing measured moral attitudes toward software piracy and theoretically proposed moral attitudes by computer ethics scholars. To achieve this goal they composed a questionnaire that included a list of reasons, found in previous research, that people pirate software and asked participants to select which reasons for pirating software they supported. For instance they included "software is expensive" and "everyone else does it" (Siponen & Vartiainen, 2007, p.33). The top reason for pirating software based on the 249 survey responses of computer students was that it was expensive, little risk was involved and it was easy. The reason proposed by the scholars was the least favourable.

The reason scholars proposed, that was included in the questionnaire, was that "software cannot be bound by ownership or copyright, because software products are immaterial products" (Siponen & Vartiainen, 2007, p.34). This reason was included in the list and was based on previous research that found that people pirate computer software because it is "intangible and/or non-exclusive" (Ladd as cited in Siponen & Vartiainen, 2007, p.31). Although the sample consisted of people of relatively high educational backgrounds, since they were at University, the phrasing of the scholar's reason is questionable. This is because in comparison to the other options, such as the examples previously given, the wording is more difficult and the meaning is not as

clear. Also it is not clear how they equated “immaterial” with “intangible” or “non-exclusive”. Since there appears to be two issues involved. Firstly that software cannot be thought of as a concrete object and secondly that it should not be reserved for exclusive use. This illustrates the lack of clarity of this option’s meaning on the questionnaire and this might have affected the sample’s responses to the questionnaire and therefore impacted on the results.

In Siponen and Vartiainen’s research (2007) they also found that half the sample that reported software piracy as an acceptable form of behaviour believed their opinion would change if their income was dependent on software development. A large proportion of the sample, 43.3%, also believed that it was unacceptable behaviour because software piracy is illegal. Only 18.9% said it was unacceptable because it was immoral. Some participants stated that it was unacceptable but still engaged in the behaviour because software is expensive or they cannot afford it or because they believe everyone else was doing it. These justifications offered for their behaviour suggest that these participants were morally disengaging. Other reasons they offered were because of its use, for instance they needed to test it or load it on multiple computers.

Kreie and Cronan (1999) examined possible factors that could influence a person’s ethical decision-making. In particular they looked at whether people perceived software piracy as acceptable and therefore ethical or unacceptable and unethical. They looked at the effect of: personal values, belief system, moral obligation and awareness of the consequences and the social/ personal/ professional/ legal/business environment on ethical decision-making. To achieve this they posed various ethical dilemmas to 307 business students in America. They found that the factors influencing their judgements vary on a case-by-case basis. One of the five cases addressed software piracy since it involved breaching the copyright terms. The majority of the participants saw pirating software as unacceptable and this was influenced by their perception of their moral obligation, the current legislative environment and awareness of the consequences.

The impact of the current legislation influenced a person’s perception of the ethical nature of pirating software in Kreie and Cronan’s study (1999). However, in

Swinyard et al.'s (1990) cross-cultural study on a student sample from Singapore and American this only occurred when the legislation reflected a person's cultural values. Swinyard et al. (1990) looked at people's knowledge of copyright laws, attitudes, behavioural intentions and perceived moral acceptability of the behaviour based on the specific situation. They found that the Singapore sample responded that it was more acceptable than the American sample to copy and keep the software.

The difference in the Singapore and American samples' acceptance of software piracy was found to be a result of their moral decision-making process. In the American sample the participant's decision-making process was more influenced by the legislation of piracy than the perceived impact it would have on others. The Singapore sample's decision-making process was influenced by their perception of what the outcome of their actions would be for their community, family and themselves. Swinyard et al. (1990) concluded that this is because the Asian sample is behaving illegally one cannot conclude that they are behaving immorally. This is because their cultural beliefs do not support the legislation but rather the human benefits of pirating software. This suggests that moral disengagement could have a different impact on the relationship between self-efficacy, attitudes and social norms on piracy intention. This is because these studies illustrate that in different cultural contexts people's moral decisions are influenced by different variables.

Bandura's theory of moral disengagement could help explain why Taylor and Shim (1993) found that business academics differed in terms of attitudes, intentions, social norms and behaviour than business executives. They found that academics held more favourable attitudes towards software piracy and social norms in favour of pirating computer software. Academics also reported higher intentions and actual behaviours to pirate than the business executives. These findings suggest that the academics may have morally disengaged from the act of pirating by not seeing it as unethical and rather seeing it as that everyone else also pirates computer software. This suggests that moral disengagement may act as a moderator between social norms and attitudes and their relationship to piracy intention. This interpretation of Taylor and Shim's (1993) findings is supported by Litzky and Oz (2008) who specify that moral disengagement is likely to be a moderator in the relationship between (a) attitudes and behaviour and (b) social norms and behaviour.

Litzky and Oz (2008) examined the impact of ethics education on ethical decision making in terms of information technology specifically they looked at six ethical issues including breaching copyright laws. They found that in only 2 out of the 6 ethical issues presented to the graduate students did the course make a difference. Therefore the ethics course only made a difference in terms of spamming and the violation of free speech but not in terms of the violation of copyright laws. The other three ethical issues were the violation of customer and employee privacy and exaggeration of information system capabilities. According to Litsky and Oz (2008) there was no change in the likelihood, which was high, of students pirating software after the ethics course because their attitudes had not changed. As previously mentioned Litsky and Oz (2008) base this argument on the assumption that attitudes have a direct impact on the participant's behaviour. Litzky and Oz (2008) believed that the reason people held positive attitudes towards an immoral and illegal behaviour can best be explained by Bandura's theory of moral disengagement. They specifically defined Bandura's theory as "a type of cognitive distortion that may lead individuals to make decisions that are not aligned with their own internal moral principles" (Litzky & Oz, 2008, p. 73). They suggest that future research should focus on this area since moral disengagement has been shown to have a positive relationship with unethical behaviour. They specify "it would be interesting to explore the role of moral disengagement as a potential moderator of the relationship" (Litzky & Oz, 2008, p. 73).

Self-efficacy

Bandura's SCT (1991) acknowledges the role cognitive processes have in regulating a person's behaviour. These cognitive processes illustrate how human behaviour is motivated and regulated by self-influence. People monitor and regulate their behaviour, for the purpose of this study, based on three main sources of information. Firstly, people judge their behaviour in terms of their personal standards as illustrated previously through moral disengagement. Secondly a person's behaviour is self-regulated by a person's perception of their self-efficacy. This refers to a person's belief in their ability to behave in a particular manner and achieve a particular goal (Bandura, 1991). In this case it refers to a person's belief in their ability to pirate computer software. Bandura (1977, p.193) puts this more eloquently when he stated

that efficacy expectations refer to “the conviction that one can successfully execute the behaviour required to produce the outcomes” (Bandura, 1977, p.193). Lastly a person’s behaviour is also affected by the perceived outcomes of their behaviour.

Outcome expectations refer to a person’s perceptions of the outcomes that will follow their behaviour. This will be addressed later to illustrate in more detail how these expectations can act as motivators or deterrents (Bandura, 1977). Efficacy expectations are important because they are a major determinant of the effort, in terms of intensity and duration, put into behaving in a particular manner when there are appropriate incentives even in the face of deterrents (Bandura, 1977). What Bandura’s theory (1989) says is that behaviour is regulated through the interaction of “self-produced (their belief in their ability to behave in a certain manner) and external sources of information” (incentives and deterrents). Therefore people cognitively process and weigh up the external environment (the sources of incentives and deterrents) and their own perception of their self-efficacy and this affects their behaviour. Self-efficacy is important because if a person has a strong belief in their ability they are likely to intensify and sustain their effort, they will be more motivated in the behaviour in comparison to if they were experiencing self-doubt (Bandura, 1982).

Self-efficacy is based on four sources of information. It stems from a person’s accomplishments in the behaviour, through watching others (Bandura termed this vicarious learning), through verbal persuasion and physiological states (i.e. if they experience distress). Self-efficacy also intensifies when a person engages in the activity successfully (Bandura, 1977). Based on Bandura’s premises this suggests that moral disengagement could moderate the relationship between self-efficacy and piracy intention. This is because if a person is experiencing stress because they are not able to disengage sufficiently then this may affect their piracy intentions.

In terms of the software piracy literature Kuo and Hsu (2001) found there to be a significant and positive relationship between self-efficacy and intention. However, Kuo and Hsu (2001) interpreted self-efficacy differently. Based on a close examination of the scale they developed it is evident that they perceived self-efficacy in terms of pirating behaviour as a person’s belief in their ability to not pirate

software. For instance one of the questions they include in their scale is: “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” (Kuo & Hsu, 2001, p. 306). Their scale was also designed so that high scores reflect a high self-efficacy and therefore a strong belief in a person’s ability not to pirate computer software. Therefore Kuo and Hsu (2001) found that a higher a person’s belief that they will not pirate software the higher their intentions are to not pirate computer software. This is a subtle difference to Bandura’s (1977) description of self-efficacy as a person’s belief in their ability to engage in a behaviour that will result in specific outcomes. Based on Bandura’s (1977) definition of self-efficacy it appears that in the case of software piracy self-efficacy refers to a person’s belief in their ability to pirate software. Therefore any future studies on self-efficacy should utilise a better measure of self-efficacy that is representative of Bandura’s (1977) description of the construct rather than Kuo and Hsu’s (2001). This is because Kuo and Hsu’s (2001) study raises questions regarding the validity of the findings of the research since the measure’s construct validity is questionable.

Self-efficacy has been also studied by Peace et al. (2004) as perceived behavioural control. Peace et al. (2004) used the theory of planned behaviour and its reference to perceived behavioural controls, which they defined as a person’s “confidence in his or her ability to successfully carry out the action in question”. Although Peace et al. (2004) utilised the term perceived behavioural control from the Theory of Planned Behaviour examination of their working definition reveals that they were also studying self-efficacy. They also found it to be a significant determinant of piracy intention.

According to Bandura (2002, p.273) the way efficacy beliefs are “developed and structured, the ways in which they are exercised, and the purposes to which they are put, vary cross-culturally”. This is because Bandura (2002, p.273) perceived self-efficacy beliefs to be “complex”, “multifaceted” and “socially structured”. Thus illustrating the importance of examining this variable in a cross-national study.

Perceptions of the social context

The SCT (Bandura, 1984) states that peoples' behaviours are also influenced by their perceptions of the social context. In particular what they perceive to be the likely incentives and deterrents that are attached to certain behaviours. According to the SCT (Bandura, 1986) individuals are motivated to behave in a manner because they have already perceived the possible outcomes of their behaviour. The outcomes act as an incentive to behave in a certain manner. Therefore for the purpose of this study motivators will be defined as incentives that drive people to commit software piracy through symbolic representations of the expected, external outcomes. Al-Rafee and Cronan's (2006) findings supports the motivating influence of perceived outcomes since they found that a person's attitude is influenced by their perception of the outcomes of their behaviour when it comes to software piracy.

Bandura (1986) specified eight incentives that motivate us to commit a particular behaviour, such as software piracy. The eight incentives are: primary, sensory, social, monetary, activity, status and power, reinforcement of reciprocal exchange, and self-evaluation incentives and the rewards of personal efficacy (Bandura, 1986). The first incentive suggests that people may be motivated to pirate computer software because it offers (1) the sensory incentive of "sensory feedback" that provides a release of boredom or because it is intrinsically pleasing (Bandura, 1986, p.233). The second type of incentives, (2) primary incentives, do not apply to software piracy since they do not directly fulfil any biological needs (Bandura, 1986). The third type of incentives are related to (3) the social incentives that one may achieve if the act of pirating software is socially rewarded. This incentive is similar to Tang and Farn's (2005) finding that people are more likely to pirate computer software when there is group pressure to do so. This is because pirating the software will allow them to receive approval from their peers who also engage in the activity. (4) Activity incentives, the fourth category of incentives, are motivating because people engage in a behaviour that is intrinsically rewarded. For instance people may pirate because they enjoy and get value out of pirating software.

The fifth incentive suggests that people may also be motivated to pirate software to avoid losing money or to gain money (Bandura, 1986). Bandura's (5) financial

incentive is particularly valuable in understanding what motivates people to pirate software since it is a common theme in the literature. For instance Gupta et al.'s (2004) study found that people often cite monetary loss as a reason to pirate. In particular what they found is that people choose to pirate software because they believe that this reduces the financial loss they would incur if the software they bought was not effective, appropriate or up to the correct standard. Gupta et al. (2004) believed that this was the reason that they found that the more money people spent on purchasing software the more they pirated. Al-Rafee and Cronan (2006) also found that people tend to support software piracy because they feel that software is overpriced and therefore pirating will help save them money. In a laboratory experiment conducted on undergraduate students Tang and Farn (2005) found financial gains as a significant determinant of a person's intention to pirate software. Lau (2006) did an Internet online survey of Chinese University students. He found that monetary benefit was the main reason people pirate software in terms of students looking for cheaper alternatives. It is evident that the literature supports the notion of monetary incentives in terms of software piracy.

