A TEST OF SITUATIONAL ACTION THEORY IN SAUDI ARABIA

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Dedication

I dedicate this work to the man to whom I owe all my success in life. My beloved father (Muflih).

To my mother, (Sabah) with her endless Love, Support & Encouragement.

Acknowledgement

I thank Allah Almighty for giving me the inspiration, patience, time, and strength to finish this work. With Allah's will and mercy I have been able to achieve all of this. This thesis was the result of the collective efforts of a number of important and valued people who directly or indirectly assisted and supported me during my doctoral studies. To these people, I owe my deepest gratitude and thanks. I would like to begin by expressing my sincere appreciation and gratitude to my supervisory team: Prof-Christopher Birkbeck, thank you for your insightful feedback, constructive suggestions, advice, endless help and support. Indeed, you deserve more thanks than I can convey. Also, I am very thankful to Dr. Sara Grace for her precise advice, support and guidance during all the stages of this work. I should also acknowledge the great help and support from Prof. Neal Hazel for his constructive suggestions and advice in the early stages of this work. Thank you all.

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List of Abbreviations

SAT Situational Action Theory

KSA Kingdom of Saudi Arabia

Rational Choice Theory (RCT)

PCRC The Principle of Conditional Relevance of Control

SOH Social Observation Homes

PADS+ The Peterborough Adolescent and Young Adult Development Study

GAE The General Administration of Education

ISRD 3 International Self Report Delinquency 3

OLS Ordinary Least Squares

TCF – Total Crime Frequency

TCV – Total Crime Variety

Abstract

Situational Action Theory (SAT) is a recent and increasingly popular framework for explaining criminal behaviour, especially among youths. It argues that most people comply with the law and refrain from committing crime because they do not see crime as an action alternative, not because they are worried about the consequences. This study explored the applicability and validity of SAT in the cultural context of the Kingdom of Saudi Arabia (KSA). A self-administered questionnaire that used items designed by the PADS+ project (the Peterborough Adolescent and Young Adult Development Study in the UK) was adapted to the Saudi context and used to collect data from 588 high school students aged 16–18 years, in the city of Riyadh, Saudi Arabia. Ordinary Least Squares regression (OLS) and logistic regression were used to test SAT's hypotheses regarding the predictors of crime and their interaction effects.

Overall, the study provides modest support for the key propositions of SAT, including the central role of crime propensity and criminogenic exposure in the causation of crime, the principles of conditional relevance of control, and the perception-choice process. However, the nature of the interaction, especially with regards to perception-choice process, is not consistent with SAT. Therefore, future studies are required to further enhance our understanding of the nature of the interactions proposed in SAT.

CHAPTER 1 : INTRODUCTION

1.1 Empirical Testing of Theories in Criminology

Criminology is the scientific study of patterns of criminal behaviours, criminal justice, the causes and prevention of crime, and the responses by law enforcement (Liu, 2007). Criminology encompasses a wide range of theories, eliciting concerns that the discipline is at the point where production of new hypothetical explanations outpaces the production of empirical tests to study the core suggestions of already existing theories (Pratt, 2015). Therefore, it is imperative for criminology to examine whether the theoretical propositions and empirical findings that are based on data from one country could be applied in other contexts (Liu, 2007). As Pratt (2015) points out, theory development requires empirical tests. Additionally, since criminological research has implications for crime policy and harm reduction interventions, it is important to analyse and reveal whether original hypothetical statements could apply across different cultures, individuals, institutions, neighbourhoods and times (Pridemore, Makel, and Plucker, 2018).

Given the difference in context from one country to another, Lucas (2003) argues that applying replication of research findings should increase confidence in theoretical propositions. Applying an existing theory to new situations or contexts (using the same methods, different experiments, or different subjects), in order to examine the extent to which it is generalizable to different locations, cultures or age groups could help determine whether it is worthwhile. Chun (2012) asserts that research replication is key for supporting a given theory's application to other contexts and participants. Replication improves confidence in theory because no single study could be said to produce generalizable knowledge (Raman, 1994). Consequently, replication is important for the following reasons: (1) it tests whether theory results are valid and reliable; (2) it determines the generalizability of extraneous variables; (3) it allows evaluation of the practicability of theory in real-world situations; and (4) it inspires new research (Lucas, 2003).

A substantial number of researchers believe that replication research contributes to the progress of science (e.g. Pridemore et al., 2018; Walker et al, 2017; McNeeley and Warner, 2015; Spector et al., 2015; Chun, 2012; Schmidt, 2009; Liu, 2007; Lucas, 2003; Singh et al., 2003; Hunter, 2001; Tsang and Kwan, 1999; Hubbard and Vetter, 1998; Radder, 1996; Madden et al., 1995; Raman, 1994; Rosenthal, 1990). Without the validation of the prior findings of a theory in another context, both its accuracy and applicability separate from the original context cannot be verified (Porte, 2012). Thus, replication offers researchers the opportunity to build on the findings of the original work in a different context. According to Spector et al. (2015), replication studies help to import theories and findings from one place to another, without a direct cultural influence comparison.

1.2 Empirical Testing of Situation Action Theory

Situational Action Theory (SAT), proposed by Per-Olof H. Wikström, is a relatively new theory, and there has been a great deal of recent interest in testing it. Tests of this theory were first developed in the UK (Wikström, 2004; Wikström, 2006; Wikström et al., 2012), with subsequent tests of the theory following in a variety of predominantly western contexts. For instance, of replication studies UK and Sweden (Wikström and Svensson, 2008); UK (Wikström, 2009); Belgium, Sweden (Svensson and Pauwels, 2010); UK (Wikström et al, 2010); UK (Wikström et al., 2012); Belgium (Schils and Pauwels, 2014); UK (Wikström and Treiber, 2016); Belgium (Noppe, 2016); Austria (Hirtenlehner and Treiber, 2017); Sweden (Uddin, 2017); Russia and the Ukraine (Antonacio et al., 2018); Germany (Gerstner and Oberwittler, 2018); UK (Wikström et al., 2018).

This research tests SAT in Saudi Arabia. This work therefore aims to explore whether the SAT theory of crime causation is valid and applicable outside of the geographical and cultural boundaries in which it was initially developed. By seeking to test the theory in a culturally and socially distinct context from that in which it has already been tested, the research will examine the extent to which SAT can be said to be a (general) theory of crime that applies to various cultural, social and geopolitical settings, or whether the theory is grounded in a specific cultural context. According to Wikström and Sampson (2003), SAT is a reaction to the lack of any unified model that can be used to examine the factors that contribute to crime causation. It is also a reaction to the limited understanding of the causal

mechanisms that lead to the commission of acts of crime which, it is argued, has been a major limitation in the literature of criminology. Indeed, Wikström has stated that the SAT theory was developed in order to address the major limitations of earlier, prominent criminological theories. The original aims were to clearly define a crime as a moral action that violates or breaks a set of rules of conduct, as stated in law, and then to attempt to develop a deeper understanding of what leads individuals to violate these rules (Wikström et al., 2011, 2012). The fundamental argument of SAT is that people are moved to action (including to acts of crime) by how they see their action alternatives in a given setting. People make their choices when confronted with the particularities of that setting (Wikström 2004: 61). SAT offers a complex explanation of the causes of crime, examining both personal characteristics – looking at individual knowledge, skills, experience and morality – and environmental characteristics – looking at opportunities and frictions in their moral context (Wikström, 2006: 62). Essentially, SAT was developed in reaction to the shortcoming of previous criminological theory, starting with the somewhat surprising omission to even clearly define crime as a concept. Wikström has pointed out the shortcomings of previous theories of crime causation and their lack of a clear conceptualisation of crime. This must be addressed before seeking to move on to build a theory of crime's causes or to empirically assess any such theory as a valid explanation of crime (Wikström, 2006: 63).

The SAT causation model developed by Wikström therefore marks a significant shift towards a more comprehensive criminological theory and provides a promising explanation of the major causal mechanisms contributing to acts of delinquency. SAT mainly focuses on the mechanisms of crime. Previous theories of crime causation (which will be briefly introduced in Chapter 2), have tended to focus on either personal or environmental characteristics or how these characteristics either encourage or deter the commission of acts of crime. SAT differs from these previous approaches by bringing together the various threads of existing criminological theories and rather than examining the impact of personal and environmental factors in isolation, it instead focuses on the results of the interaction between endogenous and exogenous factors.

In brief, SAT proposes that contemporary urban crime patterns can be explained through social dynamics that are created through an interaction between individuals and the environments they inhabit. The interaction that the theory proposes creates different situational dynamics (perception-choice processes) that enable an explanation of varying interactions of types of people and environments, in different parts of a location, at different points in time. Some of these varying interactions are hypothesised to be more likely to result in crime, subsequently supporting an explanation of concentrations of crime in time and space. Actions are the result of the interaction of relevant personal and environmental factors that initiate a causal process (Wikström et al., 2012). In SAT, the relevant personal characteristics refer to an individual's criminal propensity, which is something that varies from person to person and is constituted by an individual's morality and their ability to exercise self-control. According to Wikström (2006), SAT describes crime as any action that results in breaking the moral rules outlined in the criminal law. Wikström and his colleagues aim to understand why people either comply with or breach these rules of morality that govern conduct and are codified in law. SAT has convincingly attempted to explain the mechanisms that lead to the occurrence of such rule-breaking (crime) with a unified approach that encompasses both individually and environmentally grounded explanations of moral violations (Wikström et al., 2012).

While there are relatively few criminological studies that have applied full testing of the situational model, there have been some comparative studies since the development of SAT. The Peterborough Adolescent and Young Adult Development Study (PADS+) is a seminal work and was integral to the development of SAT (Wikström et al., 2012). PADS+ study of University of Cambridge that commenced in 2002, and still ongoing. The aim of which was to increase understanding of how situational influences such as schools, families, and communities impact upon the social development of young people and their levels of delinquency. The PADS+ study originally used participants in Peterborough, in the UK, although the PADS+ methodologies have been used beyond this location in collaborative studies in The Hague, the Netherlands (Study of Peers, Activities and Neighbourhoods), Malmö, Sweden (The Malmö Individual and Neighbourhood Development Study), Madrid, Spain (The Madrid Study), and Slovenia (The Slovenia Study of Parental Monitoring and Adolescent Delinquency).

The Study of Peers, Activities, and Neighbourhoods (The Hague Study-SPAN), headed by Professor Dr. Gerben J. N. Bruinsma, is a cross-sectional study which applies the PADS+ methodology to a sample of young people in The Hague, Netherlands (Weerman et al ,2016). Its Criminal Events Cluster focuses on the behaviours of offenders (in addition to the behaviour of victims, bystanders, and law enforcement actors) in the course of potential and actual criminal events. Like Wikström's original conception of SAT (which will be explored in greater depth in the Chapter 2), The SPAN Study looks at crime as a phenomenon that occurs in a particular situational context, examining people, places and behaviour and how they interact. The SPAN Study places particular emphases on the causal mechanisms between actions within criminal events and the interconnections between person, place and time. The Madrid Study tests SAT by using a sample of schools in Madrid and replicating aspects of the PADS+ questionnaire. The Madrid Study is ongoing, while results are yet to be published, it intends to include a sample of incarcerated juveniles and will use a methodology based on PADS+, including interviewer-led group questionnaires. The Malmö Individual Neighbourhood Development Study (The Malmö Study-MINDS) also seeks to replicate the PADS+ research, exploring differences in social structure and welfare provisions and the operation of the criminal justice system using a sample of young people in Malmö (Levander et al, 2014). The Slovenia Study of Parental Monitoring and Adolescent Delinquency (The Slovenia Study- SPMAD) is also currently conducting a cross-sectional study using PADS+ methodology and working with a sample of young people in Ljubljana (Bertok and Meško, 2013).

While these studies are ongoing and limited results and data outputs are currently available, some of the research outputs to date appear to support elements of Wikström's theory, recognising the importance of the interaction of morality and self-control, and reflecting the notions of propensity set out by Wikström (see Antonaccio and Tittle, 2008; Svensson et al., 2010; Wikström and Svensson, 2010; Pauwels et al., 2011; Wikström et al., 2011; Bertok and Mesko, 2013; Hirtenlehner et al., 2013; Gallupe and Baron, 2014; Bruinsma et al.,2015; Cochran, 2015; Svensson, 2015; Eifier, 2016; Hirtenlehner and Hardie, 2016; Hirtenlehner and Kunz, 2016; Piquero et al., 2016; Pauwels and Svensson, 2017; Craig, 2017; Kroneberg and Schulz, 2018; Schepers and Reinecke, 2018; Ishoy and Blackwell, 2018; Maillo, 2018; Hirtenlehner and Meško, 2018). While these studies seek to replicate the PADS+ methodology, their contexts – all in European countries – share many similarities. The legal

traditions, demographics, and culture are homogenous (speaking very broadly) and so one would expect to see similarities with Wikström's findings. While these studies may be able to test elements of SAT to a certain extent, their applicability beyond a European context is still limited, in that it is not safe to assume that the same findings, when published, would be replicated in contrasting social and cultural environments.

In addition to these ongoing studies, SAT has been tested to some extent across different contexts including European, Canadian, and American populations. However, a very limited number of studies in those contexts tested or focused on the perception-choice process. Additionally, these existing studies reported mixed findings. They also used different methods (in contrast to the ongoing studies mentioned above) to measure the key elements of the theory. These different methods may account for the differences in findings across studies. There is therefore a need to further examine SAT by conducting a replication study using the same measurement methodology that was used by Wikström et al. (2012), but in a very different cultural context, to see whether the findings obtained are replicable in varied cultural environments. Furthermore, by testing SAT in a contrasting social and cultural context, this thesis will seek to investigate the extent to which the theory truly represents a general theory of crime that can cross the boundaries of culture, politics, society, and legal traditions, and to explore briefly the contested nature of the definition of crime.

The best empirical test of the reliability of evidence is provided by replication (Sidman, 1960). Popper (2005) pointed out that only by such repetition can we convince ourselves that we are not dealing with a mere isolated "coincidence" but with events, which, because of their regularity and reproducibility, are in principle intersubjectively testable (Popper, 2005: 23). Replication studies are very important in confirming empirical findings and testing a theory's generalizability and explanatory power. It is only by empirical testing of the same theory repeatedly in contexts that differ from the original setting that we can tell if that theory stands up to falsification, which is crucially important in scientific realism (Popper, 2013).

This research study will represent a partial replication study of the PADS+ research (to be discussed in Chapter 5 of this thesis). Core elements of the PADS+ research, such as the detailed space-time budget, have not been replicated at all. Therefore, the term 'replication' is used here in an indicative sense to signify the roots of this study as being from the original

publication by Wikström and his colleagues. The intention of the current study is therefore to replicate the testing of the explanatory power of the two core elements of the theory. These are the propensity to commit a crime and the relevance of criminogenic settings that individuals are exposed to, as well as their interactional effects. The study will measure youth crime using a self-reported study of delinquent / criminal behaviours as well as utilise factorially designed scenarios in order to explore young people's intended delinquent behaviours.

It is relevant to note that SAT is particularly suitable for this study because it defines crime as a moral action, enabling - in theory – a universal explanation of crime in all places and at all times. In other words, as 'morals' vary greatly across different social, political and legal contexts, the concept of crime remains a common thread. It is a defining element that Wikström includes in the frame of the perception of local rules and the individual's willingness to break them, rather than the content of the rules themselves. It is this principle of a single definition of crime which should lead to its applicability across contextual boundaries: the content of the rules may change across time and space, but all societies have rules of one form or another. Additionally, SAT is suitable for the current study because it was designed to be a general theory of crime and delinquency and so it should be applicable to variety of samples from different countries across the world. Additionally, it has been shown to have empirical support in some international samples.

1.3 The Saudi Context

The Kingdom of Saudi Arabia (KSA) is a context that differs significantly to those in which SAT has already been tested. Its culture is shaped primarily by its Islamic heritage, and despite the social changes, demographic shifts, and economic development that the Kingdom has undergone in recent times, Islamic values and traditions have endured. Islamic teaching starts at a young age and plays an important role in family and social life. The dominant form of Islam is a Wahhabism form of the religion that is evident across all facets of Saudi Arabian society, including dress, socializing and dominant moral values. Individuals in the KSA are strongly encouraged to follow Islamic religious regulations, including the prohibition of drinking alcohol and sexual relationships outside of the institution of marriage.

Just as it underpins these various aspects of the social and cultural fabric of Saudi life, Islam is similarly central to the legal system and justice institutions in the KSA. Laws in the KSA, in contrast to in the western context, are based primarily on Islamic teachings. The piece of legislation in the KSA that most resembles a codified constitution is the Basic Law of 1992. Articles 1, 8, and 26 of the Basic Law set out the Islamic foundations of the Saudi Arabian legal system, declaring that 'the Kingdom of Saudi Arabia is an Arab and Islamic sovereign state, its religion is Islam, and its constitution, the Holy Qur'an and the Prophet's Sunnah' (Article 1, Basic Law 1992). The law further outlines that 'The rule in the Kingdom is based on justice, consultations, and equality in accordance with the Islamic Sharia' (Article 8, Basic Law 1992). The form that the integration of Islamic values into the legal framework of the KSA takes is the use of Sharia Law. Sharia is a legal system that is based on the rules derived directly from Islamic scripture and traditions, as set out in the Qur'an and the Sunnah. There is no codified penal law in the KSA: all law is based on these religious doctrines.

The legal system's foundations in Sharia demonstrate the intrinsic connection between law and culture in the Saudi context. The legal system of the KSA is explored in detail in Chapter 4. A further point of contrast between a European context and the KSA is the nature of criminal sanctions. In the KSA these include both capital and corporal punishments for adults and juveniles alike. An additional example of the contrasting Saudi context is that crime is essentially seen as a commission of moral sin, and the prevention of crime is seen as a religious duty. Therefore, those who commit a crime will face huge informal social pressures from their family and community members. These unique social phenomena are relevant to social control and religiosity and could potentially be a significant force in deterring delinquency and crime in a context where society collectively and uniformly accepts religion as a basis of people's actions (Stark, 1996).

These socio-religious cultural foundations are important factors in the framing of SAT analysis and can be seen as a part of what Wikström calls 'the 'causes of the causes of crime'. While the dierect causes of crime under SAT are situational factors. Accordingly, factors that constitute causes of crime are understood within the framework of two main categories within SAT. These are an individual's propensity to engage in delinquent behaviours, and the exposure of that individual to a criminogenic environment. Crime propensity is something which is constituted by a person's morality and ability to exercise self-control and this

characteristic varies between people. Using SAT as a new theoretical framework to explain the phenomenon of youth crime in the KSA might enable us to find a better explanation for crime than that which we can currently glean from the limited research on the causes of youth crime in the KSA.

According to the Saudi General Authority of Statistics, the population of the KSA was 32 million in 2016 (Demographic Survey, 2016). The KSA is the 47th most populous and the 13th largest country in the world (IMUNA Saudi Arabia Country Profile,2019). The KSA has a significant youth population, with people aged 9 to 24 comprising 22% of the country's overall population – including both Saudi nationals and foreign residents of the KSA. Looking at Saudi nationals in isolation, youth demographics are even higher, with 28% of the population aged 9 to 24 (Demographic Survey, 2016).

Riyadh is the capital city of Saudi Arabia with a population of around 8 million people (Demographic Survey, 2016). Riyadh city encompasses a geographical area of about 1,798 square kilometres and hosts the headquarters of government ministries and departments, the embassies of foreign governments and the head offices of the majority of the private firms in the Kingdom. Riyadh is an urban centre which differs from the rural communities of the KSA in many facets of life. Socialisation in rural communities of the KSA is built around family, friends and neighbours with social activities centred on family gatherings and visits. However, Riyadh has experienced a dramatic social change in recent years which has greatly influenced the social activities of the people who live there. Social and leisure activities have been transformed by the advent of big shopping malls, cafés, shops and walking areas similar to those in western countries. Riyadh's residents overwhelmingly patronise these entertainment and recreational centres. Unlike in western countries, public spaces are segregated based on gender into:

1- Public centres for males only such as music shops, pipe-smoking pubs and cafés
2- Public centres for females only such as female photography, dress making and hair dressing shops.

3- Public centres for families (accompanied females), such as family sections in coffee shops, theme parks and restaurants (Bin Towairesh, 2012).

High schools in Riyadh open for 5 days in each week from 6:30am to 12:30pm. The students are given 6 – 7 lessons each day with two recesses lasting 20 mins each. Young people of ages 16 – 18 (the age of the majority of the sample included in the current study), whether they are male or female, usually spend time gathering with their relatives at their home or with their friends at their home or friends' homes. A rotational family gathering held every weekend, sometimes extends until midnight and is a prominent feature of Saudi culture, in that it provides an avenue for individuals to meet and socialise with relatives and members of the extended family.

However, after reaching the age of puberty, males are allowed only in company of females within their extended family system (wife, mother, grand-mother, daughter, nieces, sister, daughter, aunties, daughter-in-law, mother-in-law, step-mother, step-daughter, or those who - at infant age – are breastfed by the same woman). Females, after reaching the age of puberty, start wearing the 'Abaya' (the whole-body cover) as a sign of becoming a grown woman and at the stage of a more formal gender separation in society.

Although Riyadh has more western-style recreation centres compared to rural communities in Saudi, Riyadh residents have only a few places to spend their leisure time apart from shopping malls (Alghenaim, 2013). Some young men spend a lot of time at restaurants or cafés that offer shisha smoking. Even those who do not smoke tend to go with their friends to these cafés to have coffee or socialise with their friends. Other types of activities include sport activities, video games etc. Some young men prefer spending time sitting on the sidewalks with friends. For female young people the situation is different. According to the conservative nature of Saudi society women have a lack of freedom which limits their movement compared to men. Therefore, walking on streets or spending time on street corners is not common in Saudi culture for women. Female young people usually gather at home or at shopping malls, with or without adult supervision. However, some families do not allow their daughters or sisters to gather with friends outside their own home at all. In general, the types of activities that young women take part in is dependent on the family's socioeconomic status.

Young people aged 16 - 18 do in some cases drive in the KSA (or they can alternatively have a private driver) so they can move around the city and go beyond the neighbourhoods they live in. However, in the KSA males under 21 years of age require written permission from parents or guardians to travel outside the country, to avoid moral and social problems (Al-Shethry, 1993). Women of all ages require written permission to travel from parents or legal guardians to travel outside the country. It is worthy of note that the social life of youths in the KSA, especially Riyadh, have recently undergone tremendous changes, based on the Saudi National Development Plan 2030 Vision, with the introduction of music concerts, cinemas and through allowing women to drive and to attend football matches.