The sixth possible incentive for pirating software is based on (6) the acquisition of status or power within an individuals' community they could receive. The seventh incentive Bandura (1986) referred to as (7) reinforcement or reciprocal exchange. From Bandura's work (1986) we can infer that people may engage in pirating software if they believe that the act of supplying another individual with the software will lead to an exchange relationship where the behaviour will be reciprocated at a later stage. The eighth and final incentive to pirating software is in the form of (8) self-evaluative incentives and the rewards of personal efficacy. This occurs when people perceive that their behaviour will lead to an enhanced perception of their self-efficacy.

The SCT (Bandura, 1986) suggests that people may also be deterred from pirating software because of legal, social and self-sanctions. For the purpose of this study deterrents will be defined as the personal, social and legal costs, which restrain people from committing software piracy. (1) Legal sanctions act as deterrents because the person is deterred from behaving in a manner that will result in criminal punishments. Peace (1997) found that the perception of legal sanctions in terms of being caught and

punished varied considerably and this impacts on its ability to act as a deterrent. Only when people believe that they will get caught and that the level of punishment will be high does it act as a deterrent. This perception is affected by the actual probability of punishment. Peace et al. (2004) also found that the perception of punishment severity and uncertainty directly affected a person's piracy intentions. Specifically if people perceive punishment severity and certainty to be high their intention to pirate software is low. They also found that as an individual's perception of punishment severity and certainty increases their belief in their ability to pirate software (their self-efficacy) decreases. In terms of the model utilised in this study this would mean that as the two increase a person's self-efficacy decreases. The second deterrent occurs in the form of (2) social sanctions. This is when a person perceives that their behaviour would be condemned by people within the individuals' vocational and community life resulting in a loss of livelihood or social status. The last type of deterrents are (3) self-sanctions. Self-sanctions may deter someone from pirating software if they perceive that the behaviour will lead to "self-condemnation" (Bandura, 1986, p.274).

Incentives and deterrents differ from social norms because the latter refers to the social standards/norms concerned with behaving in a specific manner. Therefore social norms refer to the pressure to behave in a particular manner that stems from a person's social environment i.e. their friends, peers and significant others. Whereas incentives and deterrents refer to the perception of certain outcomes, e.g. monetary, attached to specific behaviours. The perceptions of the outcomes act as motivators or deterrents to engaging in a particular behaviour.

There are three other important pieces of software piracy research that support a number of Bandura's incentives and deterrents. These are Lau's (2006) two phase study, Simpson et al.'s (1994) four factor model and Glass and Wood's (1996) Equity theory perspective of software piracy. Lau (2006) had a two-phase approach to ascertaining the motivating factors for people to pirate software. In the first phase, as previously mentioned, he distributed an open-ended questionnaire on a Chinese University's World Wide Web server where volunteers could fill it in. The second aspect of this study involved conducting a content analysis of a Chinese Internet newsgroup's conversation and 209 Chinese messages posted on USE NET concerning software piracy. Lau (2006) commented that adherence to copyright laws can only be

anticipated if people have easy and timely access to software originals and that they are reasonably priced. He believed that this is because people rationalise their behaviour because of their 'need' for the software. Once again this is similar to Simpson et al. (1994) who found that people pirate software because of the associated benefits, in particular the financial gain (financial incentive), the challenge it offers (activity incentive) and the reduction in the acquisition time.

Simpson et al. (1994) conducted their study on Business University students. Based on their findings they developed a four-factor model of determinants of pirating behaviour. Their model stipulates that four factors influence a person's propensity to pirate: stimulus, social/legal, personal gain and situational factors. Personal gain refers to intrinsic and extrinsic gain derived from pirating software. For instance people are motivated to pirate software because of Bandura's (1986) monetary and activity incentives. Situational factors refer to the situation such as the ease with which software can be obtained. Stimulus factors are factors that prompt a person to make the decision whether to pirate or not to pirate the software. An example of a stimulus factor would be a sudden need to acquire the software for a class a person is taking. Lastly legal/social factors are concerned with Bandura's social incentives and legal deterrents. For instance if the risk of getting caught is low and the social norm is to pirate then the person is more likely to engage in the behaviour. Simpson et al.'s (1994) study clearly supports a number of Bandura's incentives and deterrents. The main difference between the two is that in the research a factor analysis grouped the 13 determinants presented to the sample into four main factors and not all of Bandura's incentives and deterrents were included in the study. A major downfall of this study is that Simpson et al. (1994) did not provide the reader with adequate working definitions of each construct.

Situational factors were also a significant determinant of software piracy behaviour in Glass and Wood's (1996) study. Glass and Wood (1996) believed that software piracy is not ethically contentious. They believed that it is rather an issue that can be better understood using Equity theory. Equity theory is based on the notion of social exchange rather than from an ethical decision making perspective. Equity theory states that when people are involved in an exchange relationship they will weigh up their input/ output ratio with the other person's input/output ratio. The idea behind

the theory is that people are motivated to reduce inequity. In terms of pirating software, individuals will engage in piracy if they perceive the exchange relationship to be equitable. Perception of equity depends on situational variables. In particular, people weigh up the cost of the software, if it's too high their own input off-balances the exchange relationship ratio and they will perceive the situation as inequitable and thus not engage in the exchange relationship. In terms of outputs, people consider if engaging in the exchange relationship will be helpful to them by paying back a debt or later on, if someone will return the favour at a later date, and if they perceive few negative outcomes such as being caught/ punished or socially unacceptable. Equity theory thus supports social incentives, and legal and social deterrents.

Based on the above review of the literature on incentives and deterrents it is clear that Bandura's (1986) SCT offers a neater and appropriate framework to study any possible differences between the two samples' perceptions of the social context. This means that this framework allows the researcher to examine if the participants in the study perceive the incentives or deterrents of software piracy differently.

Attitudes

According to Bandura's SCT (1984) a person's cognitions play a vital role in influencing a person's behaviour. In particular, a person's attitude towards the behaviour is crucial. This is because an attitude is best conceptualised "as a psychological tendency of evaluating a specific entity and generating certain favourable or unfavourable responses" (Liang & Yan, 2005, p.119). Attitudes can be conceptualised as being favourable or unfavourable towards software piracy. A favourable attitude is one that supports the behaviour whereas an unfavourable attitude is unsupportive of the behaviour. Research in this area has linked attitudes to intentions, behaviours, social norms, the perceived outcomes of the behaviour and the cultural context.

In terms of intentions, Peace (1997) conducted a survey on employed professionals, who used computers in their office environment, and were also taking a part-time course. His aim was to look at software piracy behaviour within the workplace. He found that an individual's attitude was the strongest predictor of intention to pirate

computer software in the workplace. This is consistent with Peace et al.'s (2003, p.153) findings that attitudes are "precursors to the intention to illegal copy software". In particular Peace et al. (2003) found that, when compared to subjective norms and perceived behavioural controls, attitude had the strongest effect on a persons' intention to pirate software. This is important because Solomon and O'Brien (1990) found that people tend to perceive software piracy as being socially and ethically acceptable.

Christensen and Eining (1991) and Gupta et al. (2004) also found that attitudes and software piracy behaviour were directly related. In particular Gupta et al. (2004), addressed their findings from the opposite viewpoint that participants in their study who perceived pirating as illegal and unethical did not pirate. A person's attitude towards software piracy has been shown to be affected by the cognitive beliefs they hold about the outcomes of their behaviour and the social norms (Al-rafee & Cronan, 2006). In particular Al-rafee and Cronan (2006) found that piracy attitudes were favourable in terms of software piracy if a person's significant others supported piracy and if the person perceived their behaviour will lead to positive outcomes. For instance a person is likely to hold favourable attitudes if the social norms support piracy and the person believes that they will save money by pirating software.

Attitudes towards software piracy have also been shown to differ at a national level. Swinyard, Rinne and Kau (1990) investigated the differences in attitudes towards software piracy between University students at a Singapore University and at an American University. What they found and concluded was that Singapore University students have a favourable attitude towards software piracy, they do not perceive it as immoral, because of their cultural values. They believed that Asian cultures consider copying work as a valuable skill and therefore their values were not in line with copyright legislation. Swinyard et al. (1990, p.656) believe that copyright laws reflect Western values in terms of "the preservation and protection of individual creative effort". They believe that this explains why their Singapore participants had less favourable attitudes towards copyright laws even though they were more knowledgeable about the laws. This is important because they also found that their Singapore sample's behavioural intentions were consistent with their attitudes and significantly higher than the American sample's intentions to pirate. This is

consistent with their findings that their American sample's attitudes and intentions were more consistent with the copyright laws.

Based on the literature it is evident that attitudes play a significant role in influencing a person's intentions and actual behaviour in software piracy. It is also clear that a person's attitude is influenced by their perceptions of the outcomes of their behaviour and their social context. In particular a person's attitude is influenced by their peers' norms and their country's norms.

Intentions

Intentions are "the cognitive representation of an individual's subjective probability to perform a given behaviour and is considered the immediate antecedent of behaviour" (Liang & Yan, 2005, p.117). Intentions are an important facet of the equation since they refer to a persons' intention to engage in a certain activity, in this case software piracy (Bandura, 1986). Intentions have also been directly linked to actual software piracy behaviour (Limayem et al., 2004). It is also important to study intentions because Swinyard et al. (1990) found that intentions are consistent with a persons' attitude towards pirating software. Limayem et al. (2004) also found that a person's social environment and their beliefs about the consequences of pirating software significantly affect their intention to pirate software. They found that a person's perception of the outcomes of pirating affected their intentions. Specifically their belief that it will lead to favourable outcomes such as, saving time and money spent on acquiring it legally, little risk of being punished, and the possession of more software.

Al-Jabri and Abdul-Gader (1997) also looked at the effect of individual and peer beliefs on piracy intention. Their study was based on male students in Saudi Arabia Universities. They found that it was a combination of the individual's and peer's ethical beliefs, their moral values concerning piracy, that significantly affected a person's intentions. Specifically peer ethical beliefs and an individual's intention to copy software were significantly positively related.

Another factor that appears to influence a person's piracy intentions is discussed in Sims et al. (1996). Sims et al. (1996) revealed a positive correlation between

computer experience and intentions. This means that the more computer experience people possessed the higher their intentions to pirate computer software. Liang and Yan (2005, p.118) found this to be a consistent theme in the literature in particular they said that “it has been noted that experienced computer users not only have enough ability to commit piracy but also have more need for using a wide variety of software”.

Based on their review Liang and Yan (2005) also concluded that piracy intentions have been linked to various predictors, in particular it has been linked to: a person’s attitude towards software piracy, their social context, their behaviour and computer experience.

Behaviour

A person’s behaviour forms the third aspect of the triangle in the model it has been included as a subheading under the person. This is because instead of a person’s actual software pirating behaviour a person’s intentions form the focus of this study. This is because of the ethical and legal implications of assessing if people have pirated software before. This is appropriate because Sims, Cheng and Teegen (1996) have found that when asking participants directly if they have engaged in unethical behaviour they are more likely to conceal the extent of their behaviour. Using intention as an appropriate indication of piracy behaviour is also acceptable because studies such as Al-Jabri and Abdul-Gader (1997) and Tang and Farn (2005) have found that intentions are directly related to actual piracy behaviour.

2.7. Bandura’s SCT Model and Its Application To Software Piracy

The difference between the two samples’ perception of the social context (incentives and deterrents) will be assessed separately in terms of Bandura’s (1984) triadic reciprocal causation system. On the basis of the literature review the other model that will be utilised in this study is represented in Figure 3.

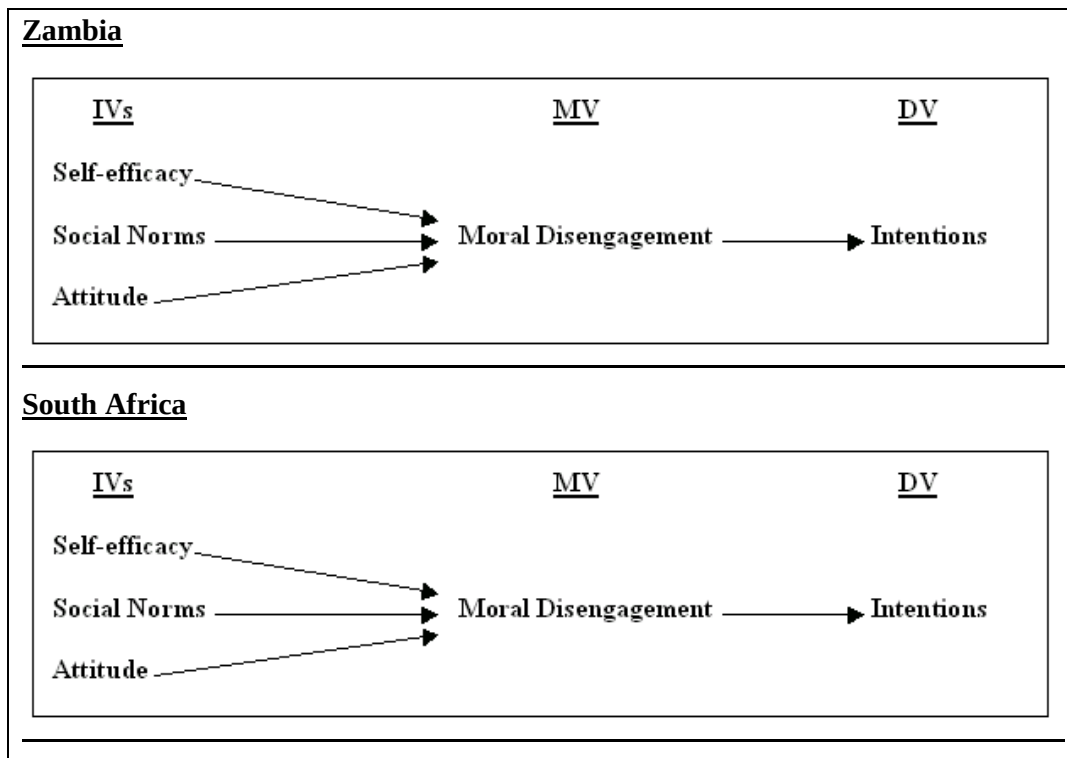


Figure 3: The model utilised for this study based on Bandura's SCT (1984) and the literature review.

2.8. Research Questions

- 1) Is there a difference in the South African and Zambian samples' attitudes, moral disengagement mechanisms, intentions, self-efficacy, social norms and perceptions of the social context (incentives and deterrents)?
- 2) Is there a difference in the relationship between (a) attitudes, (b) self-efficacy and (c) social norms and intentions in the South African and Zambian samples?
- 3) Does moral disengagement act as a moderator in the relationship between self-efficacy, social norms and attitudes, and intention to pirate computer software for the two samples?
- 4) Is there a difference between the South African and the Zambian samples' moderated relationship?

Chapter 3: Methodology

This chapter describes how the study was conducted. Therefore this chapter addresses the research design, the sampling technique and the sample. This is followed by the procedure carried out, the instruments used to obtain the data and the analyses carried out. Lastly this section addresses the ethical considerations.

3.1. Research Design

The questions were addressed using exploratory research. It utilised a quantitative, non-experimental, cross-sectional research design (Howell, 2004, p.9). The research employed a non-experimental design since it did not involve the manipulation of any independent variables, there was no control group and no random assignment (Mc Burney, 2001). This was chosen since temporal precedence, covariation and non-spuriousness did not need to be established since causal research questions were not addressed (Rosenthal & Rosnow, 1991). The research design was also cross-sectional in nature because the participants were assessed at one point in time (Mc Burney, 2001).

3.2. Sampling Technique

The sample consisted of university students enrolled at one Zambian and one South African University. The aim was to include seventy male and female participants from each location so that the appropriate statistical analyses could be done to answer the research questions. The participants were all majoring in economics and therefore from the general commerce sector to avoid different interest profiles that could exist going into certain professions. Therefore only students in their second last or last year of study were targeted to try ensure that they had already selected the appropriate major. The sample was aimed at students because Gupta et al. (2004) found that younger people were more likely to pirate than older people. This is consistent with Wood, Longenecker, McKinney and Moore's (1988) study that found that young people were more willing to be involved in unethical behaviour. A student sample was also utilised because they have been used in numerous studies of software piracy

on the basis that they pirate more than adults (Sims et al., 1996; Al-Rafee & Cronan, 2006). In particular an undergraduate sample was sought for homogeneity purposes because Sims et al. (1996) found that postgraduate students pirated more than undergraduate students. A postgraduate sample was not feasible since the limited numbers would have required more subjects, other than economics, to be targeted and this would have increased the number of extraneous variables.

A non-probability sampling method was used to obtain a convenience sample (Huck, 2004, p.109). This method was adopted to ensure that the sample contained only volunteers due to the potentially sensitive nature of the study. Unfortunately, this sample could possibly contain certain characteristics Rosenthal and Rosnow (1991) found in people who volunteer to participate in research. Therefore there is a chance that the sample could be slightly different from the people who chose not to participate in the study. However, it is a common method used in software piracy studies and it is in the sample's best interest (see Kuo & Hsu, 2001; Tang & Farn, 2005). It is in the sample's best interest because the topic could result in the participants experiencing anxiety because the questionnaire asks questions on an illegal behaviour. A question in the demographic descriptors (See Appendix A Section 1) allowed the researcher to omit any international students from each sample to try to ensure that only local South African and Zambian students formed the sample. The sample was elicited from economics classes to reduce the bias associated with electronic acculturation that would be exacerbated by an on line sample (Bandura, 2002).

3.3. Sample

One hundred and fifty questionnaires were handed out to each sample. The response rate for the South African sample originally was 49.33 % since 73 participants completed and returned the questionnaire. However, 3 participants were excluded from the sample because they were international students making the response rate 47.33 %. The response rate for the Zambian sample was 46 %. According to Huck (2004) these are typically response rates. However, in the social sciences domain they are likely to be considered good response rates especially when considered in

conjunction with the potentially sensitive nature of the topic. This is because participants may have had ethical and/or legal concerns associated with software piracy and as a result they may have chosen not to participate.

All the participants were local students attending the targeted University in Zambia and South Africa. Table 1, 2 and 3 contain the demographic descriptors for the two samples. It is evident that the Zambia sample had more males than females. This could potentially be problematic for the results since some studies have found that male students pirate more than female students (e.g. Sims et al., 1996). The Zambian sample also had a larger age range. However, the majority of the participants (76.81 %) were between 18 and 28 years old. The South African sample consisted of a more varied sample in terms of race while the Zambian sample only consisted of African participants. The majority of the South African sample was in their second last year of study while the majority of the Zambian sample was in their final year of study. The difference in the years of study between the two samples exists because the South African sample is on a three-year degree program whereas the Zambian degree is a four-year program. Therefore the second last and final year of study are second and third year for the South African participants and third and fourth year for the Zambian participants. However, they were all undergraduate students majoring in Economics. Postgraduate students were not used in the study due to possible restrictions in sample size and the increased likelihood of demographic differences.

The samples were different in terms of their second major because in the Zambian University Economics is within the Humanities faculty. This meant that the majority of the Zambian participants' second major was a science subject (which also falls under humanities, e.g. Biology), then Business (e.g. Statistics), then Humanities (e.g. Psychology). All the South African participants' second major was of a Business nature. The majority of Zambian participants started using computers when they were older than the South African participants. This means that their experience with computer use differed. However their current computer usage on a daily basis was the same. The samples were very similar in terms of computer games usage and Internet usage.

Table 1: Demographic Descriptors for the South African and Zambian Sample							
		South African Participants N = 71			Zambian Participants N = 69		
Variable		Frequency	Percentage	Missing values	Frequency	Percentage	Missing values
Gender:	Male	34	47.89	0	57	82.61	0
	Female	37	52.11	0	12	17.39	0
Age in Years:	18-28	71	100	0	53	76.81	0
	29-38				12	17.39	
	39-49				4	5.80	
Race:	African	26	37.14	1	69	100	0
	Indian	12	17.14				
	White	31	44.29				
	Other	1	1.43				
Year of Study:	2nd	44	61.97	0			
	3rd	26	36.62		27	39.13	0
	4th	1	1.41		42	60.87	
First Major:	Economics	71	100	0	69	100	0
Second Major:	Business	70	98.59	1	15	24.19	7
	Science				34	54.83	
	Humanities				13	20.96	

Table 2: Demographic Descriptors for the South African and Zambian Sample							
		South African Participants			Zambian Participants		
Variable		Frequency	Percentage	Missing values	Frequency	Percentage	Missing values
Computer Use in years:	1-5 years	7	9.86	0	5	7.25	0
	5-10 years	25	35.21		36	52.17	
	10-15 years				22	31.88	
	15-20 years	32	45.07		5	7.25	
	More than 20 years	7	9.86		1	1.45	
Computer use per day:	1-5 hours	67	95.71	1	59	88.06	2
	5-10 hours	3	4.29		8	11.94	

Table 3: Demographic Descriptors for the South African and Zambian Sample								
Variable	Country	Measurement	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
Computer game usage per week	South Africa N = 71	Frequency	35	17	13	3	1	1
		Percentage	50	24.29	18.57	4.29	1.43	1.43
		Missing values	1					
	Zambia N = 69	Frequency	16	32	18	1		1
		Percentage	23.53	47.06	26.47	1.47		1.47
		Missing values	1					
Internet usage per week	South Africa N = 71	Frequency	1		43	16	8	2
		Percentage	1.43		61.43	22.86	11.43	2.86
		Missing values	1					
	Zambia N = 69	Frequency		14	42	11	1	1
		Percentage		20.29	60.87	15.94	1.45	1.45
		Missing values	0					

3.4. Procedure

The procedure involved three stages. The first stage involved obtaining permission from the relevant authorities at a University in Zambia and one in South Africa. Both University's were chosen on the basis of being a main locally based University in each country and because their main language medium was English. The researcher compiled all the relevant scales, demographic questions (See Appendix A) and participant information sheet (See Appendix B) into one questionnaire. The participant information sheet contained information on what the research was about,

the participants role in the research, what was required of them should they choose to participate and information assuring their anonymity and confidentiality (See Appendix B). All the information was in English since both Universities use English as their main medium of instruction. This means that courses are taught and assignments are written in English so proficiency in English is part of the course requirements in both countries.

The next step of the research involved handing out 150 copies of the compiled questionnaire to students in their second last and final year of study at the two Universities. In Zambia 150 copies were handed out during third and fourth year economics day classes. In South Africa 150 copies were handed out during second and third year economics day classes. Participation in the study was voluntary and no student was at an advantage or disadvantage for choosing to participate or not to participate in the study. Participation involved completing the questionnaire in a maximum of thirty minutes. Once the participants had completed the questionnaire they returned them to the researcher by placing them in the sealed box placed in the Economics administration offices. The researcher asked the lecturers of each class to remind the students during each class for a month. During this period the researcher checked the box and collected the returned questionnaires every three days to reduce the likelihood of any questionnaires being lost. Once the paper questionnaires were entered into a data set, and it was ensured that the data set was correct, the questionnaires were destroyed. Electronic copies of the data set and the code utilised was given to the researchers' supervisor.

The third and final step of the research process involved giving the students feedback about the research via a summary report placed on their class notice boards. The person who granted permission to conduct the research in the relevant institutions was also given a copy of the whole research report.

3.5. Instruments

This section looks at the various instruments used to measure each variable.

Biographical Information Sheet (See Appendix A Section 1)

A biographical information sheet was also attached to the questionnaire to obtain data required for purely descriptive purposes. The only question that helped address the research questions was the one omitting the participants who were not local students to avoid contamination. The biographical questions collected information on the participant's gender, age, race, Approximate years of computer use, How many hours a day do you use a computer, use computer games (e.g. Quake, Warcraft, etc), (per week) do you use the Internet, Year of study, and two majors.

At the end of the demographic questions participants were reminded that "software piracy is when people make copies of computer software without permission or they load computer software onto more machines than the licensed agreement says they can. Examples of computer software are: databases, security packages, PC Games and reference software". This was to ensure that the participants understood what software piracy means.