Riyadh city is quite different from a typical Western city such as Peterborough, which is a commercial city in the UK, with a population of about 160,000, where the original SAT study was conducted. The population in Riyadh is predominantly homogenous Arab Muslims unlike in Peterborough which has a multi-cultural population of Caucasian, Asian, African, Caribbean, Chinese and several other minority ethnic groups. Peterborough District spans a geographical area of about 350 square kilometres, including a flourishing city centre, a few towns and a number of villages. The city centre in Peterborough and most Western cities serve as a hub of social and commercial activities, with shopping malls, pubs, cinemas, parks and gyms (Wikström et al., 2010). Unlike in Riyadh City, it is not a crime for males and females to interact freely or to consume alcoholic beverages. However, alcoholic consumption is illegal for those under -18 in the UK.

1.4 Rationale for the Research

Global trends of youth crime and delinquency are difficult to analyse, given the inherent challenges in comparing statistics between countries. Numerous variables such as the definition of the crime, the definition of youth, and the domestic practices and policies regarding youth engagement with the justice system mean that comparisons between countries are hard to make. Global statistical comparisons of juvenile justice trends are by their nature challenging but comparative studies do indicate an overall drop in juvenile delinquency (Berghuis and De Waard, 2017). Global trends on youth crime also appear to indicate a declining trend in the prosecution of juvenile offenders (Harrendorf, Heiskanen and Malby, 2010) although it should be noted that data from the KSA is lacking from many global and international reports. In terms of available information on the topics of Saudi

youth crime and delinquency, limited research has been published about the extent, nature, and etiology of youth crime in the KSA, and in the context of the rapid changes that have taken place in the Kingdom in recent years. The country does appear to have a comparatively low crime rate (Fahrendorf, Heiskanen and Malby, 2010), but has faced numerous changes and societal shifts since the discovery of oil. The KSA has also faced economically related and consequent demographic and social changes, including, inter alia, internal migration to urban areas that has arguably created – or contributed to – serious social problems and the increase in the prevalence of youth crime and delinquent behaviour (Al Romaih, 1993).

According to Cox (2011), juvenile delinquency is a serious problem in the Middle East, and the rate of youth crime in Saudi Arabia has significantly increased over the course of recent years. This has been evident in the increase in the number of institutions that deal with young people convicted of criminal acts within the Kingdom. It is important to acknowledge that, in the context of the social and cultural structure of the KSA, and due to the fact that many juvenile criminal cases are not reported in police records but are instead dealt with via informal or customary justice mechanisms, the actual rates of youth crime and juvenile delinquency might be greater than official statistics reveal. In fact, despite juvenile delinquency rates in the KSA being lower than those in more industrialized nations (Harrendorf, Heiskanen and Malby, 2010), their prevalence has increased over the last three decades.

However, explanations of youth crime and delinquency in the KSA have been explored in a number of studies focusing on the causes of youth delinquency, and an overall look at these – to be discussed in Chapter 4 of this thesis – shows a number of significant causes. Factors such as social deprivation, psychological disturbance, social problems in society and broken homes are identified as relevant, as well as factors such as lack of success at school, peer group associations and family economic conditions (Al Amri and Alaziz, 1984). In addition to these familiar etiological factors, there are also additional factors, which are grounded in the specific cultural characteristics of Saudi society, such as the extent of religious practice and belief, which are relevant for delinquency in the KSA (Al Romaih, 1993). More recently, it has been acknowledged that certain criminological factors have been compounded by the changing social structures in the KSA, due to internal migration that has

increased the fragmentation of extended families, led to overcrowding in urban areas, and triggered changes in the self-conception of youth and their moral values (Al Askah, 2005).

Wikström developed SAT as a general theory of crime to explain the causes of crime, using a situational model of crime causation in which crime is explained as an act of rule-breaking (Wikström, 2006, 2010, 2014; Wikström et al., 2011, 2012). Wikström identifies individual crime propensity (personal factors) and exposure to criminogenic settings (environmental factors) as the key theoretical insights to be integrated from earlier criminological theories and research. He uses this process to examine the way that crime propensity, criminogenic exposure, and their interactions (the person-environment interaction) can move people to break the law or moral rules (Wikström, 2006, 2010, 2011).

The study of crime is often characterized by a host of competitive theories that lack overall explanatory ability and applicability to the broad range of criminal acts (Liska et al., 1989; Wikström et al., 2012). They appear to be unrelated (Wikström et al., 2011, 2012), or fail to produce empirical evidence to support their tenets (Tittle, 1995; Wikström et al., 2012). These existing crime theories are all plausible for explaining acts of crime, but none of them qualifies as general theories (Wikström et al., 2012). In contrast, SAT aims to develop a general theory of crime in which environmental context is one of the dynamic factors that shape crime causes. Context is not an external factor but part of the criminological process itself, and so the stark contextual contrasts between the KSA and the environments in which SAT has already been tested should not negate its validity when replicated in a study in the KSA, if SAT is indeed a general, universal, explanation of crime. Being universal, SAT can and should be investigated in the context of other countries to determine the generalizability of its propositions and findings. Consequently, if research reveals that SAT patterns are not found within other contexts or countries, then challenges and opportunities for developing knowledge will arise (Howard et al., 2000; Liu, 2007), which will have implications for the validity of SAT as a general theory of crime.

Additionally, since findings from criminology studies could be applied in criminal justice agencies' practice, it is imperative that theories and findings, such as for SAT, be properly

validated, in order to ensure effective policy and practice. Thus, replication of SAT findings in a context such as the KSA would significantly improve the degree of confidence about the applicability of SAT. Moreover, replication of highly publicised SAT studies increases the possibility of drawing the attention of justice policymakers and practitioners towards its importance and practical relevance. If results are confirmed, replication would also enhance practitioners' confidence in SAT's original findings, offering it more credibility for integration into research, policies, and practice (McNeeley et al., 2015).

The relevance of this study also relates to the development of youth justice policy in the KSA. Youth delinquency is costly on numerous levels: it is detrimental to the offender, the victims and to wider society that can suffer in many ways as a result of crime. It is therefore necessary to find the potential causal mechanisms that could aid and enable evidence-based policy development and the implementation of preventative measures to address youth crime and to equip policymakers with evidence to help determine a strategy to reduce both the individual and societal costs of young people's delinquency.

To the best of the writer's knowledge, this research constitutes the first attempt to test SAT in the Middle East and the first study of its kind in the KSA. Therefore, the study will be the first to specifically examine SAT's propositions in relation to a set of rules of conduct based on Islamic Law.

1.1 Aims of the Research

The principal and overarching aim of this study is to provide a new empirical test of SAT theory by testing its key propositions in Saudi Arabia (Wikström 2009, Wikström, et al. 2012). Therefore, the aim is to explore whether SAT can be applicable and valid in a culturally different research setting, namely Saudi Arabia. Moreover, it will contribute to providing a better understanding of youth crime in the KSA.

1.2 Research Objectives

The research objectives relate to the three main propositions of SAT, including the interaction of an individual's crime propensity and exposure to the criminogenic setting in the causation of crime, the conditional relevance of control, and the perception-choice process. However, the conditional relevance of control relates to the interaction effect between morality and controls. When a person experiences a sense of conflict between his or her morality and the moral norms of their setting, controls (self-control- deterrence) will play a role as the person deliberates over a number of action alternatives (Wikström et al., 2012). Thus, the objectives of this study are:

1- To examine the conditional relevance of self-control and deterrence in the prevention of criminal behaviours among adolescents in Saudi Arabia.
2- To examine the existence of an interaction between crime propensity and criminogenic exposure in the explanation of youth crime in Saudi Arabia.
3- To examine the situational factors that influence perception and choice of crime as an action alternative among adolescents in Saudi Arabia.

1.3 Research Questions and Hypotheses

Research questions for this study are intended to explore the three key propositions of SAT. In the same vein, the hypotheses address each of the three main propositions of SAT. The first group of hypotheses focuses on conditional relevance of controls including morality, self-control, and deterrence. The second group of hypotheses deals with the interaction between propensity and criminogenic exposure. The last set of hypotheses is about the perception-choice process.

1- **How relevant are self-control and deterrence in the prevention of criminal behaviours among adolescents in the KSA?**

H1a. There is a significant interaction between morality and self-control in the causation of crime.

H1b. Self-control has a stronger effect on criminal behaviour for individuals with low levels of morality than for individuals with high levels of morality.

H1c. There is a significant interaction between morality and deterrence in the causation of crime

H1d. Deterrence has a stronger effect on criminal behaviour for individuals with low levels of morality than for individuals with high levels of morality.

2- **Does the interaction between the individual (crime propensity) and environmental factors (criminogenic exposure) help to explain criminal behaviours in the KSA?**

H2a. There is a significant interaction between an individual's propensity for crime and criminogenic exposure in the prediction of youth crime.

H2b. Criminogenic exposure has a stronger effect on criminal behaviour for young people with high levels of crime propensity.

3- **How do crime propensity and situational factors (provocation, monitoring) influence perception and choice of crime as an action alternative?**

H3a. The presence of monitoring reduces the likelihood of violent behaviour.

H3b. The presence of provocation increases the likelihood of violent behaviour.

H3c. Compared to the level of monitoring, the level of provocation has a greater effect on the likelihood of violent behaviour.

H3d. The effect of scenario criminogeneity on choosing a violent response is conditioned by the level of crime propensity.

1.6 Expected Contributions to Knowledge

This study will provide a significant contribution to the body of knowledge in criminology in three primary ways:

1. This thesis will be the first empirical study to test SAT in a culturally contrasting setting, using the context of Saudi Arabia. This is the the second study of SAT outside

of a Western context, while it is the first to study SAT in a country where the law is Sharia Law and this work will, therefore, examine the extent to which SAT can truly be described as a general theory of crime, or whether this assertion leans towards ethnocentrism.

2. This thesis will address gaps in the existing empirical literature on SAT.
3. This thesis will address the gaps in the body of knowledge regarding youth crime and the causes of youth crime in the KSA.

1.7 Thesis Structure

The thesis is organized into ten chapters as follows:

This introductory chapter has provided a brief overview of the research objectives, and the significance of testing SAT outside the Western context in which it was developed, instead taking a contrasting social and cultural context as its setting.

Chapter Two presents an overview of SAT, setting out its divergence from other criminological theories and its limitations. Chapter 2 additionally addresses some of the shortcomings of previous criminological theories that SAT seeks to deal with.

Chapter Three presents a review of existing empirical studies that have already tested SAT, highlighting their findings and relative limitations.

Chapter Four is divided into three parts. Part One covers the specific cultural setting of Saudi Arabia in more detail. Part Two includes a brief discussion of Saudi Law and the youth justice system that applies in Saudi Arabia. Part Three presents a review of the previous work carried out on delinquency in Saudi Arabia (emphasising some of the problems with these previous works).

Chapter Five gives a description of the research methodology and the procedures that have been used for data collection and analysis in this study.

Chapter Six provides descriptive results of the characteristics of the sample, as well as narrative findings relating to the extent of young people's involvement in criminal behaviours in Saudi Arabia.

Chapter Seven presents findings and analysis relating to the principle of conditional relevance of controls. It aims to test SAT's propositions about the interaction effect between morality and self-control, and between morality and deterrence.

Chapter Eight presents analysis and findings to test SAT's proposition regarding the interaction effect between crime propensity and criminogenic exposure.

Chapter Nine presents analysis and findings to test the situational model of SAT, which states that crime is an action alternative resulting from a perception-choice process.

Chapter Ten provides a discussion of the study findings in the context of the existing literature, along with the strengths and weaknesses of the current study, and a summary of the key recommendations for future research.

Overall, the study provides substantial evidence in support of the interaction between morality and controls (self-control and deterrence) and the interaction between individuals' propensity and exposure to criminogenic setting, but limited evidence in support of the perception-choice process. As outlined above, the following chapter will introduce an overview of SAT.

CHAPTER 2 : AN OVERVIEW OF SITUATIONAL ACTION THEORY

2.1 Introduction

This study aims to explore the applicability of Situational Action Theory (SAT) in the cultural context of the Kingdom of Saudi Arabia (KSA). Therefore, this chapter will present a comprehensive overview of SAT including the historical evolution of criminological theories and their limitations, as well as the basic propositions of SAT Theory. This chapter is not a complete review of all criminological theories as this is beyond the scope of this work, although the context for SAT provided by other theories will be briefly explored.

SAT was introduced by Per-Olof Wikström in 2004 to address key limitations identified in existing criminological theories including: ambiguous definitions of crime; a lack of any clear understanding of the causal mechanisms of crime (the processes that produce action); a shortage of explanations of the actual causal factors themselves (the direct causes of crime); and unclear understandings of the role of individual factors and environmental factors in causing crime (Wikström, 2004; 2006). The theory integrates key theoretical insights and relevant research from the social and behavioural sciences, within an action theory framework (Wikström, 2012). SAT, as an action theory, explains the processes that lead people to break the law and commit a crime (Wikström, 2006; 2010).

In SAT, Wikström (2012) proposes that human beings are governed by laws and rules, and that people are rule-guided beings. The theory regards people as the source of their own actions, but simultaneously recognises that the causes (triggers) of their actions are situational in nature (Wikström 2010; 2012). Crime is defined, in SAT, as an act which breaks the moral rules of conduct stated in the law (Wikström al., 2012). According to Wikström (2004), the abundance of factors that have been found to correlate with crime have created a problem and

the best way to deal with this issue is to evaluate which of these factors qualify as causes. Wikström (2012) proposes that this can be achieved by the development of a theory of action, to better address the causes of crime and potential criminality in individuals, by establishing the different causal mechanisms that underlie the processes of committing crime. Causal mechanisms can help to clarify how processes work and to explain the causes of crime. The causal mechanisms proposed by SAT are relevant right from the beginning of an individual's encounter with a setting. This encounter initiates a process of perception-choice of action alternatives, followed by the development of moral filters that determine the way in which action alternatives are assessed, and then ends with the execution of the chosen action (Wikström et al., 2011; 2012). This perception-alternatives-choice-action process is referred to as the 'mechanism' of the situation. Wikström explains that acts of crime or criminal acts (C) are an outcome of people's different perception-choice processes ($\rightarrow$) that are activated and guided by the interaction (x) between their crime propensity (P) and their criminogenic exposure (E). Figure 2.1 illustrates this process.

Figure 2.1 Simplified Outline of Basic SAT Model (Wikström et al., 2012)

$$\mathbf{P \times E \rightarrow C}$$

2.2 The Context for SAT: Other Criminological Theories

The concept that social constructions and institutions interact to produce crime is central to the development of criminological theories. Early criminology, prior to 1914, attempted to focus on individual and biological characteristics but later theories focused instead on the characteristics of society that shape individual social development. Enlightenment thinking has been described as the cornerstone of the classical approach to crime. The movement is widely accepted to have been founded by Cesare Beccaria, who drew on strands of Social Contract Theory, developed by the likes of Rousseau, the concept of free will, the idea of punishment as a deterrent, utilitarianism (for example, Bentham), and

secularism (Carrabine et al., 2014). Conforming to the intellectual consensus of the day, classical criminological theory took an overtly rational approach in an attempt to explain the prevalence of criminal behaviour, evident by its assertions that proportionate punishment deters crime, while opportunities to commit crime, without fear of detection or punishment, compel individuals to commit crime (Burke, 2017). This dichotomous approach, however, is now widely acknowledged to be far too simplistic. Regardless, an important contribution of early classical theory remains the acknowledgement of the inexorable relationship between individual acts of crime and the social environments in which crime takes place.

Various attempts have been made to uncover why it is that only a minority of people in different societies go on to commit acts of crime, and control theories have explored the social bonds and control mechanisms that determine criminological behaviour. Influential theorists such as Hirschi have inverted the central criminological question to ask not why some people commit crime, but why most people do *not* commit crime, exploring the impact of broken 'bonds' within society (Hirschi, 1969: 16).

Hirschi set out that there are, broadly speaking, four types of social 'controls' which create 'social bonds' that act to avert individuals from carrying out acts of crime and delinquency: attachment, opportunity, involvement and belief (Hirschi, 1969). *Attachment* refers to the various types of social connections that encourage conformity within society. These bonds might include relationships with family members, peer groups and educational institutions. *Opportunity* refers to individual perceptions of the availability of legitimate opportunities to prosper. The greater opportunity a person has, it is theorised, the lower the likelihood that they will engage in illegitimate activities such as crime. *Involvement* refers to peer associations and *belief* refers to the acceptance of conventional morality and respect for the institutions that administer it. However, control theory focuses on explaining the causes of crime not being committed, rather than on the causes behind actual criminal acts.

Increasingly, crime has come to be regarded as a choice that is made by the individual in the context of their social environment. Rational Choice Theory (RCT) has its roots in the Classical School and the work of Beccaria abnd Benthamin the late 1700s, has impacted criminology and other social sciences including politics and economics. RCT is grounded on a number of propositions, namely:

1. Individuals are rational beings, and their behaviour is determined by rational, calculated and considered choices.
2. Individuals are able to freely choose different courses of action.
3. Choices are based on a utilitarian calculation that resembles a cost / benefit analysis.
4. Choices are influenced and shaped by individual perceptions of society's potential reactions to different courses of action.

Essentially, RCT views criminal behaviour through the same lens as non-criminal behaviour: people consciously choose to commit criminal acts because of the perceived benefits of criminality. From this premise, RCT focuses to a large extent (though not exclusively) on punishments and deterrents. Some of the shortcomings of this approach are addressed in Section 2.3.

Social disorganisation theories continued to develop this focus on the external factors that influence a person's individual choices, theorizing that environmental factors (both physical and social) are the causal factors that shape behavioural choices. Poor schools, vacant buildings, a lack of employment opportunities and demographic shifts are all seen as relevant factors that can lead individuals towards a criminal trajectory. Unlike RCT, social disorganization theories, to some extent, shift the focus from the individual cognitive deliberations of the potential criminal, towards a conception of the individual as having a level of passive absorption of criminogenic influencers. That is, individuals who commit acts of crime are regarded as products of the society they inhabit.

Gottfredson and Hirschi based their General Theory of Crime (1990) on the causes of not committing crime and recognised the influence of self-control. Under the General Theory of Crime, self-control is regarded as an individual trait which develops from childhood and

remains stable through the entire life course. Thus, individuals with high self-control are regarded as being significantly less likely to commit crime at every stage of their lives.

On the other hand, SAT does not regard self-control as an individual trait but as a situational construct (for more details about its role in SAT theory see section 2.9.1). SAT builds on Rational Choice Theory (RCT) to explain the triggers and actions of an individual, unlike previous criminological theories which focussed only on the outcome and consequences of an individual's choices. Because these theories proposed the causes for crime, they emphasised the antecedents to criminal behaviour. The various concepts of previous criminological theory are evident in SAT. SAT proposes a holistic analytical framework to address questions of crime causation, within which the various strands start to diverge. By adopting this multi-level analysis, exploring both individual and environmental factors, and crucially, the interactions between them, SAT is able to address some of the shortcomings identified in previous theories of crime.

2.3 Limitations and Shortcomings of Previous Criminological Theories

Despite these various theories, crime remains a vague and undefined concept, and previous criminological analysis has tended to look at endogenous and exogenous factors in isolation. RCT has failed to accurately reflect the mechanics of the processes involved in the commission of crime, and social control theories set out by the likes of Hirschi are based on the considerable assumption (without empirical basis) that we would all commit crime if we had the chance. SAT starts to explore the interplay between person and place and therefore offers a more nuanced development of criminological theory.

While previous criminological theories view crime as an ecological process or individual trait or as the result of the interactions between person and place, these theories have left a number

of important questions unanswered. Perhaps the most central omission is the lack of a definition of the concept that that is central to criminology – crime itself. This glaring omission was one of four major shortcomings identified by Wikström (2010) and that he suggests needs to be addressed before a comprehensive, integrated explanation for the causes of crime can be developed. The four main shortcomings are:

1. The failure to offer a universal definition of crime.
2. The failure to demonstrate an action theory that adequately explains what moves people to engage in crime.
3. The failure to identify and integrate relevant personal and environmental theoretical insights into explanatory approaches to understanding what moves people to commit acts of crime or moral actions.
4. The failure to sufficiently analyse the role and influences of broader social conditions and personal development in explaining 'the causes of causes' of crime.

As many past criminological theories have lacked a clear definition of crime, the difficulties in developing a clear theory of crime have been significantly exacerbated. It is therefore imperative to first define the concept of crime before making attempts to explain it. Wikström (2006) asserts that crime can in fact be defined by a single broad distinguishing feature: as an act that violates a moral rule, which is codified in law. According to Wikström et al 2012, this definition of crime has the advantage of providing a universal concept of crime which is applicable always to all criminal acts everywhere – breaking the moral rule defined in law. For Wikström, explaining crime is not about explaining why a person uses violence against another person, or why they drive their car at 110 mph, or why they smoke cannabis – it is about explaining why they choose to do so *when it is illegal* (Wikström, 2006).

Wikström (2010) goes on to suggest that the relevant causes of crime and their explanations are likely to vary depending on the way that crime is defined. A consensus regarding an acceptable definition of crime has never existed among criminologists, and crime has been defined differently in some crime theories, and vaguely or not at all in other theories. This lack of clarity has called into question whether criminological theories are in fact analysing and attempting to explain the same concepts at all. Empirical analyses and comparisons

between different research studies have therefore proved to be difficult, and it is extremely challenging to try to determine the validity of theories in the absence of a consensus on what actually constitutes a criminal act (Wikström et al., 2011; 2012).

The second shortcoming identified by Wikström refers to the failure to adequately present an action theory that can explain why people commit acts of crime. Within the SAT framework, this process is explained in a dynamic way that looks not just at the 'causes' of crime, but at the 'causes of the causes'. The approach taken in SAT is linked to the general definition of crime posited by Wikström, in that previous attempts to explain the causes of crime have failed to arrive at a general explanation that can be applied to a wide range of crime contexts (Tittle, 1995, p.1).

With regard to the third shortcoming identified by Wikström, as mentioned above, even though previous criminological theories do view crime as a result of the interactions between person and place, these theories do not explain in detail how person-environment interactions develop in such a way that moves people to break rules. In Wikström's process of choice, he identifies people's crime propensity (personal traits) and their exposure to criminogenic settings (environmental characteristics) as the key theoretical insights to integrate from earlier criminological theories and research, and he details how people (crime propensity), environments (criminogenic exposure), and the interaction between these (person-environment interaction) can move people to break the law or moral rules (Wikström et al., 2011; 2012).

Even the most influential criminological theories have previously failed to explain how personal and environmental factors interact in causing people to commit acts of crime (Wikström et al., 2011; 2012). For example, Gottfredson and Hirschi's general theory of crime, or self-control theory (1990), proposed that crime occurs when there is an intersection between people with low self-control and the opportunities to commit a crime. These opportunities are perceived as quick and easy ones that require little effort to achieve and can be realized through force or deception. Similarly, Cohen and Felson's Routine Activity

Theory (1979) was based on the premise that crime occurs from the intersection (in time and space) of people (motivated to offend or not), the opportunity to commit criminal acts, alongside a lack of capable guardianship. In this theory, the opportunities are viewed as people's interactions with suitable targets, where capable guardians or protectors are absent. Although both the self-control and routine activity theories acknowledge the role of personal and environmental factors, more attention and emphasis is placed on the role of one factor, with little regard to the other. These earlier criminological theories both share the same key missing theoretical insights in that they lack detailed accounts of how the interactions of both factors, as described in these two theories, play a role in causing acts of crime (Wikström et al, 2012). Wikström argues that the best approach to integrating the key insights provided from individual-perspective and environment-perspective approaches is to develop an action theory that adequately describes how the interplay between people (propensity) and environment (exposure) affects actions (moral actions or acts of crime) (Wikström, 2006, 2010; Wikström et al., 2011; 2012).

With regard to the fourth shortcoming identified by Wikström, he focuses on the role and influence of broader social conditions and personal development. Wikström identifies social dynamics (macro factors) and individual development (life histories) as key factors that can help to explain why people choose to engage in crime (the causes of crime), as well as the development of people's crime propensity and their exposures to criminogenic environments in relation to relevant motivators (causes of the causes of crime) (Wikström, 2016; Wikström et al., 2012). The ways in which SAT seeks to address these identified shortcomings are set out in more detail below.

2.3.1 Defining Crime as a Moral Action

SAT theory defines crime as breaking moral rules that are stated in law, as law is a set of moral rules of conduct which are codified. This does not necessarily mean that all existing laws are morally justified or legitimate: some laws are based on moral norms, while others are not (Wikström, 2006, 2010, 2016). The implication of this general definition of crime is that it enables the development of a comprehensive theory of crime, which can be applied

in various different contexts, since the content and derivation of the laws themselves are not material to the process of breaking them. Thus, this assertion can be tested by examining the applicability of SAT to the context of the KSA, where the content of laws often differ significantly to those in the Western contexts in which SAT has already been tested.

Crimes are acts that are guided (positively or negatively) by moral rules. Wikström argues that laws are nothing more than a set of moral rules (Wikström et al., 2012). Explanations as to why people break moral rules are therefore synonymous with explaining why people engage in acts of crime: the explanatory process does not need to change. The only notable difference between moral actions and acts of crime is that the latter are stated and codified in laws. As a result, Wikström's theory of moral action represents a general, and possibly universally applicable, theory of crime causation (Wikström et al., 2011, 2012). Using this reasoning, if an explanation can be generated for why people breach moral rules, then the same explanation can be used to explain why people break moral rules of conduct stated in law (acts of crimes). This means that the presence of laws is not a prerequisite for applying SAT, but the existence of moral rules is required. This suggests that even if laws were eradicated and violations to moral rules stated in law no longer recognized, it would still be likely that some moral rules of conduct would remain and explanations for breaches of accepted moral conduct would be required. In the meanwhile, it focuses on those that are legally codified. Given that, SAT it has been claimed as a general theory of crime such it should be suffice to explain crime causation across a wide range of social and legal contexts (Wikström, 2006; 2011; 2012).

The generality of SAT is therefore regarded as one of its major strengths (Wikström et al., 2012). One major advantage of explaining crime as a moral action – as opposed to viewing the theory as being tied to specific acts of criminality per se – is its applicability to all types of criminal acts (e.g., fraud, roadside bombings, mass shootings, shoplifting, bar fights, etc.). The main explanatory factors and causal processes will be the same for all types of criminal conduct, regardless of the specific nature of the crimes (Wikström, 2010). For example, the

analysis of the perception-choice process that moves a person to lie to friend or to steal goods or to assault a stranger remains constant, as he or she perceives that action (whether the action be lying or stealing or physical violence) as an alternative, and then chooses to act out that perceived alternative. The relevant and applicable moral rules that guide a person's perception-choice process might differ from context to context but when crime is defined in these general terms as a set of moral actions and choices, this leads us to the possibility that, in SAT, Wikström has been able to successfully develop a truly general theory of crime (Wikström, 2010; 2016; Wikström et al., 2012).

Defining crime as a type of moral action offers the possibility of avoiding the problem of certain actions being defined as crimes at different times or in specific locations, but then the same actions not being considered to constitute criminality in other social or geographical contexts (Wikström et al., 2011, 2012). Thinking of behaviour as moral action allows for the explanatory approach of SAT to address why people perform actions that break any moral rules (Wikström, 2010, 2016; Wikström et al., 2011, 2012). Wikström contends that people's actions are best explained as moral actions, where actions are guided by moral rules of conduct (Wikström, 2004, 2006; Wikström et al., 2011, 2012). However, a moralistic approach to studying crime is not encouraged in SAT theory, as little judgement is made about the virtuousness or reprehensibility of the existing moral rules of conduct, or about the individuals' choices to either comply with or break those rules.

It is therefore clear that SAT is not intended to address the question of what is morally right or morally wrong, but rather the focus is placed on *why* people break moral rules stated in the law. Wikström et al. (2012) continue by explaining that moral relativism is not implied at any point in SAT, meaning that all moral rules have an equal likelihood to occur and endure. In most cases, there are likely some important grounds that can help to explain why some types of moral rules emerge, such as problems relating to *human nature* or issues created from *social order*. For example, most societies have moral rules, stated in law with varying degrees of complexity, that regulate acts of violence, deviant sexual behaviours, and laws regarding ownership. Yet laws and regulations are subject to change and vary over time and

in different jurisdictions. When considering a person's morality, it is not only important to know what level of moral value a person holds, but also the extent to which a person cares about complying with specific moral rules as set down in law (Wikström, 2010; 2011; 2014; 2016; Wikström et al., 2011; 2012).

2.3.2 An Adequate Theory of Action

As noted above, one of the advantages of SAT is the fact that it has enabled the development of a general theory of crime causation, where previous criminological theories have failed. Previous theories have delivered only minimal success in their overall explanatory ability, and in their applicability to a wide range of crimes and / or contexts, and as general theories of crime they have failed (Tittle, 1995). Some scholars have argued that the differences in the legal and subjective meaning of criminal acts make it difficult to truly explain actions in relation to all acts of crime (Wilson and Herrnstein,1998). Wikström recognizes that the focus of this objection was based on providing an explanation of the types of criminal acts, such as drink driving, rape, or shoplifting (Wikström, 2006; 2010; 2016). Instead, he proposes that the aim needs to be refocused on instead explaining the act of rule-breaking, which is a commonality of all crimes. By clearly providing a definition for crime, the development of a general theory of crime to explain acts of compliance or non-compliance with rules or laws is introduced. A theory that provides details of the process (the causal mechanisms) that leads to action constitutes an action theory (Wikström et al, 2012; Wikström, 2006; 2010; 2016). An understanding of the processes (e.g., mechanisms) that result in acts of rule-breaking is required in order to explain criminal acts (Bunge, 2004; 2006; Wikström, 2006; 2010; Wikström et al., 2012). Accurate identification of the mechanisms which move people to comply with, or to break, the rules is crucial to classifying the most identified crime correlates as markers (e.g., factors linked to causal factors), as symptoms (e.g., factors linked to the outcomes), or as relevant causal factors. According to an action theory proposed by Wikström this mechanism is the process of the perception-choice. Therefore, only the factors that actually influence people's perception-choice process, and which result in action, are causally relevant to explaining the action (rule-breaking or crime) (Wikström, 2011; 2012; 2016).

2.3.3 Integrating Individual and Environmental Factors

There are some major divisions in the existing criminological literature regarding the appropriate approach that should be used to explain crime causation. Typically, an individual-perspective *or* an environment-perspective theoretical approach has been adopted in previous theories, and while it seems clear that both are relevant, the way in which these two strands have been regarded in isolation has led to key problems within both approaches, due to their inability to integrate key theoretical insights. Reis et al. (1986) proposes that combining the person-perspective and environment-perspective approaches would be more beneficial to the study of crime than continuing to view them independently. Farrington et al. (2002) notes that more is known about the development of potential criminality compared to what is known about processes of how to be criminal.

As a collective whole, criminologists have lacked a structured theoretical framework for guiding their integrative inquiries into crime causation (Wikström and Sampson, 2003). An important facet of SAT and a key contribution of Wikström is the proposal of a theory that integrates different levels of explanation. When considered together, individual-perspective and environment-perspective approaches to theorizing crime are helpful in classifying important causal factors in SAT (Wikström et al., 2011, 2012). Separately, Wikström argues that these offers little in terms of explanatory ability, or in developing a theory of action. For example, the aim of most individual-perspective approaches is to explain the role of differentiating personal traits that impact people's tendencies to commit acts of crime (as was the case in previous positivist theories), whereas other theories (such as social disorganisation theories or strain theories) focus instead on environmental factors that act upon individuals, and the differences in the occurrences (e.g., places and times) of acts of crime or crime rates.

In Wikström's process of choice, people's crime propensity (personal) and their exposure to criminogenic settings (environmental) are identified as key theoretical insights to integrate from earlier criminological theories and research. Wikström details how people (crime propensity), environment (criminogenic exposure) and their interactions (person-environment interaction) can move people to break the law. In SAT theory, individual propensity and

environment are viewed in duality and the recognition of both factors helps to formulate a more general theory of crime. Wikström argues that an adequate explanation of crime (action) must consider the interactions of the person and the environment. Environments are incapable of action in themselves, but it is a person's acts that constitute crimes. Individual responses to settings will likely vary based on people's different experiences. In isolation, personal or environmental factors do not cause actions, but it is their interactions which can move people to act (Wikström et al., 2011; 2012). Thus, SAT requires an examination of the situational dynamics of person-environment interactions (i.e. how the interaction occurs) that influence people to comply with or breach the moral rules or law, while identifying which personal and environmental factors are causally relevant to influencing the perception-process resulting in an action or crime (Wikström et al., 2012).

Acts of crime are created not by individual characteristics, nor by the setting that the person is exposed to. Instead, acts of crime are created by a dynamic interplay between the two. The previous tendency to view the individual characteristics and the environmental characteristics that are relevant in the perception-choice process as two distinct causal factors has meant that criminological theories have been unable to develop a holistic understanding of the causes of crime. This has contributed to the theoretical fragmentation of criminology, and has negatively impacted upon public policy making, in terms of ineffectiveness in policy development and in terms of short-sightedness, which is evident in the constant shifts of focus from the individual / micro-level to the environmental / macro-level (Vila, 1994; Wikström et al., 2012). Wikström has instead argued that, in order to nurture the development and growth of a criminological theory that has utility for policy makers within the criminal justice sector, criminologists must move away from these restrictive theoretical perceptions. Instead they should gravitate towards the development of theoretical insights that help explain causal factors, processes, and their interactions in relation to crime, as well as integrating theoretical insights and empirical research into a framework that can be utilised more effectively by policy makers (Wikström, 2010; Wikström et al., 2011; 2012).

2.3.4 The Role of Broader Social Conditions

According to Wikström et al. (2012) it is important and necessary to make a distinction in the type of crime causation analysis: an explanation of the causes of crime or an explanation of the 'causes of the causes' of crime. When examining the causes of the causes of crime, analysis is concentrated on offering explanations for why people have different crime propensities and why criminogenic features or exposures tend to vary. More specifically, how people develop their crime propensity and what type of processes that affect the setting to have particular moral norms and specific deterrent qualities. While an explanation of the causes of crime should foucos on the situational factors and their interaction: when people with different crime propensities come to being exposed to various environments with certain criminogenic features. However, these person-environment interactions are also dependent upon, and related to, broader social contexts. Wikström notes the causally relevant factors utilized by SAT to explain the causes of causes of crime, listing them as: the development of one's own personal criminal propensity, the emergence of criminogenic environments, and one's exposure to criminogenic settings (Wikström, 2004; 2006; 2010; 2016; Wikström et al.; 2012).

In addition to these three causal factors, Wikström argues that broader social contexts are also relevant and should be integrated into the analysis of the causes of causes of crime. In particular, Wikström recommends looking more closely at the role of individual development (e.g., life histories) and the role of social conditions (e.g., social integration and social segregation) as these social factors also have an influence on the relevant causes of crime (Wikström et al., 2011; 2012; Wikström, 2010; 2016). In analysing social dynamics, the aim of SAT is to analyse the causes of the causes of crime by explaining why specific kinds of people (crime propensity) are exposed to specific kinds of settings (criminogenic setting or features), and where criminal propensity develops and criminal actions are the result.

2.4 The Basic Propositions of Situational Action Theory

The combinations of certain kinds of people and certain kinds of settings lead to certain kinds of situations (perception-choice), and consequently it is this interaction which serves to encourage certain kinds of acts and behaviours (a specific moral action or act of crime). In

other words, the action alternatives perceived by people, such as seeing an act of crime or moral action as a feasible option, and the choice they make based on their perception in relation to certain motivators (temptations and provocations) depends on the interaction between people's crime propensity and the prevalent criminogenic exposures in a given setting (Wikström, 2010; 2012; 2014; Wikström et al., 2011; 2012). Therefore, the concepts of crime propensity and criminogenic exposure are key components of SAT theory.

In SAT, the situational model consists of four main elements, as defined by Wikström (2006, 2010):

1. A person (an individual who will carry out certain actions)
2. The environment (the setting within which a person acts)
3. The situation (the interaction between a person and a setting)
4. An action (either deliberate or habitual)

The definition of a *person* refers to an autonomous individual with a unique make-up and set of experiences, who is capable of making things occur purposefully or intentionally. The *environment*, refers to external factors that occur outside of the individual and consists of configurations of variables, including objects, people, and events, that are accessible to a person, at any time, through his or her senses. Essentially, the first two points refer to the endogenous and exogenous criminogenic factors that are relevant for a causal analysis of crime. A *situation*, as intended in the third point, is defined as the perceived action alternatives and choice processes, which result from person-environment interactions (Wikström, 2006; 2010; Wikström et al., 2011; 2012). The situation is therefore made up of a combination of the relevant personal and environmental factors at a given time and in a given place. Finally, SAT defines an *action* as either a single bodily movement or a series of bodily movements that are guided by a person (i.e., punching, kicking, running, laughing, or speaking). It is important to note that reflexes are excluded as actions and SAT is therefore restricted to developing explanations for criminal acts that are carried out consciously (either as acts or omissions) and – as is the case with other theories of crime - does not seek to explain acts of automatism. Wikström's theory was ultimately denominated as Situational Action Theory, owing to the fact that it is the situation that represents the core of its theoretical framework for explaining moral actions and acts of

crime, by analysing people's perception-choice processes that emerge from the intersection of people and their settings, and not as the delineated consequences of the personal or environmental factors independently (Wikström, 2006; 2010; 2011; 2016; Wikström et al., 2011; 2012).

In SAT, people are viewed as actors who are guided by rules, and beings who express their desires, needs, and commitments (Wikström et al., 2012). Their responses to frictions are determined by rule-guided choices. Thus, human action (e.g., moral actions, rule-breaking, criminal acts) can be explained if attention is given to developing an informed understanding of how the process of rule-guidance impacts the action alternatives perceived by people, and the motivations (e.g., temptations and provocations) they experience in relation to the moral filter they make. In addition, Wikström explains that acts of crime or criminal acts are an outcome of people's different perception-choice process that is activated and guided by the interaction between their crime propensity and criminogenic exposure. Figure 2.1 illustrates this process.

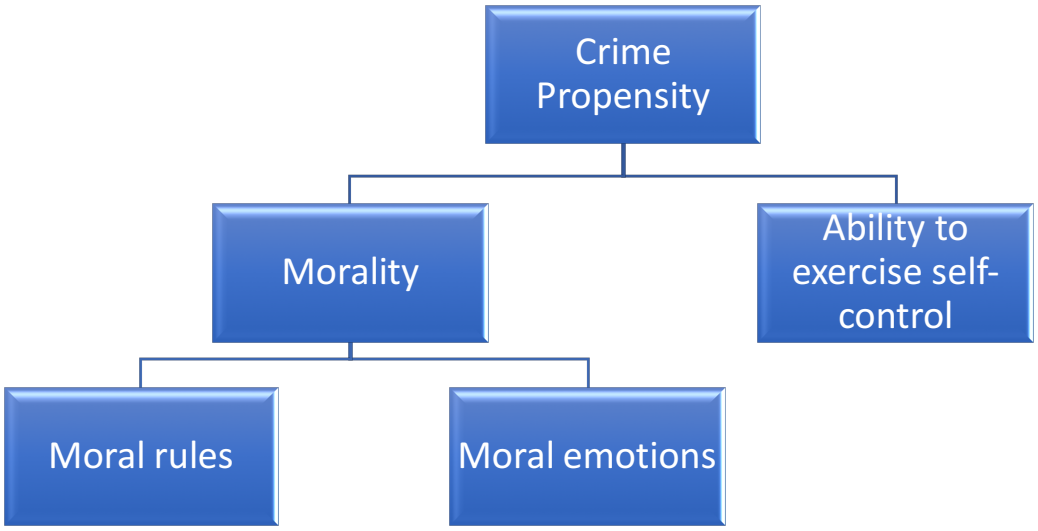
Within this process, it is posited that personal factors are the key to understanding why different kinds of people will respond in dissimilar ways to similar situations, and why we see variations in crime propensities between individuals (Wikström, 2004; 2006; 2012). Furthermore, the integration of personal factors with environmental factors is another key component of SAT analysis and provides a more comprehensive understanding of the processes that either compel or avert criminal and delinquent behaviour. Most importantly, it is the interaction of personal and environmental factors which can result in people engaging in acts. The perception of alternative action is what links individuals to the environment. That is, the perception process is related to characteristics, experiences and features of the environment (see Figure 2.1).

2.4.1 Situational Action Theory key concepts:

2.4.1.1 Propensity; morality and self- control

Propensity refers to the tendency to see crime as an option and to then choose that option. In other words, criminal propensity is the extent to which an individual views crime as a possible action alternative in response to a particular motivation (Wikström et al., 2012). Wikström proposes that morality and self-control can be jointly considered as constituting an individual's propensity to commit crime. These two elements determine the strength of crime propensity (see Figure 2.2). Morality consists of moral rules and attached emotions and self-control is defined as 'the successful inhibition of a perceived action alternative or the interruption of a course of action that conflicts with an individual's morality' (Wikström and Svensson 2010: 397). Terms such as 'personal morality', are fairly abstract in SAT and while it is clearly an important factor, from an analytical point of view, it is very difficult to gauge. This issue will be addressed in further detail in the section on the weaknesses of SAT (Section 2.8).

Figure 2.2 Components of Crime Propensity



According to Wikström (2006), people's propensity to commit acts of crime will differ based on their morality and their ability to show self-control when competing motivations are also present. Within the analytical framework of SAT, Wikström emphasizes the need to consider

the strength of individual morality and suggests that this strength is also reflected in the moral emotions which a person attaches to breaking a specific moral rule (Wikström, 2006, 2011; Wikström et al, 2012). Moral rules are defined as a person's perception of the right or wrong action to take and the attached moral emotions which are indicated by shame and guilt. Shame refers to a negative feeling, often related to the ways in which we are perceived by others, while guilt refers to a negative feeling that is internalised. The amount of shame and /or guilt a person feels for carrying out a specific action, or having thoughts about committing a certain act of crime, will differ too. Wikström et al.,2012 identifies what he means by moral rules:

> *A moral rule is a rule of conduct that states what is right or wrong to do (or not to do) in particular circumstances)." (Wikström et al., 2012, p.12).*

People vary in the degrees of importance they attach to abiding to rules of the law and whether they would feel guilty and shameful if they broke these rules. Therefore, a person's morality affects what kind of action-alternatives they will perceive as possible responses to a particular setting. According to SAT, the perception process is more fundamental than the choice. Hence, morality is the primary factor in determining individual propensity. Personal morality will guide the process of seeing crime as an option in the first instance. As a result, a person with a higher level of morality (lower criminal propensity) would not necessarily see crime as a potential or viable response to a situation. For example, the law in the UK prohibits smoking cannabis. A person in the UK will hold individual moral rules that complement or contradict this, believing that it is not right to smoke cannabis in such a setting or vice versa (Wikström et al, 2012).

The ability to exercise self-control is another important factor that will influence the process of perception-choice. According to SAT theory, when a person faces a conflict between their personal morality and the rules in any given setting (because of motivations such as temptations and provocations), self-control comes into play as a mitigating element (Wikström et al., 2011, 2012; Wikström, 2016). Self-control is defined as '*the successful inhibition of a perceived action alternative or the interruption of a course of action that conflicts with an individual's morality*' (Wikström and Svensson 2010, p.397). SAT states that there is an interaction between a person's morality and his / her ability to exercise self-control. Therefore, the influence of self-control depends on an individual's morality (Wikström et al., 2012). Thus, when an individual has a high level of morality, self-control is

irrelevant. However, when an individual considers crime as an action alternative then self-control will be relevant as a cause of crime. Some people, therefore, may be regarded as being more susceptible to committing crime, or having a higher propensity for criminality, when acts of crime are perceived as easy action alternatives and they are keen or prepared to execute them. Other people may be regarded as crime averse, or as having a lower crime propensity. In their case, acts of crime or a specific act of crime are rarely or never viewed as viable action alternatives (Wikström et al., 2011). The external circumstances of setting and environment might be the same, but the way in which different individuals interact with them can differ dramatically. Compliance with a rule may be viewed as the best action alternative by people who actually agree with the rule of conduct, but the extent to which people find actions to be virtuous or reprehensible will differ (Wikström, 2006, 2016; Wikström et al., 2012).