Attitudes, social norms and piracy intention

Attitudes, social norms and piracy intention were measured using scales developed by Peace et al. (2003) (See Appendix A Sections 5, 6 and 7 respectively). These scales have adequate convergent and discriminant validity and so were not adapted. The attitude, subjective norms and piracy intentions scale were designed as semantic differentials. They have four, three and three items respectively. The internal reliability of the attitude scale was .94, the subjective norms scale was .87 and the piracy intention scale was .94. Participants are instructed to circle a value between 1 and 5 between the two words. Question 42 and 43 (the first two questions of the Attitude scale), question 46 (the first question of the social norms scale) and questions 49 and 50 (the first two questions of the piracy intention scale) were reverse scored. High scores on the attitude scale refer to positive, more favourable, attitudes towards software piracy. An example of a question from this scale is:

To me, committing software piracy is:

Foolish 1 2 3 4 5 Wise

High scores on the social norms scale reflect social norms that are conducive to software piracy. An example of an item from the social norms scale is:

No one who is important to me thinks it is okay to commit software piracy:
Agree 1 2 3 4 5 Disagree

Lastly high scores on the piracy intention scale represent high intentions to commit software piracy. An example of a question from the piracy intention scale is:

I would never commit software piracy:
Strongly Agree 1 2 3 4 5 Strongly Disagree

Incentives and Deterrents scale (See Appendix A Section 2)

The researcher developed the incentive and deterrent scale in 2007 (Matthews, 2007). The questions were based on Bandura's SCT (1986) and so they cover the seven incentives (since the primary incentive is inappropriate in the context of software piracy) and three deterrents previously discussed in the literature review chapter. The scale was developed and tested on a South African and Zambian sample. It has content and face validity. It consists of two subscales. The first subscale has 13 items addressing possible incentives the participants believe motivate someone to pirate software. The internal reliability of the scale was .83. The second subscale consists of 5 items assessing what deterrents the individual perceives might stop people from pirating software. The internal reliability of the scale was .77. They both are measured on a 5-point Likert scale (1=strongly disagree, 2= disagree, 3=neutral, 4=agree and 5=strongly agree). High scores on the incentive items independently reflect the perception that the specific incentive as a strong motivator. High scores on the individual deterrent items reflect the perception that the specific item acts as a strong deterrent.

Self-efficacy scale (See Appendix A Section 3)

Self-efficacy scales must be task specific (LaRose & Kim, 2007). Kuo and Hsu (2001) developed a self-efficacy scale for pirating computer software. However, Kuo

and Hsu defined self-efficacy in terms of an individuals' belief in their ability not to pirate computer software. The scale has three levels of piracy (1) do not use, (2) do not keep, and (3) do not distribute and persuade others not to commit software piracy- in order of severity. The scale looks at self-efficacy only in terms of breaching the person's individual moral standard. For the purpose of this study it is required that self-efficacy be looked at in terms of Bandura's (1989) theory which says it is a person's belief in their ability to behave in a particular manner, in this case, their belief in their ability to pirate software. The researcher could not find a scale that measured self-efficacy in terms of the ability to pirate computer software. Therefore self-efficacy was measured using an adapted version of LaRose, Lai, Lange, Love and Wu's (2005) self-efficacy scale (See Table 4). Their scale was developed using Bandura's SCT as a framework and used in their study on pirating music on the Internet by file sharing. It consists of one main question addressing self-efficacy and two questions addressing an aspect of self-efficacy: coping self-efficacy (See Table 2). According to Bandura (as cited in LaRose et al., 2005) coping self-efficacy is an individual's belief in their ability to avoid negative consequences. "Both of these were measured following well-established procedures from the social cognitive research tradition, although they had never before been applied to downloading specifically"(LaRose et al., 2005, p.5). The self-efficacy scale had an internal reliability of .73. It is measured on a 5 point Likert scale (1=strongly disagree, 2=disagree, 3=neutral, 4=agree and 5=strongly agree). High scores on the self-efficacy scale reflect a strong belief in a person's own ability to pirate computer software.

Table 4: Self-Efficacy Measure	
Original questions from LaRose et al. (2005) study	The questions reworded for the purpose of this research
I know how to use file sharing software.	I know how to pirate computer software.
I know how to avoid detection by the authorities when I file share.	I know how to avoid detection by the authorities when I pirate computer software.
I am confident I won't get caught downloading illegal files.	I am confident I won't get caught pirating computer software

Moral Disengagement scale (See Appendix A Section 4)

Moral disengagement was measured using Wentzell's (2006) scale. The scale consists of eight subscales and a total of 20 items that are measured on a 5-point Likert scale (1=strongly disagree, 2= disagree, 3=neutral, 4=agree and 5=strongly agree). It was developed in a South African context and had an internal reliability of .96. The scale also has strong face and content validity. High scores on the moral disengagement scale reflect a person's ability to moral disengage while pirating computer software. An example of a question from this scale is:

There is nothing wrong in using unauthorised copied software if it is needed for the success of a social responsibility project.

Another example of a question for this scale is:

Copying someone else's software is just a cheaper way of getting the product.

3.6. Methods of Analysis

The data collected was analysed to address the research questions. This section looks at the various statistical analyses run on the data. All the statistical analyses were parametric since a distribution analysis was conducted on all the variables and on the incentive and deterrent items separately. Normality was established. It is also

important to note that missing values were dealt with before any analyses were run. This was achieved by omitting the answers from participants who had not answered any of the measures items when the variable in question was being examined. It is also important to mention that at the beginning of the research process the researcher decided that about 70 participants were required for to perform the appropriate statistical analyses needed to answer the research questions. This number was also required to try to ensure that the power of the statistical tests was high enough. Power refers to the probability of making a Type II error, saying there was a difference between the samples when there was not (Huck, 2004). The higher the power of the statistical tests the less chance there is of making a Type II error.

Internal consistency reliabilities

The internal consistency of all the measures utilised is important even though they are pre-existing scales because reliability refers to the consistency of the measures (Rosenthal & Rosnow, 1991). Internal consistency reliability is based on the average of the correlations between all the test items and therefore it increases with the number of items (Rosenthal & Rosnow, 1991). To establish the internal consistency of the measures used in the study the Cronbach's alpha coefficient was calculated, as it is a popular test of reliability. It was also chosen because it is an appropriate measure of reliability when Likert scales have been used (Kaplan, 1987). Although the acceptability of the coefficient value depends on the context of the study and the nature of the variable rough guidelines have been established. In psychology a Cronbach alpha coefficient of .70 is sufficient although some theorist have argued that even an alpha of .60 is adequate (McKennell, 1970). Therefore Cronbach's alpha coefficient was established for the Incentives, Deterrents, Self-efficacy, Moral Disengagement, Attitudes, Social Norms and Piracy Intentions scores. Three coefficients were computed for each measure: the coefficient for both samples and for the two samples independently. The results were looked at in conjunction with the number of items of each scale.

Differences between the samples on each variable

Two independent sample t tests were conducted to answer the first research question:

Research Question 1: Is there a difference in the South African and Zambian samples' attitudes, moral disengagement mechanisms, intentions, self-efficacy, social norms and perceptions of the social context (incentives and deterrents)?

Two independent sample t tests were utilised because the two samples are unrelated, they also fulfil the criteria for being random independent samples, and because the dependent variables (DV) (attitudes, moral disengagement, intentions, self-efficacy, social norms, incentives and deterrents) were at least interval and normally distributed (Huck, 2004). This is the appropriate statistical method since the researcher wanted to compare the two sample's mean scores for each dependent variable (Huck, 2004). The t tests were conducted in two different ways. In the first instance the independent variable (IV) was the country the sample was from (South Africa and Zambia) and the DV for each of the five independent sample t tests was: self-efficacy, attitudes, social norms, piracy intentions and moral disengagement. For all the tests there was insufficient evidence to suggest that the variances were unequal so the pooled method was utilised. The effect size for each t tests was also calculated using Cohen's d.

The effect size is important because it tells us the strength of the relationship between the two variables (Rosenthal & Rosnow, 1991). According to Huck (2004) when Cohen's d is .20, .50 and .80 the effect size is small, medium and large respectively. Small effect sizes should be consistent with statistically non-significant results (Huck, 2004). Higher effect sizes, when found in conjunction with statistically significant results, reflect that the results are also practically significant. What this means is that the difference is large enough to be meaningful in a practical sense. A small effect size means that there is only a small difference between the two sample's means and is not as important as differences with large effect sizes. Large effect sizes reduce the probability of making a Type II error (Huck, 2004).

The second instance two independent t tests were conducted on each individual item of the incentive and deterrents scales. Therefore the IV was still the sample's country and the DV included the 13 incentives and the 5 deterrents. This was done to see if any difference between the samples existed in terms of their perceptions of their

social context (what they saw as being an incentive or deterrent in terms of pirating computer software). Again there was insufficient evidence to suggest that the variances were unequal so the pooled method was utilised. The effect size for each t tests was also calculated using Cohen's d.

Differences in the relationship between selected variables when comparing the two samples

A three-step process, as suggested by Rosenthal and Rosnow (1991), was adopted to answer the second research question:

Research Question 2: Is there a difference in the relationship between (a) attitudes, (b) self-efficacy and (c) social norms and intentions in the South African and Zambian samples?

This process is known as comparisons of independent correlation coefficients since the correlations being compared are based on different independent samples (Rosenthal & Rosnow, 1991, p.300). The first step involved calculated Pearson's correlation coefficient between the following variables for each sample:

- a) Attitudes and piracy intentions,
- b) Self-efficacy and piracy intentions,
- c) Social norms and piracy intentions.

Pearson's correlation coefficient was used to establish if there was a statistically significant linear relationship between the variables in each sample. It is appropriate because both variables are at least interval (Huck, 2004). The second step involved conducting Fisher's r-to-z transformations. The last step involved using a z-test so that z tables could be used to determine if the linear relationship between the two variables differed in the two groups.

The nature of Moral Disengagement

Baron and Kenny's (1986) criteria were used to establish if Moral Disengagement acts as a mediator or moderator in either of the samples. This was carried out to answer the third research question:

Research Question 3: Does moral disengagement act as a moderator in the relationship between self-efficacy, social norms and attitudes, and intention to pirate computer software for the two samples?

If disengagement fails to fulfil the criteria for being a mediator, a moderating relationship can be looked at. This is in line with Baron and Kenny (1986) who believed that only when mediator relationships are not significant moderating relationships should be considered. A mediator is a variable that "accounts for the relation between the predictor (IVs) and the criterion (DV)" (Baron & Kenny, 1986, p.1176). For moral disengagement to act as a mediator in either sample it must fulfil Baron and Kenny's criteria (1986). Based on Baron and Kenny's (1986) criteria the following was tested (See Figure 4 for an illustrated version of the model):

- 1) If the IVs were significantly related to the mediator (Path A)
- 2) If the mediator was significantly related to the DV (Path B)
- 3) If the IV was significantly related to the DV (Path C)
- 4) When Path A and B are controlled if a previously significant relationship between the IV and the DV was no longer significant.

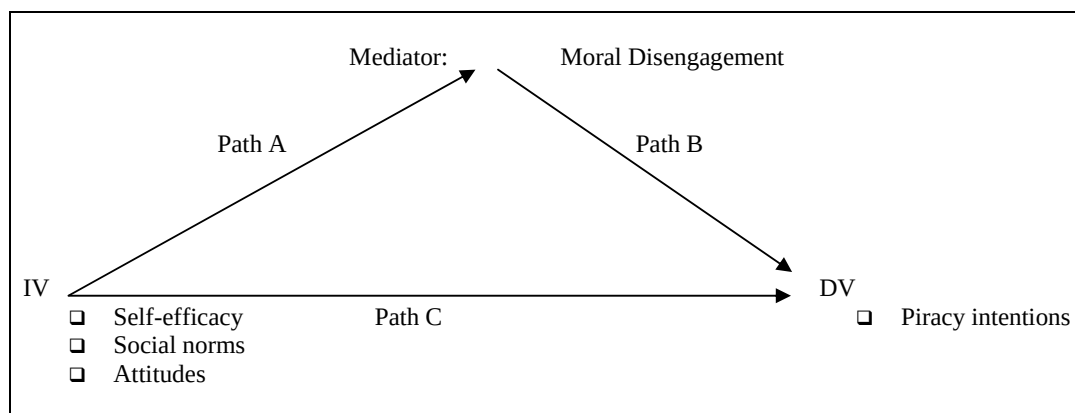


Figure 4: Mediating Model

Steps 1-3 were established by calculating Pearson's correlation coefficient between the variables since they were all at least interval. Step 4 was conducted by redoing the correlations between the variables while partialing out moral disengagement.