2.4.1.2 Environmental Factors: Exposure to Criminogenic Setting

According to SAT, a person connects with his or her environment through the perception process, which is the input that a person receives from his or her own senses (Wikström et al., 2012). Actions of crime happen when a specific person meets a specific setting. As

Wikström (20006a, p.61) put it: *'a particular person's encounter with a particular setting'* is what causes an act of crime. The interaction between the individual and the setting creates a moral filter (in response to a certain motivation in the setting) which provides different action alternatives for a moral judgment. However, the way that a person perceives their action alternatives is dependent upon the criminogenic and other features of a setting, as well as on relevant previous experiences and personal traits (Wikström et al., 2012).

SAT theory stipulates that a key environmental factor which determines if a setting or place is criminogenic is its moral context. The moral context refers to the moral rules that apply to a specific place and the level of enforcement of these rules (formal and informal monitoring and intervention). Within such a moral context, opportunities and frictions will inevitably appear. For example, friction may create provocation if it evokes a mood of anger or annoyance in the person. The moral context interacts with an individual's own concepts of morality and the individual's ability to exercise self-control which will determine whether or not that person ultimately goes on to act upon temptations or provocations by the moral filter. This is because the moral filter is a result of the interaction between individual morality and

moral rules of the setting. Therefore, motivation, while necessary, is not sufficient on its own to cause acts of crime or, more generally, breaches of moral rules (Wikström et al., 2012).

Therefore, based on SAT theory, the extent to which a particular setting is deemed to be criminogenic (encourage or discourage breaking rules stated in law) depends on its moral context. Hence, different moral contexts are presented in different settings and the key factors to consider will be the relevant laws (codified moral rules), prevalent moral norms and the strength of their enforcement. The criminogeneity of a setting is directly related to the extent that it provides an opportunity, that is, a perceived option to satisfy a need or desire in an unlawful way. Certain settings are considered to be criminogenic because of the degree to which they cause friction, or provocation (e.g., a perceived risk to a person's property, security, or self-respect that may trigger an emotional response of anger, and result in an act of crime).

Criminogenic settings can also influence the process of choice for an individual who faces a conflict between their morality and the moral rules of the setting, when these settings are subject to monitoring, or when the individual perceives a risk of being caught or punished for committing acts of crime or moral actions (Wikström, 2006, 2010; Wikström et al., 2011, 2012). According to Wikström et al. (2012), the formulation of a person's intentions to take some specific action is a choice which is also made based on a person's perception of their options and their anticipated or expected outcomes (e.g., a woman intends to walk out of a restaurant without paying for the food; an employee intends to vandalize his employer's car after work). The difference between an action and a choice is that the latter refers to a future action which one plans to make but may not carry out because of an interruption (e.g., a police car pulls up or a security guard walks in) or because a prolongation (e.g., the

individual notices a security camera for the first time) prevents it. In these examples, the characteristics of the setting may act as a deterrence (a form of external control).

Unlike most action theories that only analyse how people choose to carry out an action (an act of crime) to satisfy a desire or want, SAT focuses on why people perceive an action alternative differently in order to satisfy their desire or want. Wikström proposes that the interaction between people's perceptions of action alternatives and their processes of choice is also relevant to explaining why people engage in certain acts of crime (Wikström, 2006; Wikström et al., 2011; 2012). These key theoretical insights are critical to the explanatory approaches detailed in SAT. On one hand, these insights suggest that the main reason that most people, in most cases, do not engage in acts of crime (breaking the rules) is that they do not perceive crime as an action alternative. On the other hand, there are some individuals whose propensity combines with setting to produce the opposite effect, and who will go on to engage in acts of crime because such acts are perceived to be viable action alternatives. While some previous criminological theories (to some extent, RCT, and to a larger extent, the various social control theories) were based on an assumption that all people would pursue criminal acts if they perceived them to be advantageous and had calculated a low prospect of detection, SAT takes a more nuanced approach, and factors in the varying degrees of internalised morality that individuals exhibit.

2.4.1.3 The Perception-Choice Process in Situational Action Theory

The perception-choice process - which is a situational process - links crime propensity and criminogenic exposure. This process is influenced by three major situational factors in SAT, which are motivation, the moral filter, and controls (Wikström, 2006; Wikström et al., 2011). The roles these situational factors play are different, but are still dependent upon and/or related to each other. Action processes are started by motivation, and individuals respond to this initial motivation in different ways. Then a moral filter provides a person with action alternatives. These action alternatives will depend on their personal morality and level of self-control or external controls such as deterrence (Wikström, 2004; 2006; 2011). When acts of crime are not perceived by people as action alternatives to carry out, despite the presence of motivators, a crime will not occur (Wikström et al., 2012). Even when acts of crime are perceived by people as action alternatives, the outcomes can still vary depending on people's process of choice. According to Wikström (2006), a person's perceived action alternatives, in

response to a certain motivation (e.g., temptation or provocation), depends ultimately on a person's interaction with the relevant moral rules and moral emotions (e.g., shame and guilt), which will affect how a person will perceive different actions.

In SAT, motivation is defined as a situational concept and is seen as an outcome of person-environment interactions. Wikström has defined motivation as goal-directed attention that moves people to act, but subsequently concludes that it was not always an explanatory factor for explaining why people break certain moral rules or laws (Wikström, 2006; Wikström et al., 2011). Although the presence of motivation is necessary for human action, no certain or specific kind of motivations are known to always cause people to breach certain moral rules of conduct or commit a certain act of crime. However, there are two main types of relevant motivators identified in Wikström's theory, namely, temptations and provocations (Wikström, 2006; Wikström et al., 2012). Temptations are defined as factors that drive outcomes that result from the interaction between people's desires (e.g., wants and needs) and opportunities to fulfil a desire (Wikström, 2010; 2016). On the other hand, provocations can occur when frictions or unwanted external interferences surface, causing a person to become annoyed or angry with the perceived source of the negative emotion (e.g. a person's degree of sensitivity to a certain friction).

With regards to a moral filter, it is best described as the rule-guided selection of action alternatives that identifies a perceived action as the most appropriate one to take in response to a certain motivation. It can encourage people to break a moral rule or discourage them from doing so. Moral filtering occurs when an individual morally engages with the moral contexts of a certain environment (Wikström et al., 2012). Applying a moral filter process may be automatic (habitual) or deliberate, but in either case it is still dependent upon a person's familiarity with situational conditions (Wikström, 2010, 2016; Wikström et al., 2011, 2012).

The habitual process of choice occurs when an actor (person) perceives only one action alternative as an option and he or she automatically forms an intention to execute that action. If only one action is seen as an alternative, this means that the actor is not considering any other possible actions. However, the rational deliberation process of choice occurs when an actor (person) perceives several actions as strong alternatives, which will include at least one moral action (an act of crime). The outcome of this rational deliberation process depends on

whether the actor forms an intent to move forward on the action (Wikström, 2010; 2011; Wikström et al., 2012).

By implying that people are moved to action based on making choices, SAT suggests that people have agency (e.g., context-dependent power to intentionally make things happen). Therefore, human action involves both elements of free will and predictability (Wikström et al., 2012). Wikström recognized the importance of agency in the context of the crime causation process and he incorporated voluntary and deterministic processes into his explanatory approaches to explain acts of crime. In SAT, agency is expressed by people through either habits or rational deliberations, and in certain circumstances, human action may be more deterministic and less voluntary, or vice versa, in making choices about certain actions (Wikström, 2006; 2011; Wikström et al., 2012).

Actions which are committed out of habit tend to reflect an automatic stimulus-response reaction to environmental cues (a choice made with no predetermined action alternative) (Wikström et al., 2011, 2012). During the habitual process of choice, the setting is allowed to determine a person's action by triggering related causal mechanisms that develop from repeated or earlier exposures in similar situations. Accordingly, habitual actions are oriented by the past, as people are likely drawing from their past experiences to guide them. Thus, people create no opportunity to exercise their free will when they act habitually, due to the absence of perceived multiple alternative actions (Wikström, 2006; Wikström et al., 2011; 2012).

On the other hand, actions committed as a consequence of a process of rational deliberation mean that the person has actively assessed the advantages and disadvantages of several different action alternatives (Wikström, 2006; 2010; Wikström et al., 2011; 2012). Additionally, the deliberation process may involve individuals seeking advice or discussing perceived action alternatives with other people, but they still exercise free will through actively choosing an alternative to act upon. However, motivation can also influence people's choices from among the different alternatives during deliberation. This choice (to act in response to a motivation) is then perceived by people as the best viable action to take in a certain setting. People can still exercise their free will within these perceived limitations of

action alternatives, and they are likely to be aware of why they commit actions in the way that they do, to some degree (Wikström, 2010; 2011; 2016; Wikström et al., 2011; 2012).

Moreover, Wikström contends that human action is guided by rationality, at times, but rationality will only play an explanatory role in SAT when people actually consciously deliberate about options (Wikström, 2010). It is during the deliberation process that people are assumed to be acting rationally, exploring the different action alternatives and opting for those which are expected to offer the best ways of fulfilling their desires. To act rationally is suggestive of opting for an action alternative chosen by the individual because it is the best way to fulfil a desire (e.g., want or need) or to respond to a provocation. Accordingly, rational deliberate actions are oriented towards the future, as people are actively assessing alternatives for action (non-familiarity). In contrast, rationality does not occur in people who act out of habit in SAT, since there is no selection of action alternatives to weigh (Wikström et al., 2011; 2012). Again, SAT is basing its analysis on the significant assumption that human beings will always act rationally and in the best interests of themselves and others. While this may be the case in most instances, human experience tells us that this is not always the case and that humans can, and do, act irrationally and self-destructively at times.

2.4.2 Summary of the Situational Action Theory Model

The central premise of SAT is that acts of crime are outcomes of a perception-choice process in response to motivations (temptations or provocations), guided by a person's crime propensity (which in turn is primarily dependent on his or her morality and the ability to exercise self-control) and the criminogenic features of the setting in which the person is situated (its moral rules and their enforcement). So, people are expected to respond differently to provocations dependent on their morality and ability to exercise self-control (Haar and Wikström, 2010, p.309). People with a strong morality and who have the capability to exercise self-control are likely to refrain from criminal conduct regardless of their exposure to criminogenic settings, while people with a weaker morality and capability to exercise self-control are more likely to engage in acts of crime when they are exposed to criminogenic settings. Specifically, SAT proposes that the interactions between a person's crime propensity and setting in response to motivators (opportunities) help to explain why

some people engage in criminal behaviour and some do not (Wikström, 2010, 2016; Wikström et al., 2011, 2012).

2.5 The main principles of SAT

Within the context of SAT there are two important principles; the principle of the conditional relevance of controls and the principle of moral correspondence (Wikström, 2006, 2010; Wikström et al,2012).

2.5.1 The Principle of Moral Correspondence

This principle means the correspondence between individual morality and the moral rules of the setting (Wikström et al, 2012). Therefore, when a person's moral rules and the moral norms of particular settings encourage breaching the law, committing a crime is likely. On the other hand, when both a person's moral rules and the moral norms of the setting discourage breaching the law, a crime is very unlikely. In SAT, this linkage is referred to as *the principle of moral correspondence.* Since it cannot be assumed that people's morality will correspond with the moral rules of a setting in every situation, Wikström suggests that controls (self-control and deterrence) are important, where deterrence forms part of the setting (Wikström et al, 2012. The next section will present the PCRC in more detail, as one of the aims of this study is to test this principle.

2.5.2 The Principle of the Conditional Relevance of Control (PCRC)

This principle relates to the interaction effect between morality and controls. When a person experiences a sense of conflict between his or her morality and the moral norms of their setting, controls will play a role as the person deliberates over a number of action alternatives. Controls are classified as internal (levels of self-control) and external (such as deterrence - the enforcement of moral rules in the setting) (Wikström, 2006, 2010; Wikström et al., 2011, 2012). Conflict may occur between a high level of personal morality and a low-level moral context or between a low level of personal morality and high-level moral norms that apply in the setting. Consequently, the nature of a conflict will determine which kind of controls will be important. Thus, when a person's moral rules and moral emotions discourage

committing crime while the moral norms applied in the setting encourage crime, breaking the law (conflicting) will depend on the ability to exercise self-control (when people deliberate about whether or not to choose act of crime. Contrarily, where there is exposure to a setting in which the moral norms are not conducive to crime, but the individual's personal morality encourages committing crime, the factors that determine whether the person actually goes on to engage in rule / law-breaking behaviour will depend on the strength of the level of deterrence within the specific setting (the deterrent quality). If the risks are high and the sanctions severe, then the person will consider the risks and consequences before deciding on a particular course of action (Wikström, 2012).

In SAT, controls can become causally relevant either when acts of crime are committed deliberately or when there is a conflict between a person's moral rules and the moral norms of a setting with regards to processing a choice (action alternative) to act out (Wikström et al., 2011, 2012). In other words, controls are irrelevant when acts of crime are not perceived as action alternatives (person has a high level of morality), or when people act out of habit. Controls are mechanisms that aim to manipulate people's adherence to their personal moral values, after the deliberation process, when facing conflicting motivations (Wikström, 2010, 2016; Wikström et al., 2011;2012). In short, both morality and controls play a role in attempting to explain acts of crime. Specifically, people's perceptions of action alternatives are influenced by their moral values, and the processes of choice of action alternatives are influenced by these control mechanisms (Wikström, 2006, 2010; Wikström et al., 2011, 2012).

2.6 The Causes of the Causes of Crime

According to Wikström (2011), the situational model is utilized first, so that the initial causes of crime can be identified in order to effectively analyse the 'causes of the causes of' crimes. SAT stresses the importance of applying these explanations to crime causation in urban settings in any jurisdiction, although the situational model does not in fact consider the role of systematic social factors and processes, and relevant factors and processes related to people's life histories (Wikström et al., 2011, 2012). SAT acknowledges that a connection exists between the causes of crimes (identified in the situational model) and the causes of the causes of crimes (social contexts) due to the following:

1. The outcome of a situation resulting in an act of crime or moral action is dependent upon a person's perception-choice process.
2. The moral filter of a person's perception-choice process is related to causally relevant aspects of his or her person-environment interactions.
3. Processes related to social and self-selection, which place certain kinds of people (with different crime propensities) in certain kinds of settings (criminogenic exposures).
4. The specific kinds of people, in specific kinds of environments, which are present in a given situation, are dependent upon historical processes of personal and social emergence.

Thus, Wikström (2010; 2012) argues that the best approach to analysing the causes of the causes of crime (actions) is to consider the process of personal and social and the selection processes (related to social and self-selection). This process adds a further layer of complexity to the SAT framework.

2.6.1 The Process of Emergence

In SAT, the concept of emergence refers to the process by which something comes into existence or becomes as it is (Wikström et al., 2012). For example, how one particular person's crime propensity is acquired as a consequence of his or her psychosocial development, or how particular environments become criminogenic as a consequence of ecological factors (Wikström et al., 2011; 2012). The traits associated with emergent properties that lead to the development of crime propensity are distinguished in SAT (Wikström et al., 2012). Examples of emergent properties of historical processes of social interactions include the cultural and structural traits of country or city. For example, the general and local systems for addressing formal and informal rules of conduct, including their application and capacity for enforcement. On the contrary, the characteristics of people such crime propensity considered as the emergent properties linked with the historical processes of personal-social interactions (Wikström, 2010; 2016; Wikström et al., 2011; 2012). In SAT, the process of emergence can occur in both personal and social contexts.

2.6.1.1 Personal Emergence

The concept of personal emergence refers to different kinds of people (with different kinds of crime propensities) and how their differences in propensity are acquired. In the situational model of SAT, the major personal factors that determine people's crime propensity are morality and self-control. This helps to explain the initial causes of crime. SAT describes the processes by which people acquire propensity. Firstly, from their moral education and related experiences, that might take place in both formal and informal settings. Through these experiences, a person will learn specific moral rules and he or she will develop related moral emotions (such as guilt and shame). These rules might come from processes of instruction (teaching / learning), sanctions (enforcement or punishment), and / or observations made of other people's reactions to actions taken and sanctions imposed. People develop self-control through the development of specific cognitive skills, through a process of cognitive nurturing and training. These processes then lead to the development of individual morality and their capacity to exercise self-control and through the moral education and cognitive nurturing / training (Wikström (2006, 2010, 2016; Wikström et al., 2011, 2012).

In addition, social institutions are regarded as having an important role to play in forming the moral education and cognitive skills relevant to the development of individual crime propensity. These social institutions include family, school, and peer networks, and they are the primary agents for socialization and cognitive nurturing in people's lives. SAT borrows the concept of time windows (Bloom, 1964) to describe the variations in the impact that these social institutions can have at different stages of a person's biological maturation or natural progression through life (e.g., infancy, adolescence, teenage years, young adulthood, etc.). SAT purports that people are exposed to different environments during different time windows (Wikström et al., 2012). It is worth mentioning that, the agents of socialisation in the KSA, as an Islamic country, differ from those in the contexts where SAT has been tested previously. More specifically, the education system and curriculum in Saudi Arabia are mainly based on an Islamic view and teaching religious subject extended even for studying any subject at university. Also, mosque play important role on that as it is a place where Muslims people gather five times a day for pray and it can also be seen as community centres.

2.6.1.2 Social Emergence

The concept of social emergence refers to the different kinds of environments or settings (different kinds of criminogenic exposures) and how environments (or specific jurisdictions) come to differ in features which are relevant to criminogeneity. In the situational model of SAT, key causally relevant environmental factors that influence people's criminogenic exposure are the moral norms and customs of settings and their enforcement levels. These factors subsequently encourage or discourage acts of crime, in correlation to perceived opportunities or frictions. The main criminological interest is in the processes that lead to a setting having specific moral norms and the specific enforcement levels of those moral norms (e.g., supervision and intervention) with regards to the presence of specific opportunities and friction these enforcement levels create. SAT borrows these concepts from theories of social disorganization and collective efficacy in order to help explain why some environments are more criminogenic than others (Wikström et al., 2011, 2012). Wikström (2006, 2010) refers to the concept of social disorganization as the differences between social environments, such as neighbourhoods or communities, in terms of residential offender rates (especially youth offender rates) and residential crime rates. This implies that the abilities of social environments that are socially disorganized to regulate and control residents' behaviour are typically poor and ineffective, and that they lack structure. Similarly, the collective efficacy of residents living in social environments describes the willingness of those residents to intervene for the overall safety and good of their community. By borrowing key concepts from previous criminological theories in this way, we can again see the complex nature of SAT theory. Rather than proposing a competing theory of criminology, SAT presents a complementary theory, which acknowledges both the validity of previous theories but also their incompleteness. SAT is, essentially, taking fragments from previous theories and putting them together, and building on them, in order to complete a more holistic picture of crime causation.

2.7 The Process of Selection

The concept of selection refers to ecological processes that cause specific kinds of people to be introduced to specific kinds of settings, which results in people responding to these situations by taking specific actions (Wikström, 2006, 2010; Wikström et al., 2012). SAT confirms that specific patterns of selection are the result of the interactions between the

processes of social selection and self-selection. Social selection is referred to *social forces of formal and informal rules that encourage or discourage particular kinds of people from taking part in particular kinds of time and place- based activites* (Wikström et al., 2012: 37). While, self-selection refers to *preference-based choice made by people to attend or engage in time-place based activities within limits of the forces of social selection* (Wikström et al., 2012, p.37).

For example, financial constraints, age barriers, or inaccessibility may prevent individuals from attending self-selected activities. Similarly, individuals may be restricted by the social system that prohibits or allows specific kinds of people to engage in certain activities at specific times and places. This is known as social selection. Wikström believes that individuals self-select their setting and proposes that an inability to exercise self-control is responsible for crime in a specific environment (Wikström, 2010; 2016; Wikström et al., 2011; 2012).

2.8 Weaknesses of SAT theory

As discussed above, SAT proposes that crime propensity is the key factor in the explanation of crime involvement, which means people's tendency to see, and if so, to choose to break the rules of conduct that are stated in law (Wikström et al., 2012). Additionally, SAT proposes that the main personal factors that affect crime propensity are personal morality and self-control. However, terms such as 'personal morality' are fairly abstract in SAT, and while it is clearly an important element, from an analytical point of view, it is very difficult to gauge. While Wikström has attempted to ground this concept in practical settings and processes, it remains to some extent abstract and subjective. One question that needs to be considered in the measurement of of morality is whether the level of morality is related to how individuals think and belief about whether the action itself is right or wrong in general (as is considered by the context) or it is related to an individual's own principles regarding the right and wrong (personal opinions and beliefs).

Additionally, recent arguments about the discrepancy between the conceptualization and measurement of self-control in SAT theory have been summarised by Hirtenlehner and Reinecke (2018). They argue that SAT refers to self-control as the actual inhibition of a perceived action alternative that conflicts with one's personal morals, but that when it is

measured in SAT research, Grasmick et al.'s (1993) scale is used. This scale was developed to measure '*the tendency to avoid acts whose long-term costs exceed their momentary advantages'* (Gottfredson and Hirschi, 1994: 3). Thus, Hirtenlehner and Reinecke (2018) have stressed the importance of drawing on measures of self-control that correspond with SAT conceptualizations of self-control. Critics have also argued that not only does SAT rely on an inaccurate measure of self-control, but the role of self-control is not clear. Kroneberg and Schulz (2018) submit that the accurate role of self-control for people with low morality is not clear. In other words, they questioned whether high self-control fosters crime for individuals with very low morality. In their study, they treated self-control *as a double-edged sword with respect to crime*. Although their findings do not support this assumption of self-control they emphasise the importance of clarifying the *conditions under which self-control operates, as a resource that supports conformity to the law* (Kroneberg and Schulz, 2018, p.73).

Nevertheless, this is not to diminish the importance of morality and self-control as elements of SAT, but to acknowledge the inherent difficulties in measuring them. In addition, the scope of SAT as a theory that encompasses all aspects of crime causation, both endogenous and exogenous, individual and social, conscious and habitual, means that the more comprehensive it becomes (even if this approach brings greater accuracy and insight), the greater the challenges are from a policy perspective, and the practical utility of SAT might be undermined. While the various factors identified within SAT are relevant, their complexity poses challenges in terms of developing targeted policy responses to the causes of crime.

Conversely, it is this generality that is also a major strength of SAT. Its acknowledgement of the inherent subjectivity and dynamic nature of the causes of crime means that the theory is not grounded in any specific social, cultural or geographical context and can be regarded as a genuinely general theory of crime causation, which can be applied in diverse settings. Previous criminological theories have been unable to sufficiently address the problems of causation and explanation, because they lack 'a theory of action' and have had 'poor integration of levels of explanation and an ambiguous definition of crime' (Wikström and Sampson, 2003). SAT however provides *a comprehensive analysis of crime that offers an analytical framework that can be applied in any given setting* (Wikström, 2006, p.61). SAT is far more dynamic than previous criminological theories (for example, Rational Choice

Theory), in that it analyses criminal acts within the snapshots of the settings in which they take place, acknowledging that people are moved to action by how they see their action alternatives and make their choices when confronted with the particularities of a setting (Wikström, 2006, p.61). SAT offers a continuation of the development of the ecological insights into crime but does so in a way that is more comprehensive than previous attempts, which have attempted to silo issues, and tend to focus either on individual propensity or environmental factors, while failing to give sufficient attention to the complex and dynamic interplay between the two. At the heart of Wikström's theory of crime causation is the need for utility in criminology: identifying the causes of crime should enable us to formulate crime prevention policies. Yet its generality may make the translation from theory to practice difficult. Previous criminological theory has suffered from a poor understanding of causal mechanisms and Wikström has identified a clear need for an adequate definition of crime and a developed theory of action in order to sufficiently explain delinquency.

2.9 Conclusion

This chapter has presented a review of Situational Action Theory, an explication of its concepts and the basic situational model. It has also discussed the fundamental propositions of the theory, as well as a general view of the causes of the causes of crime within the SAT analytical framework. The delicate interplay of these various factors demonstrates the dynamic nature of SAT. Crime is not viewed as a phenomenon that can be explained by a single factor or even by a cluster of factors: it is the result of a complex interaction of internal and external factors, of conscious and habitual processes. As noted above, it is this complexity that presents an inherent tension: while SAT acknowledges the complexity and diversity of crime causation, it simultaneously expands the focus of criminological theory so widely that it is likely to pose some difficulties regarding how the theory can be used practically from a policy development perspective. In some respects, SAT has much in common with ecological approaches to criminology and juvenile delinquency, in which young peoples' encounters with crime are understood by analysis of the everyday worlds with which young people are engaged, and with which they interact, as a product of external political and social forces which are evident on a number of levels (France et. al., 2012, p.5). SAT is similarly engaged in the development of these ecological insights into crime but does so in a more comprehensive way than previous attempts, which have tended to isolate issues,

looking either at individual propensity or at environmental factors, and not sufficiently addressing the interplay between the two. While this interplay has been alluded to, it has not been the subject of sufficient focus. For example, studies have examined issues such as the social ecology of poverty and unemployment and acknowledged the significance of '*multiple and intersecting modes of social adversity'* and how there are multiple specific issues within this category (Goldson and Muncie, 2015, p.20). However, even when identifying this type of complexity, previous theorists have still grouped such factors into clusters, rather than dealing with them holistically. SAT seeks to take a wider, panoramic view of crime causation rather than try to assign causal factors into artificial and static categories.

With particular regard to young people - as this study focuses on young people - in terms of the kind of setting, Wikström (2009) argues that the type of places that young people frequent and who they tend to be with (i.e. their dominant peer group) are seen to have an important effect in adolescence, as many of the activities of young people are conducted with peers outside the home and school. Therefore, the exposure of young people to such criminogenic settings is dependent on their peers' morality and the places that they visit with those peers, as well as the level of formal and informal controls at work in those places. In other words, young people who spend more time in areas with poor collective efficacy (areas that are weak in social cohesion and have low informal social control), and those whose peers are more delinquent, will be considered to have a higher exposure to criminogenic settings. It is worth mentioning that, (Wikström, 2009, p.275) has also stated that the measure of criminogenic exposure will capture some key variations in young people's general exposure to criminogenic settings, although it is not a perfect measure for criminogenic exposure and therefore can be developed further.

The following chapter will review the previous empirical studies that tested SAT in order to determine the empirical status of SAT theory and also to identify the extent to which SAT can be accurately described as a general and universally applicable crime theory.

CHAPTER 3 : REVIEW OF EMPIRICAL TESTING OF SITUATIONAL ACTION THEORY

3.1 Introduction

This chapter presents a critical review of the empirical studies on Situational Action Theory (SAT). It provides an overview of current state of the validity of SAT theory. As presented in Chapter 2, the key propositions of SAT can be summarised as follows:

i. Crime is a product of the interaction between an individual's crime propensity and their exposure to criminogenic setting (C= P x E).
ii. Self-control and deterrence are less relevant in individuals with a higher level of morality (Conditional Relevance of Control).
iii. The perception of crime as an action alternative and the choice of criminal action are dependent on the individual's propensity for crime and the level of criminogeneity of the setting in terms of provocation and deterrence (Perception-Choice Process).

Thus, this chapter will critically examine how each of these main propositions have been tested and supported in the literature.

3.2 Methodology

3.2.1 Study Design

In this research, the need for a systematic method for reviewing the compatibility of evidence and methods used by various researchers is clear. To achieve this, after considering the systematic review methodology, this chapter has instead used a methodology known as a scoping review. Systematic review (SR) adopts explicit procedures for the purpose of reviewing literature (Bryman, 2008). It is often, although not exclusively, found in psychological research as they are in sociological and criminological -based research. The method offers a scientific, replicable and transparent approach to reviewing both quantitative and qualitative evidence, with the aim of reducing bias through exhaustive search for both

published and grey literatures (Tranfield, et al. 2003). Using such a method not only provides an audit trail but allows the researcher to produce a comprehensive and unbiased literature review (Bryman, 2008). SR is used to identify the key features of each study using a formal protocol which includes location, sample sizes, data collection methods, as well as the main findings (Bryman, 2008). It then allows the researcher to produce summary statistics from the quantitative data (using meta-analysis techniques). If the researcher reviews qualitative data using SR, then tables are used to summarise the key characteristics of the reviewed studies (Millar, 2004). This method was initially considered for use in the current study, relying as it does on established criteria to guide the selection of studies, a predefined purpose of the review, and the incorporation of all studies that meet the criteria. However, SR was not adopted for this study because SAT studies focus on multiple propositions and concepts using different study designs. Thus, SR methodology was not suitable for this review on SAT as the methodology is preferably used to address a well-defined narrow research question.

A scoping review is an approach to reviewing literature which allows researchers to review and map the literature on a topic in a systematic way. It is commonly used in fields such as healthcare, education and criminal justice (Arksey and O'Malley 2005). The scoping review is an increasingly popular methodology of conducting literature review (Levac et al., 2010). The methodology can be used to map relevant studies in a specific area of interest. Similar to systematic reviews of literature, scoping reviews involve a systematic search for literature and an analytical synthesis of evidence (Levac, et al. 2010). Unlike SR, which focus on study designs developed in advance, scoping reviews are usually conducted to investigate broader topics and different study designs. While SR aims to answer relatively narrow research questions, a scoping review is more likely to address a broader research question. Generally, a scoping review is useful for mapping key concepts underpinning a research area alongside the main sources and types of evidence available (Mays et al. 2001: 194). Thus, a scoping review is compatible with the aim of this chapter, which is to map the available evidence with respect to SAT. Arksey and O'Malley (2005) provided the first methodological framework for conducting a scoping review which identifies the following steps:

1- Identify the research question
2- Identify relevant studies
3- Select studies
4- Chart the data
5- Collate, summarise and report the results

3.2.2 Literature Search

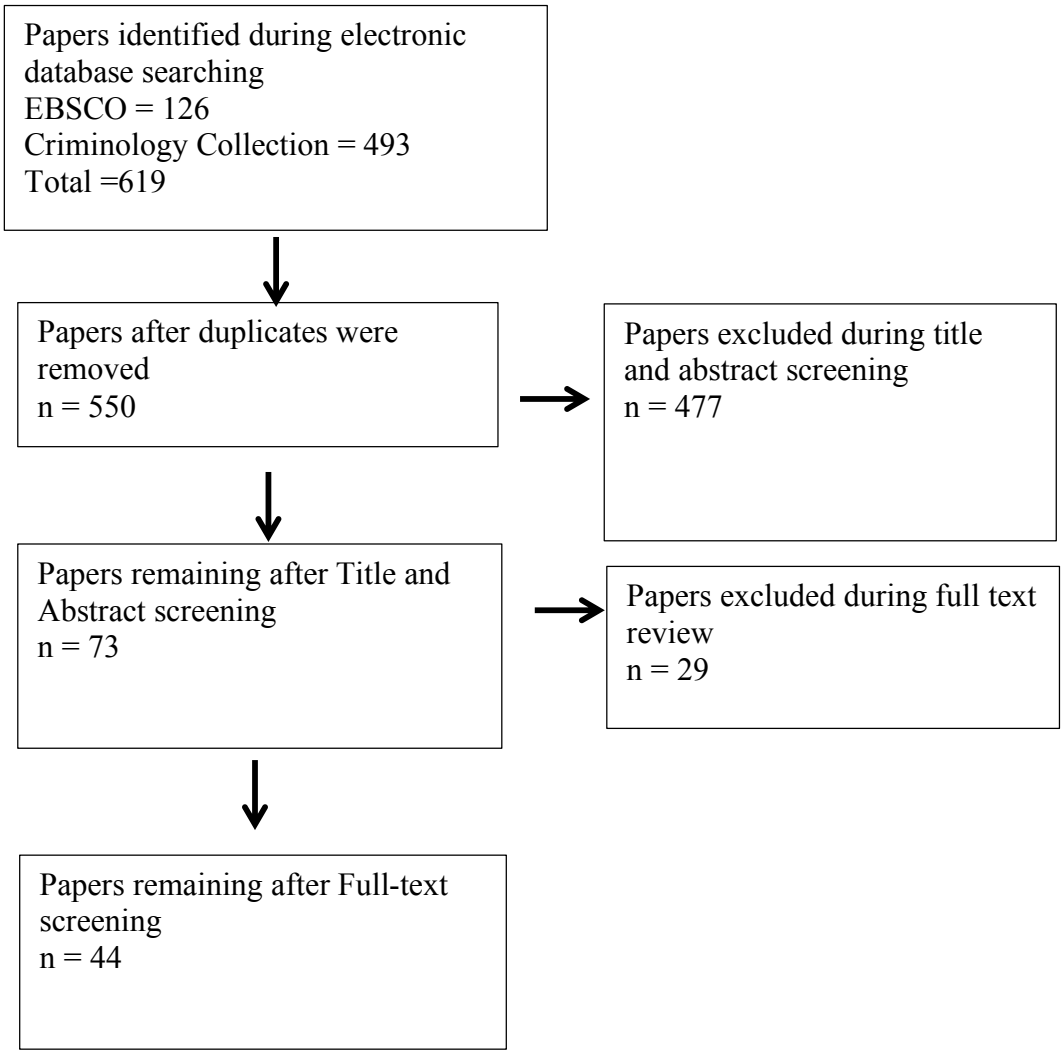
In criminological research, the literature base is especially broad because of the nature of the subject as it is a policy-driven and it traverses multiple disciplines (Crow, 2006). Crow (2006) and others, including Neuman (2002), Bryman (2012) and Walliman (2016), recommend a definite search strategy using keywords. Extensive searching of electronic databases was conducted using the University of Salford's Library search engine 'SOLAR' to uncover relevant criminological sources in electronic databases and printed sources, including books and journal articles. Based on the SOLAR recommendations EBSCO, ProQuest Criminology Collection and ProQuest Dissertations and Theses were all searched. Since the search was specific for studies on SAT, the search strategy was developed based on three categories of keywords. The first category of search terms which related to "crime" included keywords such offending, delinquency and violence. Specific crimes listed in the initial testing of SAT were also added, as shown in Tables 3.1, 3.2 and 3.3. The crimes in this category are usually the dependent variable in most SAT studies. The second category of search terms were derived from the concepts relating to crime propensity and criminogenic exposure, which are the main predictor variables identified in SAT. Since these two categories can also be found in studies that tested other criminology theory, a third category of search terms was also added which relate specifically to SAT. The search terms in this category include Situational Action Theory, SAT and Wikström. Search terms in each category were connected with OR. The results of all the categories were then connected with AND. A wildcard (*) was used to increase the sensitivity of the search. The search focused on literature sources written in English and available as full text books or journal articles. When sources were not available directly from the University of Salford, when necessary, this researcher ordered them through the library. In addition, the references of relevant

publications and previous literature reviews were also searched for relevant literature. Citation tracking was also performed using Google Scholar, to identify further relevant publications. The academic supervisors and other experts within the field of Criminology were also contacted for suggestions on other relevant literature. An information management specialist was also consulted for advice on the search strategy.

3.2.3 Study Selection

Figure 3.1 shows how the studies were selected and evaluated as suitable for inclusion in the final selection and analysis. Selection took place in four stages.

Figure 3.1 Study Selection Stages



3.3 Included Studies

Appendix 5 describes the general characteristics of the included studies. The empirical research on SAT took place in different countries, with some taking place in more than one locality. Most of the studies took place in Europe and a few in the United States of America. This is understandable as SAT was developed in the United Kingdom. One study was conducted in Bangladesh (Brauer and Tittle, 2017), which shares some cultural heritage with Saudi Arabia but does not operate a system of Sharia law. The socio-legal environment of the country involved in each study is an important facet of the situational mechanism (Wikström and Sampson, 2003). This underscores the need for more SAT studies in non-western cultures so as to investigate if the principles of the theory are universally applicable. The results might be different in another cultural context and / or in a country where religion not only plays an important role as a source of the law, but is considered as a way of life. Testing the theory in the KSA will provide further insight into issues related to morality, which is a core element of SAT theory. Thereby assessing the generalizability of SAT and fostering its the empirical development.

The sample sizes employed in the existing studies varies widely from nearly 200 to 6000. Traditionally, the sample size for epidemiological research must be sufficiently large to produce a statistically significant representative sample, so as to allow generalisation of the study findings to an entire population (Freedman et al. 2007). However, since these studies tested a theory (SAT), the sample size was principally decided by the need to provide enough cases for a robust analysis. Therefore, the decision was based on some objective measures of robustness, such as statistical power calculations. The majority of the studies that tested one or more of the key propositions of the theory, used data drawn from an educational setting - from schools and universities - with young people aged 11 – 18 years old, while seven studies used samples from different age groups, including 18 years old or older from the general population. (Antonaccio and Tittle, 2008; Cochran, 2015; Willets, 2012, Eifier, 2016, Hirtenlehner et al., 2016, Brauer and Tittle, 2017, Noppe, 2016). Only two studies used different kinds of population: adults in prison (Piquero et al., 2016) and a sample of homeless youths (Gallupe and Baron, 2014). The preponderance

of adolescent study populations may indicate a widespread research interest in juvenile delinquency. On the other hand, the high use of school-based samples may be due to their relatively easy availability for recruitment of participants, compared to other unstructured settings. It may be worth considering the limits of these school-based samples. People who are attending school and willing to participate in the research are perhaps less likely to be delinquent. This is because one might expect delinquent youths to play truant.

Most studies adopted a cross-sectional design, while a few relied on longitudinal data collected over several years. Several studies were based on datasets obtained during previous projects, thus circumventing expensive and extremely time-consuming data collection (Bryman 2008).

There are three basic propositions of SAT which have been tested more or less by previous tests of the theory. These are the Principle of Conditional Relevance of Control, the interaction between propensity and criminogenic exposure, and the Perception-Choice Process. Among the 44 selected studies, 21 examined the Principle of Conditional relevance of Control, 16 examined the interaction between crime propensity and criminogenic exposure, and seven examined the Perception-Choice Process. Out of the 21 studies that examined the Principle of Conditional Relevance of Control, only 3 studies examined multiple propositions (Gallupe and Baron, 2014; Hirtenlehner and Hardie, 2016; Schepers and Reinecke, 2018). Other than the original study by Wikström et al. (2012), no other study has comprehensively examined all three of the main propositions of SAT. Thus, the perception-choice process is the least studied among the main propositions of SAT. Each of these propositions will be examined in further detail in subsequent sections.

3.4 Crime Propensity and Criminogenic Exposure

The most fundamental assumption of SAT is that crime is a product of the interaction between crime propensity and exposure to criminogenic setting (Wikström, 2012). According to this theory, the likelihood that an individual will engage in criminal acts is increased at higher levels of crime propensity and at higher levels of exposure to criminogenic settings.

Crime propensity is a composite measure which is based on morality and the ability to exercise self-control. Similarly, criminogenic setting is a composite measure derived from

peer delinquency and time spent with peers in unstructured environments with poor collective efficacy (Wikström, 2012). On the other hand, criminogenic exposure depends on the moral context and level of enforcement. Young people's exposure to criminogenic settings depends on the places they frequent and with whom they frequent them. The peer group is particularly important in adolescence because activities outside home and school are generally conducted with peers during this early stage of the life course (Wikström, 2009:275). The characteristics of one's peers (e.g. their morality) and the places a young person frequents with those peers (e.g. their level of informal social control) indicate his / her exposure to criminogenic settings. Young people who spend more time unsupervised with peers in areas with poor collective efficacy (i.e., in areas with weak social cohesion and poor informal social control), and whose peers are more delinquent, are assumed to have a higher exposure to criminogenic influences (i.e., they more often spend time at places, and with people, that may encourage involvement in acts of crime) (Wikström, 2009, p.275). It is worth mentioning that Wikström emphasised on the fact that "It is important to observe that this is not a perfect measure of criminogenic exposure" (Wikström, 2009, p.257). However, according to Wikström (2009) the measure of criminogenic exposure will capture some key variations in young people's general exposure to criminogenic settings, although is not a perfect measure for criminogenic exposure and thus there is scope for it to be developed further. Table 3.1 presents the summary of all sixteen of the studies that tested the interaction between crime propensity and exposure to criminogenic setting.

Most studies on crime propensity and criminogenic exposure assessed multiple types of crimes using frequency or variety scales (i.e., the number of times offences were committed or the number of different types of offence committed, respectively) while a few assessed specific offences such as political violence (Schils and Pauwels, 2014), shoplifting (Hirtenlehner, 2015) and intimate partner violence (Miley, 2017). Measurement of crime propensity was derived from a combined index of morality and self-control in 14 out of the 16 studies, as recommended for SAT (Wikström, 2012). Nearly all of the studies included moral values as a measure of morality, but only six studies included moral emotions.

However, more studies were at variance with SAT in the assessment of criminogenic exposure. Half of the studies (eight out of 16) measured criminogenic exposure based on peer crime involvement and time spent in areas with poor collective efficacy, as recommended by SAT. OLS regression was used in most of the studies in order to investigate the interaction between crime propensity and criminogenic exposure. The variation in measurement approach is significant as this may affect the study outcomes and make comparison difficult between studies.

Generally, there was support for the SAT proposition that offending is a product of crime propensity and criminogenic exposure and thirteen studies demonstrated full support by demonstrating a significant interaction effect between crime propensity and criminogenic exposure in the causation of crime (Wikström and Svensson, 2008; Wikström, 2009; Svensson and Pauwels, 2010; Wikström et al, 2010; Wikström et al, 2012; Schils and Pauwels, 2014; Wikström and Treiber, 2016; Noppe, 2016; Hirtenlehner and Treiber, 2017; Uddin, 2017; Antonacio et al, 2018; Gerstner and Oberwittler, 2018; Wikström et al, 2018). Crime propensity and criminogenic exposure were also found as independent predictors of crime frequency. It is worthy of note that Wikström, who propounded the theory, is the primary author of six of the studies that fully supported SAT. Thus, these studies could be regarded as part of the theory development process.

On the other hand, three studies reported partial support by demonstrating only the independent effects of either crime propensity and / or criminogenic exposure, without showing an interaction effect, as would be predicted by SAT (Cochran, 2015; Brauer and Tittle, 2016; Miley, 2017). A number of factors might have contributed to the deviation of these studies from SAT. Cochran (2016) used four indicators of criminogenic exposure: the number of student organizations joined by each student, the number of credit hours enrolled by the students currently, a measure of peer pressure, and current average grade point) and found only one indicator attained statistical significance. This was the interaction between propensity (measured by morality) and the number of student organizations. Brauer and Tittle (2016) did not include self-control as a measure of propensity. Miley (2017) used a very limited indicator of criminogenic exposure - past experience with intimate partner violence - and analysed the data using a negative binomial regression method, which made it difficult to demonstrate an interaction.

Table 3.1 Overview of Studies Testing Criminogenic Exposure and Propensity

Year	Author	Outcome Variable(s) Measured (Crime)	Predictor Variable(s) Measured						Support for SAT
			Propensity			**Criminogenic Exposure**			
			Morality		**Self-Control**	**Time spent in areas with Poor Collective Efficacy**	**Peer Crime Involvement**	**Exposure to other criminogenic settings used in these studies**	
			Moral Value	**Moral Emotion**					
2012	**Wikström****	TCF	√	√	√	√	√		Yes
2008	Wikström and Svensson	Violence		√		√	√	Alcohol use	Yes
2009	Wikström	TCF	√	√	√	√	√		Yes
2010	Svensson and Pauwels	TCF	√		√	√	√		Yes
2010	Wikström et al.	TCF	√		√	√			Yes
2014	Schils and Pauwels	Political Violence	√		√			Exposure to extremist content via new social media	Yes
2016	Cochran	Academic dishonesty	√	√				Pressure from Friends, student organisations, credit Hours	Mixed
2016	Brauer and Tittle	Past and intended violent act	√	√				Exposure to violent setting and families and friends' morality	Partly
2016	Noppe	Use of force (police)	√					Previous experience of exposure to provocative settings (to use force)	Yes
2016	Wikström and Treiber	TCF	√		√	√	√		Yes

Year	Author	Outcome Variable(s) Measured (Crime)	Predictor Variable(s) Measured						Support for SAT
			Propensity			**Criminogenic Exposure**			
			Morality		**Self-Control**	**Time spent in areas with Poor Collective Efficacy**	**Peer Crime Involvement**	**Exposure to other criminogenic settings used in these studies**	
			Moral Value	**Moral Emotion**					
2017	Miley	IPV	√		√			Past experience with IPV	Partly
2017	Uddin	TCV	√		√	√	√		Yes
2017	Hirtenlehner and Treiber	Shoplifting	√	√	√		√	Peers morality	Yes
2017	Antonacio et al.	TCF	√		√	√			Yes
2018	Gerstner and Oberwittler	TCF	√		√	√	√		Yes
2018	Wikström et al.	TCF	√	√	√	√	√		Yes

TCF – Total Crime Frequency, IPV- Intimate Partner Violence, TCV – Total Crime Variety

**** This publication is the most complete recent test of SAT.**

Overall, evidence from the literature appears to largely support the SAT proposition that crime is a product of an individual's propensity to crime and exposure to criminogenic tendencies in their environment. However, there is a need for further studies that replicate the measurement approach recommended by SAT before a conclusive inference can be drawn about the extent and context of the applicability of this proposition.