A moderator is "a variable that affects the direction and/or strength of the relation between an independent or predictor variable and a dependent or criterion variable" (Baron & Kenny, 1986, p.1174). In this case it would mean that the effect of the moral disengagement would affect the direction and/or strength of the relationship between the IVs and the DV. According to Baron and Kenny (1986) the best method for determining if an interval variable has a moderating effect on the relationship between the other interval variables is by calculating Pearson's correlation coefficient. This enables the researcher to ascertain if the third variable, moral disengagement, affects the direction and/or strength of the relationship between the IV and the DV. Therefore Pearson's correlation coefficients were used to assess the three causal paths (See Figure 5: Paths A, B and C). The moderating relationships were not supported so the fourth research questions became obsolete:

Research Question 4: Is there a difference between the South African and the
Zambian samples' moderated relationship?

As will be shown in the results chapter, a moderated relationship was also not supported. Therefore, linear regression was looked at.

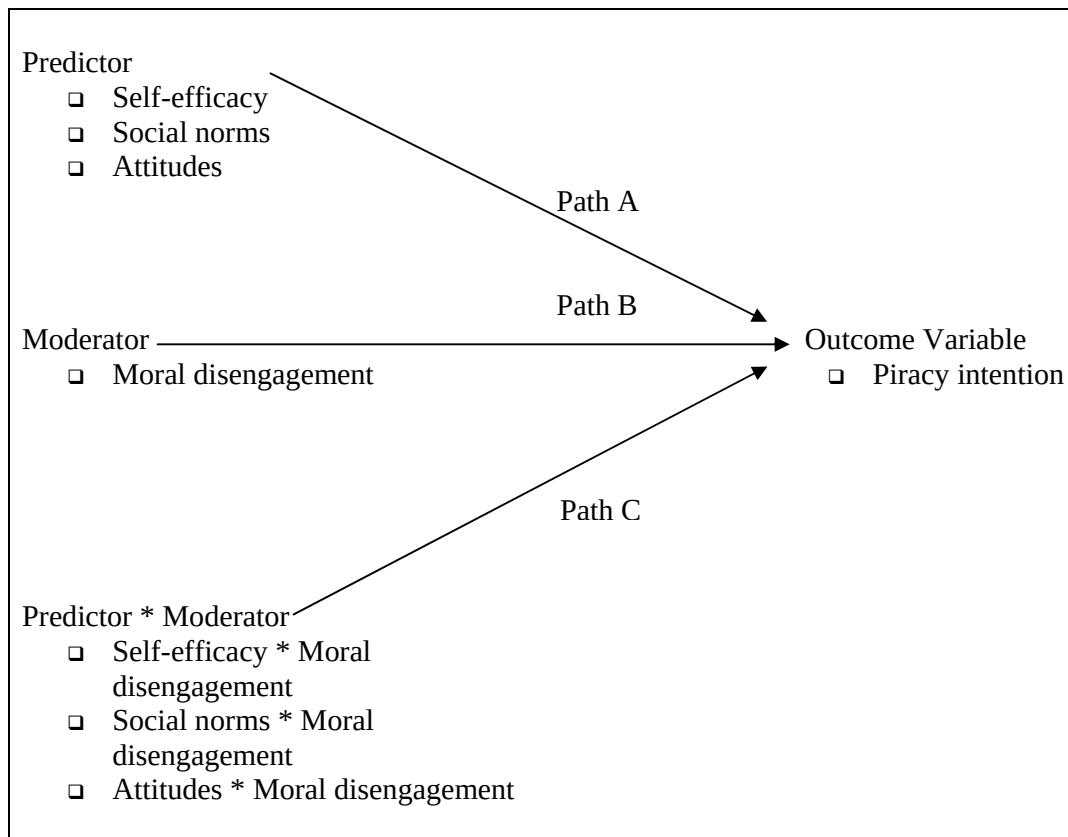


Figure 5: Moderator Model

Predictor variables for Piracy Intention

Two multiple linear regression equations (one for each sample) were calculated to establish if the IVs: self-efficacy, social norms and attitudes, predict piracy intention. According to Huck (2004) this is an appropriate statistical method since the researcher wished to examine the influence of more than one predictor variable (IV) on a single dependent variable. The condition index was also computed to ascertain if multicollinearity was a problem for the regression model (Huck, 2004).

Descriptive Statistics

Lastly, the frequencies, percentages and missing values of the demographic data were calculated separately for the two samples. These statistics were calculated to enable the researcher to describe the two samples.

3.7. Ethical considerations

The research was designed to minimise the harm done to the participants. The aim of the study was to see if Bandura's SCT theory could offer any insight into Zambia and South Africa's radically different software piracy rates on a selected sample. The study was not able to make any broad generalisations. However, it was designed to reveal if there were any differences between the samples on the variables under investigation. This is because one of the aims was to make future recommendations for further research in this area. The research methods were chosen to answer the research questions and protect the participants. One example of this was the utilisation of reliable and valid measures. A measure of piracy intention was also adopted to avoid asking the participants if they have ever pirated. This was an appropriate method since piracy intention has been linked to piracy behaviour. The measure of moral disengagement was also chosen to ascertain if the participants were employing various mechanisms to moral disengage. Therefore the measure was not able to establish if one sample was more moral than the other.

The participant information sheet was also designed to obtain informed consent since they were told that informed consent would be assumed for every completed questionnaire placed in the sealed box (See Appendix B). The participants were informed that they were not obligated to take part in the study and that there were no advantages or disadvantages for choosing to participate or not to participate in the study. The participants were also given access to the researchers' and the researchers' supervisor email addresses should they have had any queries. They also had access to a summary of the results once the research was completed and they were informed that the results would be reported in the current report.

The sampling technique utilized was designed to obtain a volunteer sample and only minimal demographics were asked for descriptive purposes. This helped ensure that the participants were anonymous. Confidentiality was assured because only group statistics were reported and because the researcher was the only person to have access to the questionnaires. Once the questionnaires had been entered into a data set, and it

was ensured that the data set was correct, the questionnaires were destroyed.
Electronic copies of the data set were given to the researchers' supervisor.

Chapter 4: Results

This chapter presents the results from the statistical analyses run on the data in five main sections. The first section presents the findings from the internal consistency reliabilities calculated for all the measures. The next section addresses the results from the two independent sample t tests used to establish if there were any differences between the two samples on any of the following variables: attitudes, moral disengagement, intentions, self-efficacy and social norms. Individual independent sample t tests were also conducted on each incentive and deterrent to establish if the perceptions of the social context differed between the two samples and these are also presented in the second section. Thirdly the results from the statistical tests utilised to establish if any differences in the relationship between selected variables, when comparing the two samples, are presented. The results examining the nature of the moral disengagement variable are presented next. The chapter ends with an examination of predictor variables for piracy intention in each sample.

4.1. Internal Consistency Reliabilities

Internal consistency of all the measures was assessed using Cronbach's alpha. The results that are presented in Table 5 include the name of the measure and the number of items it included as well as their Cronbach's alpha coefficient. Each measure has three values in terms of their internal consistency: the total Cronbach's alpha for the samples together and then individually. Based on this information the incentives measure consisted of 13 items and had a total Cronbach's alpha of .76. The value was slightly higher in the South African sample, .80, compared to the Zambian value of .71. The deterrents measure, that consisted of 5 items, had very similar internal consistency values with .76, .77 and .76 being the total, the South African sample and the Zambian sample's Cronbach's alpha respectively. The measure of self-efficacy consisted of 3 items and had a slightly higher Cronbach's alpha for the Zambian sample than the South African sample with values of .80 and .74 respectively. This averaged the Cronbach's alpha for both samples to .77.

The moral disengagement measure consisted of 20 items with both samples having similar internal consistency values, the South African sample had a Cronbach's alpha of .89 and the Zambian sample reported a value of .86 making the total .87. The measure for attitudes consisted of 4 items with almost identical Cronbach's alpha. The total alpha coefficient was .81, the South African sample reported a value of .80 and the Zambian sample had a value of .81. The social norms scale reported the biggest difference between the two samples in terms of internal reliability. The overall alpha coefficient was .67 for the 3 items. When examined individually this is because the alpha coefficient in the Zambian sample was only .60 whilst it was .72 in the South African sample. Although the internal consistencies of the scale is low, for both samples and for the samples together, McKennell (1970) states that a Cronbach's alpha of .60 is still sufficient. However, any future interpretations made on the basis of this scale are done with caution. The piracy intentions scale consisted of 3 items and the alpha coefficient was .87 for both the samples individually and together.

Table 5: Cronbach's Alpha Coefficients for the Measures for Both Samples, as a Total, and for the South African and Zambian Samples Individually.				
		Cronbach's alpha		
Measure	Number of items	Total	South Africa	Zambia
Incentives	13	.76	.80	.71
Deterrents	5	.76	.77	.76
Self-efficacy	3	.77	.74	.80
Moral Disengagement	20	.87	.89	.86
Attitudes	4	.81	.80	.81
Social Norms	3	.67	.72	.60
Piracy Intentions	3	.87	.87	.87

4.2. Differences Between the Samples on Each Variable

The results from a two independent t test are presented in Table 6 and Table 7. These results are designed to answer the first research question:

Research Question 1: Is there a difference in the South African and Zambian samples' attitudes, moral disengagement mechanisms, intentions, self-efficacy, social norms and perceptions of the social context (incentives and deterrents)?

According to the findings presented in Table 6 there is sufficient evidence to suggest that there is a difference between the two samples on attitudes and social norms. The South African sample scored higher on both these variables. Self-efficacy, piracy intentions and moral disengagement all had low effect sizes. This is consistent with the non-significant results obtained. Attitudes and social norms both had slightly higher effect sizes, which corresponds to their significant results. This also means that the practical significance of the results is average since the strength of the relationship between the two variables is moderate.

Table 6: Means and Standard Deviations for Self-efficacy, Attitudes, Social Norms, Piracy Intentions and Moral Disengagement Scores with t Test Results for the South African and Zambian Groups

	South Africa			Zambia						
Variable	<i>N</i>	<i>M</i>	<i>S</i>	<i>N</i>	<i>M</i>	<i>S</i>	<i>t</i> <i>test</i>	<i>p</i> <i>value</i>	<i>df</i>	<i>Cohen's</i> <i>d</i>
Self-efficacy	70	8.14	3.10	69	7.22	3.33	1.70	.09	137	.29
Attitudes	68	11.03	3.39	67	9.75	3.54	2.15	.03*	133	.37
Social Norms	69	10.10	2.96	68	9.06	3.05	2.03	.04*	135	.35
Piracy Intentions	69	10.12	3.58	68	10.04	3.63	1.55	.12	135	.26
Moral Disengagement	69	55.35	11.49	61	52.07	11.55	1.62	.11	128	.28

*p<.05.

Table 7 addresses the differences found between perceptions of the social context. To achieve this goal each incentive and deterrent from their respective measures was analysed and a two independent sample t test was conducted and the results are presented in Table 7. From this table it is evident that the Zambian sample scored higher only on the intrinsic motivator, activity, and on the legal deterrent (question 2). The South African sample scored higher on the extrinsic motivators presented in the table (addressed by question 6, 8, 12 and 13). The following incentives and one deterrent had moderate effect sizes: activity, monetary (question 6), and legal. Monetary (question 8), reinforcement and reciprocal exchange and self-evaluative and reciprocal exchange, although slightly greater, also had large effect sizes. This means that these results are also practically significant (meaningful) since the strength of the relationship between the two variables is strong.

Table 7: Means and Standard Deviations and t Test Results for the South African and Zambian Samples for Incentives and Deterrents that are Significantly Different.											
		South Africa			Zambia						
Question number	Variable	<i>N</i>	<i>M</i>	<i>S</i>	<i>N</i>	<i>M</i>	<i>S</i>	<i>t</i> <i>test</i>	<i>p value</i>	<i>df</i>	<i>Cohen's</i> <i>d</i>
2	Activity	71	2.76	1.25	68	3.26	1.13	- 2.50	.01*	137	.42
6	Monetary	71	4.73	0.61	69	4.35	1.03	2.69	.01*	110	.45
8	Monetary	71	4.61	0.67	69	4.12	0.90	3.65	<.01**	125	.62
12	Reinforcement and Reciprocal Exchange	71	3.15	0.98	69	2.51	1.01	4.40	<.01***	138	.74
13	Self Evaluative and Reciprocal Exchange	71	3.15	0.99	69	2.62	1.04	4.40	<.01***	137	.74
2	Legal	70	2.46	1.03	69	2.91	1.03	- 2.61	.01*	137	.44

*p<.05. **p<.01. ***p<.0001

4.3. Differences In The Relationship Between Selected Variables When Comparing The Two Samples

Fisher's r-to-z transformations were conducted to answer the second research question:

Research Question 2: Is there a difference in the relationship between (a) attitudes, (b) self-efficacy and (c) social norms and intentions in the South African and Zambian samples?