3.5 The Principle of the Conditional Relevance of Controls

The Principle of Conditional Relevance of Controls is the most-tested of all SAT propositions. This is not unexpected as the principle has two major theoretical propositions concerning the conditional relevance of external control (deterrence) and the conditional relevance of internal control (self-control). According to SAT, controls are irrelevant when acts of crime are not perceived as action alternatives (high level of morality). Self-control and deterrence only become relevant when moral rules of the setting are in conflict with individual morality. When an individual whose personal moral-filter fails to exclude crime as an action alternative (has a low level of morality) is tempted, or provoked by a criminogenic setting, self-control is required in order to avoid perceiving criminal actions. Therefore, self-control has a stronger effect in the prevention of crime among individuals with lower levels of morality. On the other hand, deterrence becomes relevant when personal morality encourages committing crime (high crime propensity; low morality and low self-control) while the moral rules that are dominant in the setting discourage crime. Thus, deterrence has a strong effect in prevention of crime among individuals with lower levels of morality and it is not relevant among individuals with low propensity to crime, as they are unlikely to consider crime as an action alternative. The personal moral filter which makes an individual not consider crime as an alternative is therefore more efficient at higher levels of morality.

Twenty-one studies testing the Conditional Relevance of Controls are summarized in Table 3.2 (Antonaccio and Tittle, 2008; Svensson et al, 2010; Wikström and Svensson, 2010; Pauwels et al., 2011; Wikström et al, 2011; Bertok and Mesko, 2013; Hirtenlehner et al., 2013; Gallupe and Baron, 2014; Bruinsma et al.,2015; Cochran, 2015; Svensson, 2015; Eifier, 2016; Hirtenlehner and Hardie, 2016; Hirtenlehner and Kunz, 2016; Piquero et al., 2016;

Pauwels and Svensson, 2017; Craig, 2017; Kroneberg and Schulz, 2018; Schepers and Reinecke, 2018; Ishoy and Blackwell, 2018; Maillo, 2018; Hirtenlehner and Meško, 2018). There is a large amount of variation in the scales adopted across the studies for measuring morality. Morality was measured using moral values and moral emotions in four studies (Wikström and Svensson, 2010; Pauwels et al., 2011; Eifier, 2016; Hirtenlehner and Hardie, 2016). The remaining studies used moral values alone (15 studies) (Antonaccio and Tittle, 2008; Svensson et al., 2010; Bertok and Mesko, 2013; Gallupe and Baron, 2014; Bruinsma et al., 2015; Cochran, 2015; Svensson, 2015; Hirtenlehner and Kunz, 2016; Piquero et al., 2016; Pauwels and Svensson, 2017; Craig, 2017; Kroneberg and Schulz, 2018; Schepers and Reinecke, 2018; Ishoy and Blackwell, 2018; Hirtenlehner and Meško, 2018). Two studies (Wikström et al, 2011; Maillo, 2018) used crime contemplation instead of morality to capture the level of propensity to commit crime). However, the measurement of self-control, based on Grasmick et al.'s (1993) scale, was consistent across most of the studies.

Eleven studies examined only the interaction between morality and self-control while seven studies investigated the interaction between morality and deterrence. Three studies tested the interaction effect between morality and self-control and morality and deterrence. The studies on the Principles of Conditional Relevance of Control also produced mixed results. Fourteen studies showed a full support for SAT, five studies demonstrated partial support for SAT (Pauwels et al, 2011; Bertok and Mesko, 2013; Gallupe and Baron, 2014; Bruinsma et al, 2015; Eifier, 2016) and only two studies found no support for the SAT assumption regarding the Principles of Conditional Relevance of Deterrence (Cochran, 2015; Piquero et al., 2016).

Table 3.2 Overview of Studies Testing the Principle of The Conditional Relevance of Control (PCRC)

Year	Author	Type of Crime Measurement	Morality (M)		Self-Control (S)	Deterrence (D)	PCRC	Support for SAT
			Moral Value	**Moral Emotion**				
2008	Antonaccio and Tittle	TCF and Crime intentions	√		√		M+S	Yes
2010	Svensson et al	TCF	√		√		M+S	Yes
2010	Wikström and Svensson	TCF	√	√	√		M+S	Yes
2011	Pauwels et al	TCF	√	√	√	√	M+D	Partly
2011	Wikström et al	TCF	Crime contemplation			√	M+D	Yes
2013	Bertok and Mesko	crime prevalence	√		√	√	M+S	Partly
2014	Gallupe and Baron	Drug use	√		√	√	M+S, M+D and S+D	Partly
2015	Bruinsma et al	TCF	√		√		M+S	Partly
2015	Cochran	Academic dishonesty	√			√	M+D	No
2015	Svensson	TCFand TCV	√		√	√	M+D	Yes
2016	Eifier	Theft intention	√	√		√	M+D	Partly
2016	Hirtenlehner and Hardie	Shoplifting	√	√	√	√	M+S and M+D	Yes
2016	Hirtenlehner and Kunz	TCV	√		√		M+S	Yes
2016	Piquero et al	Intentions to drink and Drive	√		√	√	M+D	No
2017	Pauwels and Svensson	Political violence	√		√		M+S	Yes

Year	Author	Type of Crime Measurement	Morality (M)		Self-Control (S)	Deterrence (D)	PCRC	Support for SAT
			Moral Value	**Moral Emotion**				
2018	Kroneberg and Schulz	TCV	√		√	√	M+S	Yes
2018	Schepers and Reinecke	TCV	√		√		M+S and M+D	Yes
2017	Craig	WCC	√		√		M+S	Yes
2018	Ishoy and Blackwell	TCF	√		√		M+S	Yes
2018	Maillo	TCF	Crime contemplation		√		M+S	Yes
2018	Hirtenlehner and Meško	TCV	√		√		M+D	Yes

TCF – Total Crime Frequency, IPV- Intimate Partner Violence, TCV – Total Crime Variety

3.5.1 The Conditional Relevance of Self-Control

Fourteen studies examined the interaction between morality and self-control and the majority of them were based on data for adolescents in western countries (see Table 3.2). Most of these studies found an interaction effect with the ability to exercise self-control having a greater effect among individuals with low morality. For instance, using PADS+ data, Wikström and Svensson (2010) demonstrated an interaction effect between morality and self-control in the prediction of crime. A study in three European countries (Belgium, Sweden and the Netherlands) found that morality modulates the effects of self-control on crime (Svensson et al., 2010). A study based on data of Belgian students found that self-control is more relevant in individuals with low morality, compared with individuals with high morality (Pauwels, 2012). Pauwels and Svensson (2017) reported similar results using a web survey of young adults in Belgium and observed the interaction effect between morality and self-control with regards to political violence. Hirtenlehner and Kunz (2016) tested the interaction of morality and self-control in a sample of older German adults and found that the ability to exercise self-control had stronger effects on crime among respondents with lower morality, compared to those with higher morality. In addition, using a scenario-based methodology, Craig (2017) tested the interaction effect between morality and self-control on white-collar crime (embezzlement and credit card fraud) and on shoplifting. He found that morality moderated the effect of self-control in predicting white-collar crime. More recently, Schepers and Reinecke (2018) found support for the conditional relevance of self-control in a survey of adolescents in Germany. Ishoy and Blackwell (2018) found a significant interaction effect between morality and self-control with regards to violent offending and property offending, but the interaction effect varied according to sex and the type of crime.

Similar to the study conducted by Wikström et al. (2011), Serrano-Maillo (2018) used crime contemplation as an indicator of morality in order to test the conditional relevance of self-control among adolescents in four cities from three Latin American countries (Colombia, Ecuador, and El Salvador). Crime contemplation assesses whether an individual has felt tempted to commit crime in the past. He found that the impact of self-control on crime is stronger at higher levels of crime contemplation, which is in line with SAT theory. However, Kroneberg and Schulz (2018) introduced a different view of the role of self- control in SAT. In their words, '*self-control is a double-edged sword with respect to crime and delinquency'*

(Kroneberg and Schulz, 2018: 61). Which means high self-control should help people to adhere to their personal morality and beliefs, whether they have high morality or have low morality. Nevertheless, their findings did not support their new assumption of self-control - they found that the effect of self-control on crime depends on the strength of morality. This means that the impact of self-control on crime is stronger at lower levels of crime contemplation, which is in line with SAT theory.

In contrast, two studies (Antonaccio and Tittle, 2008; Gallupe and Baron, 2014) were unable to fully support the conditional relevance of self-control. Although Antonaccio and Tittle (2008), in a study based on Ukrainian household data, found that self-control predicts offending in individuals with low and high morality, the predictive effect of self-control was not demonstrated in individuals with medium morality. Being one of the earliest tests of SAT, they adopted a different approach to measuring moral value by asking whether each specific criminal act was morally acceptable. They use an inadequate measure of morality by relying on measurement of moral rules without including moral emotions which migh affect the validity of the results. Gallupe and Baron (2014) also reported mixed results regarding the conditional effect of controls on self-reported drug use, among a sample of Canadian homeless youths. However, this finding may be explained by the sample in their study. The sample was drawn from offenders who are drug users and their status as such may have an effect on their moral judgment or their ability to exercise self-control.

In general, the literature provides strong evidence in support of the conditioning effect of morality on self-control, as predicted by SAT. However, all the studies were conducted among western populations which underscores the need for studies in other contexts.

3.6 The Conditional Relevance of Deterrence

The conditional relevance of deterrence was assessed in ten studies (see Table 3.2). Wikström et al. (2011) found that the effect of deterrence for all kinds of crime was stronger in individuals with higher crime propensity. Svensson (2015) also demonstrated a strong interaction between morality and deterrence. A study in Australia also showed that the effect of deterrence is strongly relevant in discouraging shoplifting, among students with low

morality (Hirtenlehner et al., 2013). In a recent study, Hirtenlehner and Meško (2018) found an interaction between moral belief and perceived sanction risk.

In contrast, findings from four studies did not support the conditional relevance of deterrence, as would be predicted by SAT. Pauwels et al. (2011) found that the effect of perceived sanction risk did not depend on the level of morality, based on two school surveys among Dutch pupils. The findings did not support the idea that the effect of perceived deterrence in general offending was dependent on the level of morality. Instead, in contrast to what would be predicted by SAT, adolescents who morally disapproved of assault and vandalism (high morality) were more strongly affected by the perceived severity of sanctions, rather than individuals with low morality. However, the inadequate measure of morality may have potentially affected the validity of the results. Pauwels et al. (2011) used different measures of morality and deterrence for each specific types of crime (burglary, vandalism and assault) and argued that the use of fewer indicators per crime may have had an effect on their results. In addition, Gallupe and Baron (2014) identified no interaction effect between morality and deterrence among youth on the street with regards to drug use. Morality was found to only affect the use of hard drugs rather than soft drugs and the conditioning effects outlined by SAT (the effect of self-control or deterrence, depending on the level of morality) did not have a significant association with drug use.

Some studies among the adult population also did not find full support for the conditional relevance of deterrence. A study of adults from east Germany found that deterrence prevents theft among individuals with low morality, but when the attractiveness of an opportunity (determined by suitable target and the risk of being discovered) was controlled for, the principle of conditional relevance of deterrence only held in high-cost situations (Eifier, 2015). Piquero et al. (2016) tested the conditional relevance of deterrence on a sample that was drawn from incarcerated offenders in the USA. Which showed that while deterrence and morality were independently associated with a lower likelihood of drunk driving, while deterrence was related to drunk driving likelihood only among those persons with high moral beliefs. However, the failure to find the proposed interaction between

morality and deterrence in his study might be related to methodological reasons, as the sample drew only on incarcerated offenders.

Although the studies that assessed the conditional relevance of both external control (deterrence) and internal control (self-control) produced mixed results, there is stronger support for the principle of conditional relevance of self-control, compared to the conditional relevance of deterrence. It is difficult to draw a conclusive inference from this review as the mixed results for the Conditional Relevance of Control might be due to differences in study environment, problematic methods of measurement for the key elements of SAT (in particular, morality), and the application of different statistical methods. More importantly, most of the studies relied on samples drawn from Western countries. This underscores the need for further testing of the principle in different cultural contexts and the incorporation of both internal and external controls within a single sample.

3.7 The Perception-Choice Process

According to SAT, criminal acts are the outcome of a perception-choice process in response to motivations (temptations or provocations) guided by a person's crime propensity (which depends primarily on his or her morality and also the ability to exercise self-control) and the criminogenic features of the setting in which the person takes part (its moral rules and their enforcement). So, people are expected to respond differently to provocations depending on their morality and ability to exercise self-control and the deterrent qualities of the setting in which they take part (Harr and Wikström,2010:309). Thus, SAT proposes that individuals with higher morality have less likelihood of perceiving crime as an action alternative. Among those who perceive crime as action alternatives, individuals with lower morality are more likely to choose a criminal act. The criminogeneity of a given setting depends on the level of provocation and monitoring. Perception and choice of crime as action alternatives are expected to increase with the level of provocation and decrease with the level of monitoring. Thus, a scenario with low monitoring and high provocation can be considered as the setting with the highest criminogeneity.

Although the perception-choice process is one of the central propositions of SAT, only seven studies have examined the process. These studies are presented in Table 3.3. Five studies found full-support for SAT. The exceptions were Willet (2012) and Miley (2017).

Willits (2012) demonstrated partial support for SAT in that there was evidence for the interaction effect between propensity and criminogenic exposure. Criminogenic exposure had a greater effect in the prediction of violent behaviour than crime propensity. However, Willet (2012) used morality as a proxy to measure crime propensity. The only study that found no support for the perception-choice process (Miley, 2017) was based on real crimes. Miley (2017) found that crime propensity did not attain statistical significance, while criminogenic exposure was a significant predictor of intimate partner violence. The fact that there is a difference in findings between real-world practice and vignette-type studies could be important and suggests the need for more research that measures criminal actions, not simply intentions. However, it is worthy of note that Miley's (2017) study used a very limited indicator of criminogenic exposure - past experience with intimate partner violence - as a proxy to measure temptations / provocations. Therefore, it could be seen as not surprising that this study did not show support for the Perception-Choice Process, as it is based on an entirely different assumption to those tested by other researchers. Miley's (2017) study was also not designed to test SAT theory and therefore it might suffer from measurement error.

Table 3.3 Overview of Studies Testing the Perception-Choice Process

Year	Author	Crime	Propensity			Criminogeneity of Setting	Support for SAT
			Morality		Self-control		
			Moral Value	Moral Emotion			
2012	Wikström	Violent Intention	√	√	√	Provocation and monitoring (vignette)	Yes
2010	Haar and Wikström	Violent intention	√	√	√	Provocation and monitoring (vignette)	Yes
2012	Willets	Violent intention	√		√	Provocation and monitoring (vignette)	Partly
2016	Wepsäläinen	Intention offending	√		√	Provocation and monitoring (vignette)	Yes
2016	Van Damme and Pauwels	Violent Intention	√	√	√	Provocation and monitoring (vignette	Yes
2017	Miley	Intimate partner violence	√		√	past experience with intimate	No
2018	Pauwels	violent intention	√	√	√	Provocation and monitoring (vignette)	Yes

3.8 The Predictive Power of the Interaction Effect in Previous Tests of SAT Theory

The variance explained is generally low in most of the studies, irrespective of the proposition being tested, with some studies explaining less than 10% of the observed variance in offending. For instance, the interaction effect between crime propensity and criminogenic exposure for predicting crime represented the following proportions of explained variance: Wikström and Svensson (2008) : 16%; Wikström (2009) : 28%; Svensson and Pauwels (2010) : 48%-53%; Wikström et al. (2010), for the Space Time Budget - :13%, and for self-reported crime -: 22%; Noppe (2016) : 31%; Hirtenlehner and Treiber (2017) : 24%; and Uddin (2017), within the Swedish sample - 27%, and within the immigrants' sample - 43%. The proportion of variance explained by the interaction effects between crime morality and control variables; self-control and deterrence were as follows: Wikström and Svensson (2010): 33%; Svensson et al (2015): 33% in Belgium, 44% in Sweden and 24% in the Netherlands; Hirtenlehner and Kunz (2016): 10%; Eifier (2016): 18%; Craig (2017): 10%; Pauwels and Svensson (2017) : 11.5%; Kroneberg and Schulz (2018) : 16%; Serrano-Maillo (2018) : 28%; and Hirtenlehner and Meško (2018) : 29%. This suggests that the propositions proposed by SAT are not sufficient alone to explain why people engage in crime. On the other hand, the variance may also be affected by the analytical strategy adopted in the studies. It is thus important to standardise the methodology for assessing the interactions in SAT.

3.9 Conclusion

This chapter has reviewed the evidence from the literature on the three main propositions of SAT, using a scoping review approach. In total, 42 studies were reviewed, each of which measured at least one of the propositions. There is general support for the proposition of SAT that crime is a product of crime propensity and criminogenic exposure. Twelve studies fully supported the proposition while the other five studies provided some evidence in partial support of the proposition. A mixed result was found for the conditional relevance of controls. There is more evidence in the literature in support of the conditional relevance of internal control (self-control), especially in the school setting, compared to the conditional

relevance of deterrence. The Perception-Choice process is the least studied of all the key propositions of SAT. The available literature suggests there is overwhelming support for the Perception-Choice Process, as five out of seven studies which are based on SAT fully supported the proposition. Nonetheless, the one study that measured action, rather than intent, did not provide full support for SAT.

In most of the reviewed studies, surveys were based on Wikström's survey design for the Peterborough Adolescents and Young Adults Development Study (PADS+), while some researchers used different designs for survey instruments and questionnaires. Furthermore, most of the studies used the same sample groups, or the same data in different studies, in order to examine the key propositions of SAT. This might limit the generalizability of the findings. Also, many of the researchers had different views on the definitions of each component of the SAT model from those proposed by Wikström (in particular, morality and criminogenic exposure).

Considering all the evidence reviewed, it is clear that most of the studies that applied the test of SAT were performed in Western countries that share relatively similar cultural contexts (Europe and USA). The exception is a study conducted in Bangladesh by Brauer and Tittle (2017), which tested SAT theory in an Islamic context, but not in a society based on Sharia law. It is therefore obvious that the important limitations that apply to all the tests of SAT are that they were performed in a very narrow cultural context, so generalisations about study findings may not be transferrable or applicable to other populations.

Overall, this scoping review of literature has demonstrated the extent of the support for the key SAT propositions in the literature and underscored the need for further studies. Therefore, the current study aims to test SAT theory in a new cultural context, so as to explore whether SAT theory can be applicable and valid in a different setting, such as Middle Eastern culture, and to Saudi Arabia, where the law is explicitly based on the Islamic religion. Testing in a different context will contribute to the development of SAT and highlight the extent of its generalizability. The current study uses Wikström et al.'s (2012) study (*Breaking rules: The social and situational dynamics of young people's urban crime*) as a 'benchmark' for its method, because this publication is the most complete recent test of SAT.

The next chapter aims to provide contextual information by presenting an overview of Saudi Arabia as well as the criminal justice system in Saudi Arabia, with a particular focus on the

youth justice system, followed by a review of previous studies of youth delinquency in the country.

CHAPTER 4 : CONTEXT OF THE STUDY

THE CRIMINAL JUSTICE SYSTEM AND YOUTH CRIME IN SAUDI ARABIA

4.1 Introduction

Youth crime, across different jurisdictions, tends to be primarily comprised of minor crime (Junger-Tas, 2011, p.73). Juvenile delinquency is a social issue that each country around the world tries to contend with in various ways, and with multiple degrees of success. The situation is not different in the Kingdom of Saudi Arabia (KSA) and other Arabic nations, where – although the nature and frequency of youth crime may differ from other countries, specifically from Western industrialized nations – the issue of juvenile justice policy is high on the political agenda. Data from the KSA shows that the numbers of juvenile delinquents detained by the authorities in the Kingdom is low, both compared to other Arabic countries and to Europe and the USA (Al-Aksah, 2005, p.78). Al-Suraihi (2015) reported that juvenile delinquency arrests in KSA comprising young people aged between 12 and 18 who committed major crimes punishable by law, reached 22,810 (of which 1,951 were aged 12-15 years) in 2015. In the UK, young people sentenced or cautioned for indictable offences in 2015 to 2016 was 25,871 (UK Ministry of Justice, 2017). The USA Office of Juvenile Justice and Delinquency Prevention suggests that the USA has the world's highest juvenile arrests and incarceration records. In 2017, the USA saw 809,700 juvenile arrests, but the figure represented a 25% decrease in juvenile detention between 2013 and 2017. However, the comparison must be made with caution because arrested population is relative to country population making it difficult to accurately compare between the KSA with about 30 million people and the US with 230 million population. Globally, UN data sampled from 40 countries indicates a global trend of decreasing juvenile cases. The sampled data shows that the arrest of juvenile suspects rates of crime dropped from 10.9% to 9.2% and convicted rates fell from 7.5% to 6% between 2004 and 2012 (Young et al., 2017).

SAT defines crime as actions that violate the moral code of conduct as stated by law. The content of the law itself (and therefore the question of what *is* crime) may vary widely, but at

all times, and in all places, 'crime' is defined as that which breaks the law (Wikström et al., 2012). If SAT is a general theory of crime, then its framework should apply to a multitude of contexts. That is not to say, however, that the setting is therefore not relevant. Cultural backgrounds have been documented to have a significant impact on the prevalence of delinquency: in one cross-cultural survey, there were significant discrepancies between Anglo-Saxon, Western European and North European clusters and sample groups (Junger-Tas, 2011, p. 69).

Therefore, this chapter will explore the issue of youth crime and delinquency in the Islamic context, looking specifically at the setting of Saudi Arabia. The chapter will set out an overview of Saudi Arabian culture and will examine the criminal justice system and its Islamic origins. It will then review previous studies and analyses of juvenile crime and delinquency in the Kingdom. The basic argument is that the social context provides moral rules and deterrent features that people are confronted with in their daily life; they guide human development and action. The moral rules in a context include all formal and informal norms and conventions. According to SAT theory, the social context plays different roles in explanation of crime causation. Firstly, it is responsible for the development of crime propensity - (micro level of setting) via agent of socialization and nurturing. In other words, how people acquire different levels of crime propensity. Secondly it focuses on what makes one behaviour setting - context of action - more criminogenic than another base on the lack of formal or informal control and motivation for committing crime- (macro - micro level of setting). Accordingly, the extent to which a particular setting produces provocation, temptation, and weak deterrence possibly relates to the features of the overall context of the society in which it is situated. The implication is that structural and cultural contexts may differ between countries and even in the same country over time. However, the examination of multiple contexts is beyond the scope of the current study.

It is thus important to consider the role of social context and how a particular setting creates varying moral rules and different levels of deterrence, when testing the SAT propositions (Wikström, 2006). Moral rules and deterrence are important features of the environment which promote or reduce delinquency (Wikström, 2006). Settings can vary significantly regarding the type of moral rules that apply, the level of enforcement of these rules, and the severity of the sanctions imposed for breaching of the rules. It is, therefore, crucial to

examine the Saudi Arabian context to assess these factors and how they influence criminogenic outcomes.

4.2 Overview of Saudi Arabian Context

The Kingdom of Saudi Arabia was formed by King Abdul-Aziz Al-Saud (then the leader of Saudi royal family), in 1932, after wars of conquest between 1902 and 1927 and unification of the dual kingdoms namely Hejaz and Najd (McColl, 2014). The Kingdom was established as (and still is) an Islamic country and an absolute monarchy. The Saudi King combines executive, judicial, and legislative functions (Campbell and Campbell, 2009). The King's legislative role involves issuing royal decrees as the basis of the country's laws while his executive role places him as the head of government and state, presiding over Saudi Arabia's Council of Ministers and Consultative Assembly. The royal family dominate the Kingdom's political system and control most of Saudi Arabia's essential government positions such as governors, commander of the National Guard, Minister of Defence, Interior, Aviation, Foreign Affairs and more. The Kingdom's system of law and governance is based on Sharia law (Cavendish, 2007).

Campbell and Campbell (2009) observed that, since the establishment of Kingdom of Saudi Arabia, significant social and economic development has taken place, with the KSA going from being a small country with little wealth to a significant player in the international arena. Political reforms have also been underway in the country. For example, in 2016, the Saudi Arabian government published the Vision 2030 Strategy. Vision 2030 sets out three pillars upon which, it is envisaged, development in the Kingdom will be built. These pillars are first, and foremost, the religion of Islam. As detailed below, religion is the most substantial foundation of Saudi Arabian society and culture. In this sense, the 'setting' for this study, is dramatically different to the settings in which the SAT has previously been tested. The second and third pillars of the Vision 2030 Strategy are global investment and the strategic harnessing of Saudi Arabia's geographical location. The Strategy sets out the steps that the Saudi government intends to take to diversify its economy, including increasing the level of non-oil revenues, reducing unemployment, developing the entertainment and tourism economies and increasing the funding available to small and medium-sized enterprises.

4.2.1 Geo-Political Context

The Kingdom of Saudi Arabia is the largest country in the Middle East and North Africa (MENA) region covering around 1.96 million square kilometers (756,981 square miles) (McColl, 2014). The kingdom is located in the heart of the Middle East between the Arabic Gulf and the Red Sea. It borders Iraq, Jordan, and Kuwait in the north, Yemen and Oman in the south, and the United Arab Emirates (UAE) and Qatar in the east (see Figure 4.1). The Kingdom's geography is predominantly arid. The country is divided into 13 provinces, and the capital, Riyadh, is situated in the central eastern part of the Kingdom (Pompea, 2008).

FIGURE 4.1 1The Kingdom of Saudi Arabia (HTTPS://WWW.INFOPLEASE.COM/ATLAS/SAUDI-ARABIA).

The population of Saudi Arabia is 32,612,641, of which young people aged between 10-24 years old accounted for 22% of the population (Demographic Survey, 2016). The youth population is a significant demographic group particularly for future labour economics and social development. The Kingdom is undergoing an economic, social, and cultural transition that started over the past few decades (McColl, 2014). It is also a major destination for migrants fleeing from the political conflicts in neighbouring Asian and Arab countries. According to the Demographic survey (2016), immigrants constitute 37% of the total population of Saudi Arabia.

Saudi Arabia was one of the poorest countries in the world before the mid-1930s when massive oil reserves were discovered in the state (Al-Zahrani, 2011). Since then, the Kingdom has undergone economic and social changes, including a dramatic increase in living standards that has provided many citizens with substantial material wealth, access to world-class healthcare, and developed infrastructure (Al-Rasheed, 2010). Saudi Arabia now enjoys a strong and growing economy. The primary income in Saudi Arabia comes from oil revenue (Albaaz, 2005). According to the World Bank (2018), in 2015, 2016, and 2017, Saudi Arabia had a GDP of USD 654, 645, and 684 billion respectively. Overall, the Kingdom's economy has experienced dramatic growth from just USD 184 billion in 2001 to USD 684 billion in 2017 compared with UAE at USD 103 in 2001 to USD 383 in 2017 or Iran with 127 billion in 2001 to USD 450 billion in 2017 (The World Bank, 2018).

4.2.2 Religion and Culture of Saudi Arabia

In the Kingdom of Saudi Arabia, Islam is the state religion and therefore Islamic values significantly dominate everyday life in the Kingdom. Islam is at the core of the KSA because the nation is Islam's birthplace, and hosts the two holy mosques which are the focus of Islamic prayer and devotion (Al-Rasheed, 2010). According to Alsaif (2013), before the formation of the KSA, Islam already was the main religion in Najd and the rest of Arabia. Moreover, the 18th-century pact between Islamic scholar and preacher Muhammad ibn Abd Al-Wahhab and Muhammad bin Saud brought an original and undefiled form (puritanical) of Islam to the Arabian Peninsula and the Najd region (Alsaif, 2013). Consequently, Muhammad ibn Abd Al-Wahhab's interpretation of Islam (Wahhabism) became the state religion because Muhammad bin Saud and his successors (who formed and ruled the KSA)

espoused it (Burton, 2010). Alsaif (2013) reported that during the founding of the Kingdom in 1932, Islamic law (Sharia) was confirmed to be the law of the state. The KSA constitution has been set out by the Holy Qur'an and Sunnah (the actions and sayings of Prophet Muhammed). Indeed, the KSA continues spending its resources throughout Islamic nations or other places to promote its form of Islam by building mosques, offering Islamic fellowships, scholarships, and books. The Kingdom is the custodian of the two Holy Mosques and the pilgrimage destination for Muslims from all over the world (Al-Rasheed, 2010).

As a traditional Arab country with a culture based on Islam, the KSA is considered to be conservative and family-oriented. Starting with religion, the KSA anchors its beliefs, values, and practices in Islamic religion based on monotheistic teachings in the Qur'an as revealed by God through the Prophet Muhammad (McColl, 2014; Alsaif, 2013). These Islamic values and beliefs have a strong influence on the KSA laws, morals, and practices in a manner that differs from western countries. Burton (2010) noted that the KSA authorities are conservative and therefore moderate communication relating to issues of justice, politics, or the economy. Arab culture prefers collectivism to individualism. However, as the KSA has undergone economic development, its culture has been transformed over the past few years, as the country has changed from a poor nomadic society into a rich, sophisticated and productive urbanised society (McColl, 2014; Al-Rasheed, 2010; Al Askah, 2005).

The Kingdom's reforms include decriminalisation of many traditional and cultural rules such as gender segregation (except schools and universities) and the prohibition against females driving cars. The reforms are part of the Kingdom's liberalisation and protection of civil rights efforts. Additionally, the KSA is still engaging in social and economic changes through its Vision 2030 Strategy. Nevertheless, KSA's policies generally remain linked to Islam, which has a conservative nature (Al-Rasheed, 2010). Aljibrin's (1994) highlighted that although KSA society has developed or witnessed rapid changes in the economy and increasing oil revenues, Saudi has done so traditionally and within the cultural parameters set by Islam. Indeed, the interaction between culture, tradition, and religion make up the fabric of Saudi Arabian society and influences all aspects of life in the Kingdom (Cassell and Blake,

2012). However, there is no clear consensus regarding the extent to which both social and economic reforms have successfully transformed the KSA. In fact, some commentators maintain that very little has changed. Indeed, apart from modernisation aspects experienced in the KSA, the majority of Islamic (conservative) practices, such as the extended family structures, continue to influence daily life in Saudi society (Alsaif, 2013; Long, 2000, cited in Al-Askah, 2005: 58).

Since SAT defines crime as breaking the rules that are stated in the law, it is necessary to understand the Saudi Arabian legal system and to examine the concepts of crime and punishment. This approach will facilitate an understanding of the relevant rules (and rule-breaking) that will form the focus of this research. It is also essential to understand the nature of sanctions and law enforcement due to the role that this can play in shaping self-control and in dictating the opportunities and temptations towards delinquency that the KSA setting might offer. Therefore, the next section of this thesis will provide a description of the criminal justice system in the Kingdom of Saudi Arabia, with specific attention to the juvenile justice system.

4.3 The Criminal Justice System in Saudi Arabia

The KSA criminal justice system strongly centres on the relationship of the state to the concept of justice in Islam. Sharia is both the law and code of behaviour and ethics, a source of law and morality, one and inseparable in the Kingdom (Moore, 2011). The justice system comprises Saudi Arabia's necessary Sharia courts, its judges and lawyers that are part of the Ulema (interpreters, guardians, and transmitters of Islam religious beliefs), and the country's Islamic leadership. There is an additional government tribunal that handles disputes associated with royal decrees or special courts (such as the Board of Grievances). Sharia courts (the largest) hear most criminal and civil cases and are organised into Courts of cassation, Courts of the First Instance (Summary and General Courts), and the Supreme Judicial Council. The KSA courts are not independent but exist in a political realm headed by the Minister of Justice (a member of Ulama) (Ansary, 2008). The head of the legal system is the King, who is the final court of appeal and source of pardon. The KSA police are responsible for the judicial function of reporting and investigation along with social functions such as the prevention of

crime and maintentance of order. The police enforce the law by investigating, reporting or prosecuting, arresting, and detaining in accordance to the KSA law (Sharia Law).

4.3.1 Sharia Law

In Sharia law, the Qur'an addresses most human issues such as marriage, divorce, treatment of parents, children's rights, and the roles and obligations of people towards each other. It warns against disobeying what Allah (God) has commanded and committing actions that are forbidden such as adultery, fornication, murder, stealing, and drinking alcohol. In recognising Sharia as the basis for the legal system of the Kingdom of Saudi Arabia, an important step was taken towards formally consolidating traditional customs and values into the fabric of society. Notably, the Kingdom's Article 1 of the Basic Law (1992) declared that the entire constitution of KSA can be found in the Qur'an and the Sunnah. Thus, both Qur'an and the Sunnah are primary sources of laws in the KSA.

A common misconception about Sharia is that it refers to 'Islamic law', but Sharia concerns much wider issues than laws and law enforcement. Sharia deals with almost every aspect of human behaviour, for example, dietary rules, the rituals of worship, and commercial activities and contracts. All of these areas and more are addressed by scholars or religious jurists, and all Muslims are required to adhere to the rulings of Sharia as much as they possibly can, both in private and in public (Serajzadeh, 2001). Thus, 'Islamic law' is a complete system of morality based entirely on Islam, which includes daily practices, beliefs, and philosophy, with rules that regulate all aspects of people's lives (Johnson and Vriens, 2014). An essential aspect of Sharia and one that is particularly important in the context of SAT is that crimes are not committed against an individual, or a community, or even the state – they are considered to be committed against God (Janin and Kahlmeyer, 2015; Mansfield, 1981). Under SAT, this could potentially have a significant impact on self-control and personal propensity, as the way in which issues around crime and justice are internalized and perceived takes place in a very distinct context that might affect how opportunities and temptations are regarded. Despite the developments that have taken place in Saudi Arabia across all areas of society noted above, the country has maintained the system of Islamic law, under the guidance of Islamic scholars and jurists (Janin and Kahlmeyer, 2015; Johnson and Vriens, 2014; Kechichian, 1986).

Islamic law has three general categories: (1) worship (*Ibadat*) that comprises rules applied to religious rituals such as prayer, pilgrimage, and fasting; (2) transactional dealings (*Mua'malat*) that involve rules applied in commercial or related engagements such as constitutional, administrative, labour, employment, family, partnerships, and civil laws; and (3) punishments (*Uqubit*) (Ansary, 2008). *Ibadat* rules are mandatory, but the implementation is left to the believer's individual decision. Conversely, *Mua'malat* rules comprise a comprehensive legal system with established legal standards that are sourced from writings of jurists of the relevant school of Islamic legal thought.

However, regarding Islamic criminal jurisprudence, Janin and Kahlmeyer (2015) argued that Islamic law lacks a distinct corpus of criminal law. Nevertheless, Ansary (2008) asserted that Sharia Law divides offences into two categories. The first category deals with transgressions that are considered to be against oneself and are exclusively punished by God. Examples include unlawful sexual intercourse, consuming intoxicants, unfounded accusations, robbery or theft. Such acts are deemed so grave that it is considered that God would not bestow the right to serve justice to any person. The second category concerns those transgressions against others for which God has prescribed human punishments in proportion to the severity of the crime. About this latter category, there are rules set out that specify matters such as transactions, contracts, behaviour, and misconduct.

Accordingly, Islamic criminal law further offers a framework that divides crimes into three categories based on the offense. Otto (2010:166) suggested that the first group comprises crimes against God (*Hudud*), for which their punishment is fixed in the Qur'an and Sunnah. The second category is crimes against an individual or family (*Qisas*), which have retaliatory penalties in the Qur'an and Hadiths (Otto, 2010). The third category is crimes that have an unspecified punishment (*Ta'zir*) in the Qur'an and Hadiths, and the punishment is left to the discretion of the judge (Otto, 2010). That makes the Islamic-based courts such as those found in the KSA different from Western courts. Okon (2014) noted that in conservative Islamic regions such as Arabian Peninsula, the punishment of *Hudud* has symbolic significance as it originates from the Qur'an. It is crucial to note that *Qisas* punishments are not framed as a conflict between society and the individual (lawbreaker), but as a conflict between the victim and the individual and their families (lawbreakers) (Otto, 2010). Therefore, under *Qisas*, the

victim can pardon the perpetrator or withhold punishment. It is important now to turn the sources of the Islamic legal system applied in the KSA.

4.3.2 Sources of Sharia Law in the Saudi Legal System

Sharia Laws that govern the conduct of individuals and which criminalise certain aspects of behaviors, originate from either primary or secondary sources.

4.3.2.1 Primary Sources

The main sources of Islamic criminal law are Qur'an and the Sunnah. The Qur'an is Muslims' holy book of scripture or God's word as it was revealed directly to His messenger, Muhammad (peace be upon him). The Qur'an is the primary source of Islamic regulations including specific definitions of some crimes and their corresponding punishment (Aljibrin, 1995). The Qur'an offers a moral framework by outlining some violations and punishments, including the use of parables and examples particularly on relationships between the individual and God (Al-Subaie, 2013).

The Sunnah (Arabic for 'way') is the practice of the Prophet Muhammad (peace be upon him) and his sayings. This means "Prophet Muhammad's (peace be upon him) statements and behaviour (doings and sayings) and his approval or disapproval of the statements and behaviour of others that he observed during his lifetime" (Freamon, 1998, p.19). His practices and sayings were compiled as Sunnah (sayings of the Prophet) books about 200 years after his death (Al-Subaie, 2013). The Sunnah is critical in Islamic law because it acts as a tool through which to interpret the Qur'an. Indeed, just as unwritten customary laws and conventions are seen across a range of legal systems and traditions, so is the Sunnah in Islamic nations such as the KSA. Qur'an and the Sunnah are the sources to the types of crimes *Hudud* crimes and *Qisas* crimes (will be discussed in section 4.3.3).

In some countries, customary laws exist alongside formal laws and many of the fundamental principles of international law have developed over time from customs and practices (for example the crimes of genocide and torture) (Badar, 2011). The Sunnah also contains some laws that are mentioned very briefly in the Qur'an. It is also important to note that Islamic jurists interpret both Qur'an and Sunnah within the Saudi legal system, which contrasts with

the UK common-law system where Parliament (the legislature) is responsible for making the laws, but the judges interpret and apply those laws.

4.3.2.2 Secondary sources

The secondary sources of Sharia, which include *Ijma* (consensus) and *Qiyas* (analogy), are crucial in the KSA judicial system. *Ijma* refers to the consensus or agreement of a majority Muslim scholars on a particular issue when clear solutions cannot be found in the Quran or Sunnah (Al-Subaie, 2013). It is considered a flexible tool that can solve social problems and crimes that emerge from the developments and changes in society (Alluhaibi, 2014). *Qiyas* involves reasoning and comparing a new problem with similar past cases and sources (Aljibrin, 1995). *Qiyas* works are based on standard features shared between past and present cases and compare them to reach a solution. For example, a cybercrime that involves theft will be compared to a conventional theft when prescribing a punishment (Al-Subaie, 2013). *Qiyas* compares with case laws in other Judicial systems such as the UK. Therefore, in the KSA Judges in courts consult *Ijma* and *Qiyas*, with particular reference to primary sources to deliver their rulings. (Ansary, 2008).

4.3.3 Crimes and Punishments under Sharia Law

Islamic literature posits three categories of a crime described under 4.3.1 above, i.e., *Hudud* crimes, *Al Qisas* crimes, and *Ta'zir* crimes. This sub-section further expands on their corresponding punishments under Sharia Law. In Saudi Arabia, punishments for these crimes are incorporated into the Saudi law and apply to all citizens.

For ***Hudud* crimes (**means God's limits**),** the punishments reflect their severity. *Hudud* crimes have fixed, mandatory and severe penalties, including corporal punishment, such as amputation and public lashing, although the punishment varies slightly according to the primary school of thought applied. These severe punishments have been set out by God to warn against the offences being committed (and therefore deter crimes), such as drinking alcohol, fornication, adultery, false accusations of adultery, theft, highway robbery (*Hirabah*) and apostasy (leaving Islam). For *Hudud* crimes a higher level of proof is required,

therefore, punishments require robust evidence, such as multiple witnesses' testimony or admissions. For instance, to convict and punish for cases of adultery, proof is needed from four eyewitnesses, and if just one of the witnesses has doubts concerning what they have seen, the punishment is not actionable, and the word of the rest of the witnesses is not accepted (Al-Subaie, 2013). The crime of homicide requires evidence from two eyewitnesses. Thus, the evidence presented at the tribunal must be credible and unequivocal. However, the KSA applies *Hudud* punishments sparingly following the codifying of Sharia and influence from the international communities mainly regarding violation of human rights (Ellis, 2018).

***Qisas* crimes** include murder, causing bodily injuries, or property damage, which Islamic jurisprudence punishes through retributive justice or retaliation. *Qisas* gives people the right to decide to prosecute and punish the offender or not, and the punishment to some extent depends on the wishes of the victim or aggrieved party, or his or her family (Kechichian, 1986). The judge is required to inform the victim's family of their right to choose whether to punish the offender and, if so, to choose between the available punishments. The judge has to honour their request. The victim or their family is given this right as they are the ones most affected (Bouhdiba and Dawālībī, 1998). For example, in the case of premeditated murder, the victim's family can request either the death penalty or for the defendant to pay them *Diya* (monetary damages). The possible punishments for *Qisas* crimes are commensurate with the specific offence. While *Qisas* punishments are based on retribution and monetary damages, in some cases pardoning is the preferred option, according to the Islamic teaching of forgiveness.

***Ta'zir* crimes** are not set out in the Qur'an or the Sunnah, but they are crimes with discretionary punishments as described by the Muslim ruler to address the needs of the people (Ebbe, 2013). Muslim judges have the authority to define *Ta'zir* crimes by using *ijtihad* (logical and independent reasoning) (Shahidullah, 2012). The ruler or judges determine the crimes and punishments to protect 'the five essential guarantees of Islam': religion, life, intellect, procreation and property (Lippman et al. 1988:44). *Ta'zir* are crimes are considered as either sinful in Islam, threatening public order during Islamic rule, and undermining the Muslim community, but they are not punished as *Hudud* or *Qisas* (Al-Subaie, 2013). *Ta'zir* includes crimes such as forging currency and drug smuggling , racketeering and bribery.

In the context of Saudi Arabian administration of justice and law enforcement, Islam plays a central role in protecting the morality of society. Islam is evident in practices such as the implementation of gender segregation between males and females in schools, universities, banks, and public offices, and in leisure spaces and work areas (with exceptions made for those who work in hospitals). Teachings of Islam are evident across all aspects of life in Saudi Arabia such that some common behaviours in the West such as meeting, dating or even chatting via phone or social media networks between males and females would be considered delinquent acts in the KSA. Crime sometimes overlaps between *Hudud*, *Qisas*, and *Ta'zir*. Badar (2011) explained that the overlap occurs when there is no clear text or codified law, and *ijtihad* (logical and independent reasoning) has to be used instead. Accordingly, police in the KSA might arrest offenders for acts that do not distinctively fall under one of the three categories, such as disobedience to parents.

Generally, people in Saudi Arabia are strongly encouraged to follow Islamic religious regulations. The nature of such a society is that it places a high priority on religion and morality, and the whole of society contributes and participates in making moral judgments of people's morality. These collective judgments can extend to how far they follow Islamic dress codes, as stated by Muslim scholars, which is a much-debated topic. Additionally, it has commonly been assumed that criminal or deviant behaviours by one person are considered to bring a form of shame on the entire family, particularly in respect of women's abnormal behaviours. As well as the potential impact on self-control, morality, and propensity that this context might have, it may also mean that people are less likely to self-report delinquent behaviours as their perception of the way in which they might be judged by society could have an inhibitive effect.