The z-test results revealed that no differences between the slopes were found. This means that there was no evidence to suggest that the linear relationships were different. This is not surprising since it appeared unlikely that any differences in the slopes would be found based on a visual examination of the correlations (See Table 8).

Table 8: The Correlation (Pearson's Correlation Coefficient) Between Selected Variables and Piracy Intention for Both Samples.				
Variable	Country	N	Pearson's correlation coefficient (<i>r</i>)	<i>p</i> value
Attitudes	South Africa	68	.75	<.01***
	Zambia	66	.61	<.01***
Self-efficacy	South Africa	69	.53	<.01***
	Zambia	68	.50	<.01***
Social norms	South Africa	69	.61	<.01***
	Zambia	67	.59	<.01***

*** $p < .0001$

4.4. The Nature of Moral Disengagement

Baron and Kenny's (1986) criteria was used to establish if moral disengagement acts as a moderator in either of the samples. This was carried out to answer the third research question:

Research Question 3: Does moral disengagement act as a moderator in the relationship between self-efficacy, social norms and attitudes, and intention to pirate computer software for the two samples?

Baron and Kenny (1986) suggest that the first step is to establish if the variable acts as a mediator. This was done through an analysis of the correlations and it was evident that in both samples moral disengagement failed to fulfil the criteria for being a mediator. Moral disengagement failed to be a mediator in the South African sample

at step four of Baron and Kenny's (1986) stages because when moral disengagement was partialled out the relationships between the independent variables (attitudes, social norms and self-efficacy) and the dependent variable (piracy intention) remained significant at the same level ($p < .0001$). Moral disengagement failed to be a mediator in the Zambia sample at step one of Baron and Kenny's (1986) stages because social norms and attitudes were not significantly related to moral disengagement. The next step was to establish if the variable acts as a moderator in either sample by calculating Pearson's correlation coefficients. Moral disengagement failed to be a moderator in either sample because it did not affect the direct and/or strength of the relationships between the predictor variables (attitudes, social norms and self-efficacy) and the outcome variable (piracy intention). Since the mediating and moderating relationships were not supported, the fourth research questions was not analysed:

Research Question 4: Is there a difference between the South African and the
Zambian samples' moderated relationship?

Instead, the variables that predict software piracy intentions were examined in each sample.

4.5. Predictor Variables for Piracy Intention

Two multiple linear regression equations (one for each sample) were calculated to establish if the IVs: self-efficacy, social norms and attitudes predict piracy intention. In the South African sample there was sufficient evidence to suggest that attitudes, social norms and self-efficacy predict piracy intention in order of strength (See Table 9). According to the condition index, multicollinearity was not a problem. The regression equation was found to be significant ($F_{3;64} = 42.03$, $p < .0001$). The regression equation was: piracy intention_i = $-1.26 + .50$ (attitudes_i) + $.39$ (social norms_i) + $.23$ (self-efficacy_i) + e_i . The coefficient of determination (R^2) was .66, indicating that these variables explained 66 percent of the variance in the total piracy intention score. Therefore the author is quite confident about the model.

In the Zambian sample there was sufficient evidence to suggest that attitudes, social norms and self-efficacy predict piracy intention in order of strength (See Table 10). According to the condition index multicollinearity was not a problem. The regression equation was found to be significant ($F_{3;62} = 24.72, p < .0001$). The regression equation was: piracy intention_i = .41 + .40 (attitudes_i) + .34 (social norms_i) + .27 (self-efficacy_i) + e_i. The coefficient of determination (R^2) was .54. Therefore 54 percent of the variance in piracy intention is explained by these variables. Therefore the author is quite confident about the model.

Table 9: Multiple Regression Analysis of the Independent Variables on Piracy Intention in South Africa.				
	Parameter Estimate	Standard Error	<i>t value</i>	<i>p value</i>
Intercept	-1.26	1.07	-1.18	.24
Attitudes	.50	.11	4.70	<.01***
Social norms	.39	.11	3.54	<.01***
Self-efficacy	.23	.10	2.23	.03*

* $p < .05$. *** $p < .0001$

Table 10: Multiple Regression Analysis of the Independent Variables on Piracy Intention in Zambia.				
	Parameter Estimate	Standard Error	<i>t value</i>	<i>p value</i>
Intercept	.41	1.09	.37	.71
Attitudes	.40	.10	4.09	<.01***
Social norms	.34	.12	2.86	.01*
Self-efficacy	.27	.10	2.67	.01*

* $p < .05$. *** $p < .0001$

4.6. Additional Analyses

The participants' (the South African and the Zambian samples combined) computer experience was correlated with the main variables in the study. The aim was to examine if computer experience could help explain the lack of differences between the samples on certain variables. Table 11 shows the results. It is evident that only self-efficacy and computer experience were significantly related. Although the

relationship is positive it is weak. Therefore the more experience participants had with computers the higher their self-efficacy.

Table 11: The Correlation (Pearson's Correlation Coefficient) Between Selected Variables and Computer Experience (in years) for all the Participants.			
Variable	<i>N</i>	Pearson's correlation coefficient (<i>r</i>)	<i>p value</i>
Attitudes	135	.10	.23
Self-efficacy	139	.18	.03*
Social norms	137	.14	.09
Piracy Intention	137	.11	.17
Moral disengagement	130	.03	.72

* $p < .05$

Chapter 5: Discussion

This chapter looks at the results of the research in relation to the current findings in the literature. All the results are discussed in the order of the previous chapter starting with a discussion on the internal consistency reliabilities. The first research question is then discussed through an analysis of the findings on the differences between the samples on each variable. The second research question is then discussed, in particular the differences in the relationship between selected variables when comparing the two samples. The following section addresses the third and fourth research question by discussing the nature of moral disengagement. The predictor variables for piracy intention are then discussed. This chapter then focused on the practical implications of the research. Lastly the limitations of the current research and directions for future research are discussed.

5.1. Internal Consistency Reliabilities

The reliabilities of the scales utilised in the study were assessed for each sample and for both the samples together. Apart from the social norms scale the other scales had sufficient to good reliabilities in both cases as their Cronbach's alpha ranged from .71 to .89 (McKennell, 1970). The reported coefficient alpha's suggests that the scales addressing each construct are internally consistent.

The social norms scale had a substantially lower (.60) Cronbach's alpha for the Zambian sample. The low reliability could be a function of the scale only having three items. However this is unlikely since it was .72 for the South African sample. The low Cronbach's alpha was unexpected since it was an established scale that had an original Cronbach's alpha of .87 (Peace et al., 2003). Although McKennell (1970) believes that a Cronbach's alpha of .60 is still sufficient any interpretations made on the basis of this scale are done with caution.

5.2. Differences Between The Samples On Each Variable

The first research question asked:

Research Question 1: Is there a difference in the South African and Zambian samples' attitudes, moral disengagement mechanisms, intentions, self-efficacy, social norms and perceptions of the social context (incentives and deterrents)?

The statistical analyses run on the data revealed that the South African sample had significantly higher scores on the attitude and social norms scales. Based on the design of the scales this means that they had more positive attitudes towards pirating software and social norms more conducive to pirating software than the Zambian sample. The differences between the two samples, based on the effect sizes, were large enough that the results are of statistical significance but the practical significance of the findings is weaker since only moderate effect sizes were found.

According to Bandura (1984) social norms, the effect of group pressure and group norms, has a significant affect on our cognitions and our behaviour. The findings of this study support this notion for the South African sample in particular which also scored higher on attitudes. While a relationship between attitudes and social norms was not looked at it is still evident that the difference between the two samples on these two variables suggests that an environment that is more conducive to pirating software results in more favourable attitudes to pirating software. This is consistent with Al-Jabri and Abdul-Gader's study (1997) that found that people held more favourable attitudes towards pirating software if their peers supported their behaviour. Al-Rafee and Cronan (2006) also found a direct relationship between a person's attitudes and the social norms.

These findings are important since more favourable attitudes and social norms have been linked to higher intentions and actual pirating behaviour (Peace, 1997; Peace et al., 2003; Lau, 2006). However, no differences between the two samples were found in terms of piracy intentions. This suggests that other factors may influence the relationship between attitudes, social norms and intentions.

The difference between the two samples on these variables supports Swinyard et al.'s (1990) belief that attitudes towards piracy differ at a national level. By differing at a national level, not just at an individual level, it also suggests that the social environment differs at the national level and the findings in this study support this notion. However these differences do not help us understand the radically different piracy rates since studies have linked the variables under examination to software piracy behaviour (Tang & Farn, 2005) one would expect that the Zambian sample would score higher on these variables. It is important to remember that the sample only consisted of a sector of the South African and Zambian populations, namely students, for which we do not know the actual piracy rate. However we do know that studies have found younger people pirate more than older people (Gupta et al., 2004). However, this finding was based on a sample of 20-50 year olds in America. This suggests that more research is needed in this area to be able to make more conclusive statements about these differences. In particular more research is needed to examine the influence of demographic variables on piracy rates in different countries.

It is also interesting that the countries did not differ in terms of moral disengagement since Tang and Farn (2005) found normative influences, the affect of group pressure and norms, to be related to piracy intentions as it helps people morally disengage. Thus suggesting that if there are differences at the social norms level there would also be differences at the level of moral disengagement. However, according to Bandura (2000) there are eight different mechanisms that can be used to morally disengage. Tang and Farn's (2005) conclusion that supportive social norms helps people rationalize their behaviour and deny personal responsibility only illustrates one mechanism of moral disengagement namely: displacement of responsibility. Thus differences between the two samples in terms of all eight mechanisms cannot necessarily be assumed. For the purpose of this study the mechanisms were not looked at on an individual basis because the scale was designed to assess the influence of all the mechanisms. This approach is in line with Bandura's (2000) theory that they interact together to help people morally disengage so they should be examined in totality.

Although Bandura (2002) stated that self-efficacy is likely to vary cross-culturally because they are structured by an interaction of the person and their social

environment differences were not found. Self-efficacy also did not differ between the two countries even though the South African sample had more experience in terms of computer use. In the South African sample 54.93 percent of the respondents reported using computers for more than 15 years in comparison to the 8.7 percent of the Zambian sample. A difference might have been expected because, based on their review of the literature, Liang and Yan (2005) found computer experience to be linked to a person's ability, their self-efficacy, to commit piracy. This is supported by Sims et al.'s study (1996) that found a positive relationship between computer experience and piracy intentions. Based on the additional analyses conducted on the data this study did not support Sims et al's (1996) findings since piracy intention was not significantly related to computer experience. Attitudes, social norms and moral disengagement were also not significantly related to computer experience. However, self-efficacy was significantly and positively related to computer experience. This means that the more computer experience the participants had the higher their self-efficacy. This supports Bandura's theory (1977) that self-efficacy is based on a person's accomplishments in the behaviour. This is because people who have been successfully using computers for more years and are therefore likely to be more comfortable with using computers are more likely to believe that they can pirate computer software. However, although their computer experience differed in terms of years the majority of both samples (95.71 South African and 88.06 of Zambian participants) used computers for 1-5 hours a day. Therefore the samples were very similar in terms of current computer usage and this might have impacted on their self-efficacy resulting in no statistically significant differences.

In terms of the participants' perceptions of the social context, numerous differences were found. The Zambian sample reported perceiving the intrinsic motivator (Bandura, 1986), the enjoyment they derive from pirating software, as a higher incentive than the South African sample. The Zambian sample also reported the threat of harsh punishments (severity) to be a stronger deterrent than the South African sample. In both countries the participants face the threat of civil and criminal charges for pirating software (Chikampu, 2007). However it would be interesting to explore if the perception of the punishment is more severe in Zambia due to different punishment conditions e.g. the state of the actual prisons. Since a difference was found between the two countries it supports Peace's (1997) finding that the perception

of legal sanctions vary greatly. However, Peace (1997) found that this was directly linked to a person's self-efficacy. This was unsupported by the study since although Zambian participants perceived the threat to be higher there were no significant differences between the sample's perceptions of their self-efficacy. This could be because the perception of legal sanction also consists of a person's belief in punishment certainty and no differences between the two samples were found on this dimension.

The South African sample reported three extrinsic motivators to be stronger incentives to pirate software than the Zambian sample. In particular they perceived the incentive to save money and because software is overpriced as stronger incentives than the Zambian sample. This supports Gupta et al.'s (2004) finding that people often cite monetary loss as motivator to pirate. Al-Rafee and Cronan (2006) found people tend to support software piracy when they believe it is overpriced. This is consistent with the current studies findings on attitudes and monetary incentives. Lau (2006) also found that people pirate software because it offers a cheaper alternative and thus will aid them in saving money. The difference in monetary incentives raises the following question: Why are people more motivated to save or make money in terms of pirating software in a country that has a higher GDP? This appears to contradict with Shin et al.'s (2004) finding that GDP and piracy rates are inversely related. It also raises questions as to why Husted (2000) found GNP and income inequality to be negatively related to piracy rates. However, the findings of this study support Bagchi et al.'s (2006) inconsistent findings in the relationship between GDP and piracy rates over six years and their conclusion that factors other than purely economical reasons influence piracy rates.

The South African sample also reported the reinforcement and reciprocal exchange as a stronger incentive than the Zambian sample. In particular they were more motivated to pirate software so that someone else will return the favour later. The South African participants also reported self-evaluative and reciprocal exchange as a stronger incentive. Based on the assumption that piracy intentions and behaviour are directly related the results support Glass and Wood (1996) and Simpson et al.'s (1994) findings that situational factors significantly influence a person's behaviour.

These findings also support Bandura's (1986) theory that people are motivated by their perceptions of the possible outcomes of their behaviour and that these perceptions vary. The fact that the South African participants reported perceiving more factors to act as higher incentives and had more favourable attitudes than the Zambia sample supports Al-rafee and Cronan's study (2006). This is because they found that people hold more favourable attitudes towards software piracy if they believe their behaviour will lead to positive outcomes. It also provides evidence that these perceptions may vary at a national level since the effect sizes were moderate to high. More research with stronger research designs, in terms of causality, and more representative samples are needed to make stronger generalisations.

5.3. Differences in The Relationship Between Selected Variables When Comparing The Two Samples

The next set of results was designed to answer question two:

Research Question 2: Is there a difference in the relationship between (a) attitudes, (b) self-efficacy and (c) social norms and intentions in the South African and Zambian samples?

No differences between the South African and the Zambian samples linear relationships were found. This supports Bandura's SCT (1986), specifically the notion of triadic reciprocal determination. This is because it provides some evidence that, in terms of the person and their cognitions, attitudes and self-efficacy, have a similar influence on intentions in both samples. The findings also support the idea that a person's environment, specifically the social norms, have a similar effect on piracy intentions in both samples. This is interesting since we have established that the samples differed in terms of attitudes and social norms but clearly this did not affect the variables relationship to piracy intentions. This means that the strength and direction of the linear relationship between the variables being studied was the same irrespective of location.

There was no evidence to suggest that the linear relationship between attitudes and piracy intentions in the two samples was different. This supports Swinyard et al.'s (1990) findings that irrespective of the national culture of participants their intentions will be consistent with their attitudes. In both samples this relationship was significant and positive. This means that large values in attitudes (attitudes supportive of piracy) are related to large values of intentions to pirate software. The findings of this study are consistent with Peace (1997) and Peace et al. (2003). The findings are also consistent with Gupta et al.'s (2004) conclusion that if people perceive piracy in an unfavourable light then they are unlikely to pirate software.

There was also insufficient evidence to suggest that the linear relationships between self-efficacy and piracy intentions between the two samples were different. The relationship between self-efficacy and piracy intentions in both samples was significant and positive. This means that a strong belief in a person's own ability to pirate software is associated with a high intention to pirate software. This finding is consistent with Kuo and Hsu (2001) and Peace et al. (2004). As previously mentioned, this supports Bandura's SCT (1991), since he states that a person is more likely to engage in a behaviour if they believe that they can successfully carry out the behaviour. Thus, the stronger a person's belief in their ability to pirate software the more likely they are to intend to behave in that manner and this relationship was found to be the same in both samples. This has important implications for actual piracy behaviour because according to Bandura (1991) if people have a high self-efficacy they are likely to intensify and sustain their effort to try to achieve their goal. Therefore if intentions are linked to actual behaviour as found by Al-Jabri and Abdul-Gader (1997) the sample is likely to be more motivated to pirate software when their self-efficacy is high and this is reflected by their higher intentions.

Lastly the results revealed that there was no evidence to suggest that the linear relationship between social norms and piracy intentions in the two samples was different. Again a significant and positive relationship was found between the two variables suggesting that the more conducive the social environment is to pirating software the greater the intention to pirate software. This is consistent with the findings from the following studies: Limayem et al. (2004), Tang and Farn (2005), Al-Jabri and Abdul-Gader (1997) and Peace et al. (2003).

5.4. The Nature of Moral Disengagement

The third and fourth research questions were:

Research Question 3: Does moral disengagement act as a moderator in the relationship between self-efficacy, social norms and attitudes, and intention to pirate computer software for the two samples?

Research Question 4: Is there a difference between the South African and the Zambian samples' moderated relationship?

Based on the findings from the statistical analyses run, moral disengagement was not found to be a moderator in either country. Moral disengagement allows people to breach their moral standards by selectively engaging or disengaging any of the eight mechanisms (Bandura, 2000). This could suggest that social norms, self-efficacy and attitudes are individually directly related to piracy intentions and are not affected by this third variable. The findings might also be a reflection of the design of the study.

The study only examined the influence of moral disengagement at one point of time therefore its impact as a moderator might be negligible since it may have already altered the participant's intentions. Based on a review of the literature the latter explanation appears to be more likely since Taylor and Shim (1993) found that the relationship between social norms and piracy intention exists because people justify their intentions by referring to the fact that everyone else does it. This suggests that moral disengagement occurs because they cognitively distort their perception of piracy based on social norms and this affects their intentions. Taylor and Shim (1993) also found that people who hold more favourable attitudes towards piracy do not perceive it as illegal and have higher intentions to pirate. This suggests that they cognitively distort (morally disengage) their perception of piracy and therefore change their attitudes to be more inline with their intentions. Taylor and Shim's (1993) findings are supported by Litzky and Oz's (2008) study that found the same relationship between attitudes, piracy intentions and reasons for pirating. Lastly

Bandura (1977) states that a person's self-efficacy is influenced by their physiological state. Therefore if a person is unable to morally disengage they will experience distress and this may reduce their self-efficacy. Peace et al. (2004) provide evidence in favour of Bandura's theory as they found that their equivalent of self-efficacy was affected by a person's confidence in their ability to successfully carry out a behaviour without negative sanctions. Thus suggesting that moral disengagement influences a person's self-efficacy. Therefore, based on the above study's findings it is likely that moral disengagement was not found to be a moderator because of the study's design. Future research should try to explore the relationship between the variables by adopting a longitudinal research design.

5.5. Predictor Variables For Piracy Intention

The findings from the regression support the idea that social norms, self-efficacy and attitudes are individually directly related to piracy intentions. This is because in both samples attitudes, social norms and self-efficacy were significant predictors of piracy intentions in order of strength. Specifically, large values in the three variables predict large values in piracy intentions. The findings are consistent with Van der Schyff's (2008) finding that attitudes, social norms and self-efficacy predicted piracy intention in a South African adult population. Both studies support Bandura's SCT (2000) that people are the same in terms of the affect their beliefs and environment have on their intentions to behave in a certain manner.

The previous findings, of this study, just looked at the strength and significance of the relationships. These findings go a step further to say that these three variables are not just related to but actually predict piracy intention. It offers support for Bandura's SCT (1977) specifically that a person's behaviour is influenced by their environment and their cognitions.

5.6. Practical Implications

The findings of this study have numerous implications for the fight against software piracy. This study provides important insight into ways to develop more suitable anti-

piracy educational strategies (Liang & Yan, 2005). These should be used in conjunction with technical and legal anti-piracy tactics. The educational tactics used focus on educating people in terms of teaching people new ways to think about software piracy. Based on the findings of the research these campaigns should have two main strategies. The first strategy involves targeting software piracy in terms of triadic reciprocal determination. This means targeting the person, the behaviour and the environment. Secondly campaigns should be tailored for different national cultures.

Campaigns should focus on an approach that targets the person, the environment and their behaviour. In terms of the person these campaigns should focus on reducing people's favourable attitudes towards piracy, their self-efficacy and their perceptions of possible incentives and deterrents. This will help change their intentions (assuming intentions are directly related to behaviour as previously found in other studies). In both countries anti-software piracy campaigns should specifically target changing people's attitudes towards software piracy since they are the strongest predictor of intentions. Attitude change should target everyone to address societal norms. One way of changing people's attitudes could be by focusing on the negative impact software piracy has had on individuals lives for instance through interviewing people. This will help make the harm they are doing more tangible and hopefully change their attitude towards pirating software.

Self-efficacy should also be targeted through preventative controls such as technical controls and by increasing the strength of legal deterrents. This is because according to Bandura (1991) self-efficacy is based on successfully accomplishing the behaviour, through vicariously learning, verbal persuasion and physiological states. So since self-efficacy is a predictor of intentions, piracy campaigns should try to illustrate how people have failed to pirate software without getting caught. This would also hopefully help raise the distress they may experience. Also more advanced technical controls would help reduce the increased self-efficacy that would be required to successfully perform the behaviour. This tactic would also cover the behavioural aspect of Bandura's (1986) model. Campaigns should also focus on reducing the perceptions of incentives and increasing the strength of deterrents since a person's behaviour is based on an analysis of their self-efficacy and perceived outcomes

(Bandura, 1982). Verbal persuasion should also be targeted through attempts to change social norms.

Anti-piracy campaigns should target social norms since they were found to predict piracy intentions. To target social norms institutes need to adopt rules, regulations and policies that condemn software piracy and clearly illustrate that this behaviour is not tolerated in their social environment. The policy must include punishments that will be perceived as harsh and have measures in place that will catch anybody who pirates software so that the perceived chances of getting caught are high. It is also crucial that they are implemented and supported by senior management to make sure that people take them seriously.

In terms of the environment campaigns should also be tailored to suit the nation they are in and the unique incentives and deterrents in this context. This is because this study found that the strength of certain incentives and deterrents in the two countries differed. Anti-piracy campaigns should also conduct more research at a cross-national level to find what the focuses of these campaigns should be. These campaigns should also try to break down piracy rates according to demographic groups within each country to further tailor their campaigns.

In term of the specific findings of this research South Africa campaigns should focus on increasing the strength of legal deterrents. This can be done by studying why the Zambian participants perceived punishment as harsher to try to increase its strength in the South African sample. Also in both cases the piracy campaigns should focus on making examples of people who are caught pirating software through the use of media to break the illusion of not getting caught. This tactic should also utilise a legal strategy to try to ensure that the person receives a suitable punishment for the crime that will deter people from the behaviour. Campaigns in South African should also take into consideration that the participants in this study perceived monetary (the desire to save money and because software is overpriced) and social (factors associated with returning a favour) incentives as being stronger motivators than the Zambian sample. Campaigns in South Africa should focus on changing these perceptions e.g. by increasing the perceived value of software. Whereas in Zambia the participants were more motivated by the pleasure they derive from pirating

software than the South African participants. Anti-Piracy strategies should research why people enjoy pirating software and how they can reduce this enjoyment.

Software piracy campaigns need to take into consideration the results of this study in order to more effectively tailor campaigns. In particular campaigns must target software piracy in terms of triadic reciprocal determination. This means targeting the person, the behaviour and the environment. Campaigns should also be tailored for different national cultures. This will help more effectively target the fight against software piracy.

5.7. Limitations of the Research

The current study had various limitations associated with the nature of the research, the sample, missing variables and the scales. In terms of the nature of the research there is always a possibility that the participants are not honest. This might also be exacerbated in the Zambian sample as they are less familiar with this type of research. This could have made them more suspicious and less truthful.

Another limitation of the research is its limited sample size and its ability to be representative of the rest of the population. The sample was limited as it only looked at students from one University in each country that were all proficient in English. Also, as previously mentioned, the statistics on the piracy rate are based on a sample of the population, it would have been interesting to know what the piracy rate was for students of a similar demographic composition.

The study was also limited because it did not include a number of variables that on reflection of the results it would have been interesting to include. For instance the study only looked at intentions and not behaviours due to legal and ethical ramifications. The study also did not have a question on various situational variables that could have affected their intentions such as the participant's perceptions of their ability to access quality software easily and in a timely manner and also on the degree of their need for software. The review of the literature by Liang and Yan (2005)

suggests that these could affect their intentions and there could be a potentially a big difference between the countries.

Lastly the scales utilised also hampered the strength of the research findings. The results from this study suggest that a better social norms scale needs to be developed. Also these scales need to be tested in different cultural contexts since on average most of the scales reported lower reliabilities for the Zambian sample. Based on comments made beside the printed questions on the Zambian samples' returned questionnaires it was evident that the participants were not as comfortable with the semantic differential scales and made comments such as "it is not clear what I should do" and "I do not like the layout of these questions". Therefore future studies should try to use Likert scales only.

5.8. Directions for Future Research

The current research offered some very valuable findings especially in terms of highlighting possible directions for further research in this area. In particular this study highlighted the importance of using a psychological framework to help understand the phenomenon, the importance of qualitative studies, the use of larger and more diverse samples and the effectiveness of campaigns.

This study has highlighted the appropriateness of Bandura's SCT (2000) in helping us understand software piracy. This is a useful platform to work from and future research needs to include more variables from this model. For instance behaviours need to be included. It would also be helpful to adopt a more comprehensive multidiscipline model that looks at the influence of non psychological aspects of a person's environment specifically economic, technical, legal, cultural and demographic factors. Structural equation modelling would also help explore how the variables interact without imposing previous conceptions. Also studies should focus on developing more reliable and cross-culturally valid scales, specifically a new social norms scale is needed, to help measure these variables more accurately.

This field would also benefit from more qualitative studies to explore variables in terms of software piracy. For instance qualitative studies need to study moral disengagement by exploring how people make sense of transgressing their moral standards. A step in the right direction would also be to include a number of qualitative questions within a quantitative framework. Another way of exploring this phenomenon further would be to use a different scale to explore the influence of the eight moral disengagement mechanisms holistically and individually. This would help researchers examine the validity of Bandura's (2001) theory that the items are better discussed holistically since they interact with and influence each other. More longitudinal studies examining the role of moral disengagement are needed since this study only adopted a cross-sectional approach. This means that this study might have only examined the influence of moral disengagement after it has already altered a person's intentions and therefore making its impact on intentions negligible.

A lot of research has also focused on using students. While this is helpful for the purpose of this study more research should try to use more demographically diverse (in terms of occupation, race, language and age etc) samples and possibly look at avoiding anonymous surveys and indirect measures such as intentions. In general more research is needed in this area at a cross-cultural level.

Studies should also look at the effectiveness of specific campaigns. Research in this area could look at various media campaigns use to find which is the most effective in changing, attitudes, perceptions, social norms and self-efficacy. Based on the above suggestions it is clear that while the quantity of studies on software piracy is increasing it is a fascinating field since we still have so much to learn and study and it is clearly far from being saturated.

Chapter 6: Conclusion

Software piracy occurs when people, intentionally or unintentionally, make copies of the computer software without permission or they load the computer software onto more machines than the licensed agreement says they can. South Africa and Zambia have radically different piracy rates (36% and 81% respectively) suggesting that there are local contextual factors (i.e. culture) that account for these differences. This study used Bandura's SCT (1984) as a framework. According to Bandura's SCT (1984) behaviour, the person and their environment interact interdependently. Based on a review of the literature this study looked at the influence of environment in terms of national culture and social norms. In terms of the person this study concentrated on attitudes, moral agency, perceptions of the social context (incentives and deterrents) and piracy intention. Actually piracy behaviour was not examined due to ethical and legal restraints.

Statistical analyses were run on the data revealed that the South African sample had more positive attitudes and more favourable social norms in terms of software piracy. The South African sample also reported monetary, reinforcement and reciprocal exchange and self-evaluative and reciprocal exchange as higher motivators than the Zambian sample. The Zambian sample reported the pleasure they derive from pirating as a stronger incentive and the threat of harsh punishment as a stronger deterrent. There was no difference between the two samples in terms of the relationship between attitudes, social norms and self-efficacy and piracy intentions. Moral disengagement did not act as a third variable influencing the relationship between social norms, self-efficacy, attitudes and piracy intentions in either sample. The findings also illustrate that attitudes, social norms and self-efficacy predict piracy intention in order of strength for both samples.

These findings suggest that anti-piracy strategies should use Bandura's theory of triadic reciprocal determination. The findings also illustrate that anti-piracy campaigns should be tailored for each country.

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Appendix A: Compiled 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+
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What is your race?

African	Indian	Coloured	White	Other
---------	--------	----------	-------	-------

Are you a local or international student?

Local student	International student
---------------	-----------------------

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 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
-------------------------	-----------------------	----------------------------	-------------------------	---------------------	-------------------------------

What year of study are you currently completing?

First year	Second year	Third year	Other
------------	-------------	------------	-------

If other please specify _____

What are your two majors?

For the next section it is important to remember that software piracy is when people make copies of the computer software without permission or they load the computer software onto more machines than the licensed agreement says they can. Examples of computer software are: databases, security packages, PC Games and reference software.

Section 2

Incentives and Deterrents scale

These are statements regarding why other people might pirate computer software, for the following questions please indicate your degree of agreement or disagreement with the following statements:

1.	People pirate computer software because it relieves boredom.	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
2.	People pirate computer software because it gives them satisfaction.	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
3.	People pirate computer software because the people who are important to them do not think it is wrong.	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
4.	People pirate computer software because their behaviour is socially rewarded.	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
5.	People pirate computer software because other people put pressure on them to do so.	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
6.	People pirate computer software to save money.	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
7.	People pirate computer software in case the computer programme is faulty.	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
8.	People pirate computer software because they think it is overpriced.	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

9.	People pirate computer software because they find it an enjoyable activity.	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
10.	People pirate computer software because it increases their status in the community.	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
11.	People pirate computer software because it increases their power.	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
12.	People pirate computer software because they think someone else will pirate software for them at a later date.	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
13.	People pirate computer software because someone has pirated software for them in the past and they are returning the favour.	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

These are statements based on why others might NOT pirate computer software, for the following questions please indicate your degree of agreement or disagreement with the following statements:

14.	People do not pirate computer software because they are scared of getting caught.	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
15.	People do not pirate computer software because the punishments are harsh.	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
16.	People do not pirate computer software because they are worried what people at work would think.	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
17.	People do not pirate computer software because they are worried what people in their community would think.	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
18.	People do not pirate computer software because they would be unhappy with their own behaviour if they pirated software.	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

Section 3

Self-efficacy scale

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

19.	I know how to pirate computer software.	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
20.	I know how to avoid detection by the authorities when I pirate computer software.	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
21.	I am confident I won't get caught pirating computer software.	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

Section 4

Moral Disengagement scale

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

22.	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
23.	It is okay to use unauthorised copied software if it will improve an individual's computer literacy	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
24.	The unauthorised copying of software is like playing a trick on the software company	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
25.	Copying someone else's software is just a cheaper way of getting the product	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
26.	The unauthorised copying of software is inventive	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
27.	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
28.	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
29.	Individuals who cannot afford software products cannot be held responsible for the unauthorised copying of it	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

30.	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
31.	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
32.	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
33.	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
34.	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
35.	The unauthorised copying of software is okay as software companies can afford these losses	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
36.	The unauthorised copying of software is a way of convincing the software companies to drop their prices	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
37.	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
38.	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
39.	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
40.	The software companies are corporate bloodsuckers who drain companies' finances	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
41.	The software companies are a bunch of frauds who deserve to have their products copied illegally	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

Section 5

Attitude scale

Please circle the scale value that best reflects your answer:

42. To me, committing software piracy is:*
- | | | | | | | |
|------|---|---|---|---|---|-----|
| Good | 1 | 2 | 3 | 4 | 5 | Bad |
|------|---|---|---|---|---|-----|
43. To me, committing software piracy is:*
- | | | | | | | |
|----------|---|---|---|---|---|------------|
| Pleasant | 1 | 2 | 3 | 4 | 5 | Unpleasant |
|----------|---|---|---|---|---|------------|
44. To me, committing software piracy is:
- | | | | | | | |
|---------|---|---|---|---|---|------|
| Foolish | 1 | 2 | 3 | 4 | 5 | Wise |
|---------|---|---|---|---|---|------|
45. To me, committing software piracy is:
- | | | | | | | |
|--------------|---|---|---|---|---|------------|
| Unattractive | 1 | 2 | 3 | 4 | 5 | Attractive |
|--------------|---|---|---|---|---|------------|

Section 6

Social norms scale

Please circle the scale value that best reflects your answer:

46. If I committed software piracy, most of the people who are important to me would*:
- | | | | | | | |
|---------|---|---|---|---|---|------------|
| Approve | 1 | 2 | 3 | 4 | 5 | Disapprove |
|---------|---|---|---|---|---|------------|
47. Most people who are important to me would look down on me if I committed software piracy:
- | | | | | | | |
|--------|---|---|---|---|---|----------|
| Likely | 1 | 2 | 3 | 4 | 5 | Unlikely |
|--------|---|---|---|---|---|----------|
48. No one who is important to me thinks it is okay to commit software piracy:
- | | | | | | | |
|-------|---|---|---|---|---|----------|
| Agree | 1 | 2 | 3 | 4 | 5 | Disagree |
|-------|---|---|---|---|---|----------|

Section 7

Piracy intention Scale

Please circle the scale value that best reflects your answer:

49. I may commit software piracy in the future:*
- | | | | | | | |
|----------------|---|---|---|---|---|-------------------|
| Strongly Agree | 1 | 2 | 3 | 4 | 5 | Strongly Disagree |
|----------------|---|---|---|---|---|-------------------|
50. If I had the opportunity, I would commit software piracy:*
- | | | | | | | |
|----------------|---|---|---|---|---|-------------------|
| Strongly Agree | 1 | 2 | 3 | 4 | 5 | Strongly Disagree |
|----------------|---|---|---|---|---|-------------------|
51. I would never commit software piracy:
- | | | | | | | |
|----------------|---|---|---|---|---|-------------------|
| Strongly Agree | 1 | 2 | 3 | 4 | 5 | Strongly Disagree |
|----------------|---|---|---|---|---|-------------------|

Note: * Reversed scale. All reversed items are reverse scored.

Appendix B: Participant Information Sheet



Psychology

School of Human & Community Development

Private Bag 3, Wits 2050, South Africa. Telephone: +27 11-717-4500/2/3/4. Fax: +27-11-717-4559



Date: _____

Hi,

My name is Mary Matthews and I would like to invite you to participate in a research study. I am conducting the research for the purpose of obtaining my Masters in Industrial Psychology at the University of Witwatersrand. My research is on software piracy.

All computer software comes with a licensed agreement that states the terms and conditions under which the software can be used legally. Software piracy is when people make copies of the computer software without permission or they load the computer software onto more machines than the licensed agreement says they can. Examples of computer software are databases, security packages, PC Games and reference software. So far research has offered psychological, economic and cultural reasons for the different piracy rates found in different countries. The aim of my research is to investigate the psychological reasons why people might pirate or might not pirate software. I intend to compare samples from two different countries in Africa.

Participation in this research will involve completing the attached questionnaire, which should take under thirty minutes. Participation in this study is completely voluntary. You will not be advantaged or disadvantaged in any way for choosing to complete or not complete this questionnaire. You will only be asked minimal demographic questions for descriptive purposes but at no time in the study will anybody be able to identify who you are. Your completed questionnaire will only be seen by me and my supervisor. Your answers will only be looked at in relation to other participants. This means that group data will only be reported in my final research report. Your responses will therefore be confidential. A summary report on the findings of the research will be placed on your class notice board once the report is completed.

If you would like to participate in the study please complete the attached questionnaire as honestly and carefully as possible. Once you have completed the questionnaire please place it in the sealed box placed at the back of the class to ensure that I will be the only one who has access to it. Completion of the questionnaire is regarded as consent to participate in the study.

Your participation in the study would be greatly appreciated. This research is aimed at trying to provide valuable insight into the psychological phenomenon behind computer software piracy.

If you have any queries please do not hesitate to contact either myself, or my supervisor, Andrew Thatcher.

Yours Sincerely

Mary Matthews
Organisational Psychology Masters student
mares715@hotmail.com

Andrew Thatcher
Professor
Andrew.Thatcher@wits.ac.za