Regarding the applicability of SAT to the Saudi context, SAT defines crimes as the violation of moral rules enshrined in law. In Saudi Arabia, in general the moral rules and the law are clear to the individuals because, the moral rules of the law considered as way of life and they learn in the childhood what is a crime (at least for the categories of behaviour they are likely to engage in).

4.3.4 Ministry of Justice in Saudi Arabia

The Ministry of Justice of the KSA was founded in 1960, during the rule of King Faisal. In 2007, King Abdullah introduced significant judicial improvements by replacing the 1975 Judiciary Law. His reforms, mainly as provided by Article 9 of the Saudi Law of the Judiciary, changed the structure of the courts, so that the Kingdom's courts consist of three levels that function under the overall supervision of the Saudi Supreme Judicial Council (Al-Subaie, 2013). The three levels are the Supreme Court, the Courts of Appeals, and first instance courts (such as general courts, criminal courts, family courts, commercial courts, and labour courts). General courts deal with claims and final evidence that are outside of the jurisdiction of other courts, including public and or grievance tribunals, whereas criminal courts handle criminal cases. Additionally, Article 20 of the Saudi Law of the Judiciary claims that a criminal court must comprise the following specialised panels: Panels for *Qisas* and *Hudud* cases, Panels for *Ta'zir* cases, and Panels for juvenile cases (youths committing any of these three types of crime). Each group is made up of three judges, with the exception of the cases that are decided by the Supreme Judicial Council, which are reviewed by a single judge. It is worth mention that, the law in KSA defines crimes that apply to all ages, but crimes committed by youths are dealt with in a separate panel (juvenile cases's Panels).

4.3.5 Youth's Criminal Responsibility in Saudi Law

The penalty for juvenile offences under Islamic Law has been established based on two principal elements, which are perception and discrimination (Aljibrin, 1995). Delinquency in the context of Saudi Arabia means committing an act which is prohibited by Islamic Law or which involves omitting, neglecting, or disregarding any act that is required or obligatory according to Islamic Law and is done so without having a legal and lawful Islamic reason (Al-Roushoud, 2002). For example, stealing, drinking alcohol, or starting a secret forbidden relationship would all be considered unlawful acts in the KSA. Saudi Arabia has set a specific age for having a national identity number, driving license and employment, which is eighteen years old (Al-Hamoud, 2014); however, in court the situation is different, and a young offender is considered to be a juvenile until they have reached the age of moral

discretion and judgment. According to Sharia law and the ethical rules, which are prescribed and enforced in Saudi Arabia, criminal responsibility and liability fall into three categories:

Firstly, a child, from birth to the age of seven years old, will not be charged when breaking the law, according to the ruling on criminal responsibility and children's maturity under Islamic Law. Sharia Law considers that any child below the age of seven years cannot be held accountable for their acts (Janin and Kahlmeyer, 2015). However, this does not necessarily excuse their parents or guardians from paying the costs in some circumstances such as a child damaging property. This notion of parental responsibility might be an essential factor in the development of self-control and propensity in the KSA. That is because parents have a significant role in teaching children morals (discipline) relative to rules of conduct in their surroundings. The discipline could render them less prone to considering breaking the law (self-control). Munir (2014) argued that under Islamic law, parents (fathers specifically) must educate their children moral and religious behaviours and discipline the children to protect them from moral and intellectual harm. Thus, parental responsibility might have a significant implication for self-control and propensity.

Secondly, from the age of prematurity (set at seven years of age) up until the age before puberty (based on a court judgment, but in some cases, it is age fourteen), the child may be treated, rehabilitated, and cured through social institutions (which will be discussed in section 4.3.6). The forms of discipline that may be administered by the Saudi authorities focus on the rehabilitation of children through specific programmes (Burton, 2010).

Thirdly, from age fifteen to eighteen (which included the age group surveyed in the current study), the young person is considered to be mature enough to be held responsible for his or her actions, and in some cases, individuals of this age may even be treated as adults (Janin and Kahlmeyer, 2015).

All cases of young offenders in this category (who are not tried as adults) are dealt with by a juvenile court. During the judicial process, the accused individuals are bailed and attend the court on the assigned date for trial, unless they have committed a serious crime, such as armed robbery, homicide, or kidnapping, in which case they will be remanded in custody at a welfare institution for juveniles known as a ‘Social Observation House’ (SOH) (Al-Hamoud, 2014; Al-Askah, 2005). If they are sentenced to imprisonment, they will be sent to the SOH and remain there until the age of 18 years. If their sentence exceeds that period, then they will

be transferred at this point to a designated youth wing at a general correctional facility. It is worth noting that, despite the complexity in the sources of criminal law and the definition of crimes, and the tensions discussed in the next paragraph, the KSA approach to attributing criminal responsibility in terms of age groups is very similar to that used in many other jusidictions, including Western countries. The similarity arises in the three-tier approach used; there are of course differences in the ages used to define each tier (Cipriani,2008).

Tensions have inevitably arisen between the Sharia system as practiced in Saudi Arabia and other, primarily Western, conceptions of crime and justice. Human Rights Watch (2009) has been a vocal critic of the fact that Saudi Arabia continues to use the death penalty including the execution of juveniles as young as 15 years old. Other tensions have risen from gender issues such as the role of women in Saudi society. Some Sharia practices are regarded as inconsistent with individual human rights (Bradley, 2015). The Saudi government entered a general reservation upon the country's ratification of the Convention on the Elimination of all Forms of Discrimination Against Women (CEDAW). The KSA, as with other international rights-based conventions, asserted that: 'In case of contradiction between any term of the Convention and the norms of Islamic law, the Kingdom is not under any obligation to implement such terms' (Abiad, 2008:70). Moreover, Saudi Arabia does not 'consider herself bound by paragraph 2 of Article 9 of the Convention' (Assembly, 1979:26) which grants women equal rights with men. These tensions demonstrate the massive influence of culture and religion in the Saudi Arabian context, and they serve as a reminder that, as with previous cross-cultural studies (see, for example, Junger-Tas, 2011), the issue of cultural context is likely to be pronounced in the current research.

4.3.6 The Youth Care System in Saudi Arabia

In Saudi Arabia, males aged up to eighteen years and females up to thirty years, receive various forms of official help and care from four types of social institutions. These institutions are Social Observation Homes, Social Guidance Homes, Girls' Welfare Institutions, and Social Guest Homes. Each of these institutions is explored in more detail below:

1- **Social Observation Homes**: These institutions are concerned with the realization of the foundations of care and religious guidance, as well as the proper health and educational care of juvenile delinquents who are detained while under investigation or trial or serving a sentence. Individuals who are sent to this type of home cannot be younger than twelve years old and cannot exceed the age of 18 years. In these institutions, professionals work to study the problems of the residents and try to find appropriate treatment and solutions for them.
2- **Social Guidance Homes**: These homes are concerned with achieving the foundations of education, evaluation, and the proper rehabilitation of those deemed to be beyond the control of parents or guardians. Residents at this type of home include who refuses their parents authority, those who are at risk of delinquency because of issues related to their parents, or they are homeless because of the situation of their families. Residents are between the ages of seven and 18 years.
3- **Girls' Welfare Institutions**: These institutions are similar to the Social Observation Homes described above, but they are concerned with female juveniles only, aiming to achieve the foundations of social care and a proper provision of healthcare and advice, education and training of girls who are delinquent, or who are detained and under investigation or trial. Residents of these homes over the age of 18 may remain at the institution until they reach the age of 30.
4- **Social Guest Homes**: The role of this institution is to host women and girls whose parents have refused to receive them after the end of their sentences in prison or girls' care institutions. This role is part of the wider rehabilitation and training programmes initiated by the other institutions (Ministry of Labour and Social Development, 2016).

It is apparent from the four institutions discussed above that offending or delinquent females face more challenges in level of support in different ways compared to males. For instance, the KSA has Social Guest Homes to keep girls or women rejected by their families following offending. That does not occur with male offenders implying that the KSA society might be reacting differently to female delinquency, placing different cultural and social expectations on women and girls. Consequently, that might translate into varying levels of self-control, morality, and propensity, when compared with men and boys. This issue can be explored further in the results and analysis sections of this study. Table 4.1 below illustrates the numbers of youth offenders in these social institutions during the years from 2014 to 2016, using data from the Saudi Arabian Ministry of Labour and Social Development (2016).

However, the numbers of delinquents in the KSA social institutions are comparatively low when compared to the numbers in England and Wales. The number of children and young people under England and Wales youth justice were more than 40,000 in 2014, about 38,000 in 2015, and about 35,000 in 2016 (Ministry of Justice, 2017).

Figure 4.2 Number of Convicted Youth in Saudi Arabia in Social Institutions, 2014-1016

Year	Institutions			
	Social Observation Homes	Girls' Welfare Institutions	Social guidance Homes	Social Guest Homes
2016	10,704	1,157	52	68
2015	10,547	1,640	89	103
2014	10,975	1,440	112	74

4.3.7 Summary: The Criminal Justice System in Saudi Arabia

As discussed above, Saudi Arabia strictly adheres to Islamic law concerning crimes and criminal procedures. Youth offenders are subject to these laws to determine their delinquency and subsequent punishment. The type of punishment set out for crimes is based on whether they are *Hudud*, *Al Qisas* or *Ta'zir* crimes (Kechichian, 1986). The corresponding penalties of the three categories of crimes are already described in subsection 4.3.3 above. Cases involving young offenders (aged seven years to 18 years) are dealt with juvenile courts in the KSA.

4.4 Juvenile Delinquency in Saudi Arabia

Young people make up almost a quarter of the population of Saudi Arabia (Al-Hamoud, 2014). Youth crime appears to be less of an issue in the Kingdom of Saudi Arabia when compared to Western industrialised countries. Despite youth crime rates being relatively low in the KSA, it is necessary to address youth delinquency mainly to achieve an inclusive and sustainable socio-economic development as set out in the Vision 2030 Strategy document. There is a limited academic inquiry into the subject of youth delinquency in the Kingdom.

The KSA officially recognized delinquency as a significant issue in 1954 when it established the first offender's school (Al Romiah, 1985: 2). Studies, such as Al-Hamoud (2014), Al-Askah (2005), Al-Sadhan (cited in Al-Askah, 2005) suggest the Kingdom is still facing the challenges of juvenile delinquency. Some scholars blame socio-economic changes following the discovery of oil in the kingdom (Al-Hamoud, 2014; Aljibrin 1995; Al Romaih, 1985; Al Amri, 1984). Al Amri (1984, p.55-56) argued that since the government allowed expats for new industrial jobs, the relative Saudi cultural reservation has diminished since young people in the Kingdom have increasingly more leisure time, where they are exposed to non-Islamic culture.

Nevertheless, some researchers believe that delinquency in the KSA is not as serious a problem as it is in other developing countries (Al-Sadhan, in Al-Askah, 2005, p.77). Despite the positive observation, researchers are concerned that KSA delinquency rates are rising, and delinquency rates among boys are rising at a higher rate than those of girls (Al-Hamoud, 2014; Al-Askah, 2005, p.80). Indeed, based on the annual statistics published by the Saudi Ministry of Labour and Social Development (2016), national efforts made towards dealing with youth delinquency have mainly been dedicated towards the establishment of youth welfare institutions, which dealt with a total of 10,704 cases in 2016 (see Table 4.1). The number of young people (both males and females) in these institutions has increased significantly, as has the number of correctional homes used to house delinquent youths across the country. Al Qahtani (2009) links the recent increase in the numbers of juvenile delinquents in the KSA to both economic and social changes experienced in the Kingdom during the post-oil discovery stint.
Additionally, the rapid advancement in technology and increasing wealth has disturbed the social status quo, and its impact has been felt in Saudi culture. Al-Askah (2005) suggested that the inherent tension between common Arab-Islamic cultural characteristics and alternative perspectives imported from different regions of the world is a familiar phenomenon and is causing inter-cultural strain in the KSA. Indeed, such inter-cultural tension is a typical issue for nations around the world to contend with (Al-Askah, 2005).

Economic, social, and technological factors are what Wikström et al. (2012) characterised as the causes of the causes, which span numerous social systemic factors, shaping individual life histories and impacting on the development of causes of crime and youth delinquency (how a

person acquires crime propensity and how environments become criminogenic). Al Qahtani (2009) postulated that, it appears that there have been changes in the causes of the causes from the lens of SAT of crime in different Middle Eastern countries. Indeed, some nations have encountered financial and social challenges such as Yemen, which might have influenced delinquents in neighbouring states such as Saudi Arabia. In developed countries, misconduct might be explained by the difficulties faced by people migrating in search of jobs and employment, or it may be connected to other factors, for example, increased urbanisation and sudden opulence (Ozen et al., 2005).

4.4.1 Previous Research on Juvenile Delinquency in Saudi Arabia

This section will discuss the limited existing literature in an attempt to highlight the main areas of study that have been examined in this field and to identify any critical trends. Table 4.2 presents a summary of these studies some of more recent. Given the rapid pace of development in the KSA as noted above, it is possible that this current study will reflect some changes apparent in contemporary Saudi society.

Most of the past studies (twelve out of 20) use samples drawn from institutions that deal with youth crime (namely, Al Amri, 1984; Al Romaih, 1985; Al-Shethry, 1993; Al Romaih, 1994; Aljibrin, 1995; Alreshoud ,1997; Al-Ghadyan, 2001; Al-Otayan, 2001; Al-Mutlag, 2003; Al-Askah, 2005). Of these, five also used samples to draw comparisons between delinquent (have a known record of crime, have been convicted, or are awaiting trial) and non-delinquent (have no known record of crime) youths (Al Romaih, 1985; Al Romaih,1994; Al-Otayan, 2001; Al-Askah, 2005; Al Qahtani, 2009). That comparative strategy is essential, as factors associated with delinquency cannot be adequately explored by focusing only on delinquents. A comparative sample of non-delinquents is also necessary.

Seven of the studies drew their samples from high schools in Saudi Arabia (Al-Garni, 2000; Al-Roushoud, 2003; Almutairi, 2004; Al-Anazi and Al-Shamli, 2011; Sacarellos et al., 2016; Connolly et al., 2016; Beaver et al., 2016). Most of these studies focused on male sample groups, except the studies of Al-Askah, (2005) and Alluhaibi (2014), which used a female-only sample. The studies of Sacarellos et al. (2016) and Beaver et al. (2016) included both males and females. The literature identified a number of prevalent youth crimes in Saudi Arabia including disobedience to parents, staying out late, burning rubber (drifting which is a

driving technique as the driver intentionally oversteers to keep the car in a state of oversteer while manoeuvring from turn to turn), theft, vandalism, assault, violence, shoplifting, secret relationships, homosexual relationships, use, and sale of drugs/alcohol, truancy, pregnancy out of wedlock and prostitution (Al Amri 1984; Al-Shethry 1993; Aljibrin 1995; Alreshoud 1997; Al-Ghadyan 2001; Al-Mutlag 2003; Alluhaibi, 2014). Since most of the studies were conducted among delinquent youths in correctional homes, it is likely that the prevalence of these crimes would be over-estimated.

4.4.2 Factors Associated with Youth Delinquency in Saudi Arabia

Previous studies investigating the problem of juvenile delinquency in the KSA have revealed that there are several risk factors associated with, or which could could predict, delinquency. These can be classified into four categories: family and neighborhood, peers, issues related to the school setting, and individual traits. From an SAT perspective, most of these factors will be considered to be the causes of the causes of crime. Personal traits include internal traits, such as 'self-control' would be regarded as factors influencing propensity within the framework of SAT. These four factors are, of course, not the only potential factors that may emerge from the current study. For example, in one of the previous Saudi-based studies faith in religion (a strong belief in Islamic practices and teachings) appeared as an important factor, with institutionalized delinquents exhibiting weaker religious bonds than other sample groups (Al Romiah, 1985, p.33). While this section of the thesis will focus on the four primary indicators that have been identified from the analysed studies, the current study will also seek to identify any additional signs when analysing the results.

4.4.2.1 Family and Neighbourhood Factors

Family structure has been found to be a significant indicator of juvenile delinquency in the KSA. That is demonstrated in the study of Al Amri (1984), which used a random sample of 40 delinquents from an 'Observation Home'. Observation Homes were the earliest rehabilitation institutions that housed youths who had typically been referred by their own families and subsequently assessed by a social worker before being admitted (Al Amri, 1984). Al Amri found that one of the main factors correlating with delinquency in Saudi Arabia is the 'broken family'. 'Broken homes' can be the result of a variety of circumstances, including divorce; Al Ramaih's (1985) study identified that a higher proportion juvenile

Table 4.1 Summary of Saudi Studies of Youth Crime

Study	City	Method	Crime	Main Findings
Al-Romaih (1985)	Riyadh	Institutionalised youths and youths in junior and high schools	Disobedience to parents, staying out late than parent allowed, burning rubber, theft, vandalism, assault, violence.	Institutionalized youths reported a higher frequency of crimes compared to children in school. families' lack of economic resources and poverty are related to delinquency.
AlAmri (1984)	Taif	A case study of 40 youths in an observation home	Absconding from home, theft, truancy, school dropout.	Broken family (through divorce or death), poor relationships with parents; peer group; lack of success in school and economic conditions are associated with delinquency.
Al-Shethry (1993)	Riyadh	A survey of 164 male delinquents in a social observation home	Immorality, murder, attacks and quarrels, escaping and absence, alcoholism and drugs, traffic offence.	Peer group influences juvenile delinquency
Al-Romaih (1994)	Riyadh	A survey of school students, 140 high school students, 205 youth in serious offences correction institutions, and 71 in institutions for status offences	Disobedience to parents, staying out late than parent allowed, burning rubber, theft, vandalism, assault, fight, use drugs, break into the building , and more.	Strong parental attachment and religious practices help to reduce delinquency.
Aljibrin (1995)	Riyadh	100 male delinquents in observation home and 100 non-delinquents from sports centre, youth clubs, and high school	Antisocial or illegal behaviour (such as intentional murder, suicide attempt, theft, falsification, violence) committed by youth under the age of 18 years.	Lower family income level is related to the increased crime rate among children.
Alreshoud (1997)	Riyadh	200 male delinquents in an observation home	Immorality, theft, car stealing, home robbery, fighting, drugs and alcohol, kidnapping, possession of pornography, arson, killing	Delinquency is related to child maltreatment and family size. There is a substantial impact from associating with delinquent peers.
Al-Garni (2000)	Mecca	A survey of 178 deviants and 168 non-deviant high school students	Deviant acts-that refers to the breaking of social norms and culture, school truancy	Large family size, low family income and low educational attainment of parents are related to increased frequency of criminal behaviours among youths.
`Al Bedaiwi (2000)	Riyadh	225 men –drug users and, non-drug users) 27 interviews with drug users	Drug abuse	Family attachment, free time, peers group and broken family.
Al-Ghadyan (2001)	Riyadh	20 delinquents from the social observation home	Staying out late, truancy, alcohol and drug use, physical fights	Multi-systemic therapy led to improvement in religious practice and self-esteem.

Study	City	Method	Crime	Main Findings
Al-Otayan (2001)	Riyadh	100 male delinquents from probation home and 100 non-delinquents from school	Use/sale of alcohol and drugs, theft, sodomy, adultery, murder, vandalism, absconding	Family size, low achievement in school, single parents, parental punishment, parental supervision, family income, polygamy, a history of family crime, father's education and father's occupation, negative peer group, low-level religious practices and media are all related to delinquent behaviour.
Al-Mutlag (2003)	Riyadh	103 delinquents from social observation homes across Saudi	Drug abuse	Leisure activities such as partying and peer group influence are related to involvement in drug abuse.
Al-Roushoud (2003)	Riyadh	1,883 male high school students	Delinquency	A strong relationship between the differential association and delinquent behaviour.
Almutairi (2004).	Riyadh	715 undergraduate male students	Smoking	Peers are the most potent predictor factor for smoking tobacco.
Al-Askah (2005)	Riyadh, AlHassa , Mecca	50 girls from 3 juvenile detention centres in Saudi Arabia, and 50 non-delinquent girls of similar ages attending social and cultural clubs	Drug-related offence, sexual relationship, pregnancy out of wedlock, absconding, prostitution, secret relationship	Family pathology: Girls from low educated families and crowded homes adopt more delinquent behaviour.
Al Qahtani (2009)	Abha City	100 delinquents and 100 non-delinquents	Delinquency	Family structure and friends related to juvenile behaviour
Al-Anazi and Al-Shamli (2011)	Rural and urban areas	Survey of 2,168 high school students (aged 16-18 years) and interview of 24 delinquent adolescents	Theft, assault, traffic violations, substance use, and vandalism	Young people committed delinquent acts because they provided them with the desired sensation of arousal (such as excitement) and due to boredom and seeking excitement

Study	City	Method	Crime	Main Findings
Beaver et al. (2016)	Jeddah	494 male and female students	use of drugs, alcohol, and tobacco	Delinquent peers were the strongest and the most consistent predictor of substance use. A measure of low self-control was unrelated to the measures of substance use
Sacarellos et al. (2016)	Jeddah	1,000 male and female high school students	obscene phone calls, robbery, drug dealing, and physical violence	Low self-control was a key predictor of delinquency, violence, and having delinquent peers in both the male and female samples
Connolly et al. (2016)	Jeddah	324 youths from government-sponsored high schools	truancy, running away from home, vandalism, fight, shoplifting, robbery, assault, violence, car theft, burglary, theft	Higher levels of aggression are associated with more antisocial behaviour
Alluhaibi (2014)	Mecca	422 12-18-year-old female students. Survey	Delinquency	Risk factors; family and parenting factors,

offenders reported having deceased fathers than non-offenders. The impact of broken families, and particularly absent fathers can be explained by the perception of the essential role of the father as a guardian and moral guide within a traditional patriarchal society such as Saudi Arabia (Al Ramiah, 1985: 26).
However, other studies have also identified similar trends, and so the concept of 'broken homes' does appear to be significantly related to delinquency in the KSA (Al-Shethry, 1993). Conversely, Al Romaih (1994) and Al Garni, (2000) found that the rate of delinquency increases with age and that the impact of the parents' marital status and parenting behaviour on the delinquent behaviours of high school students was minimal. However, it is important to note that the Al Amri's (1984) study used a small sample, and therefore it cannot be assumed that its results are indicative of wider trends. Similarly, cautious interpretation of Al Amri's (1984) findings is necessary considering the nature of the institutions from which sample groups were selected. In institutions where youths have been referred directly by family members, it is to be expected that there will be higher instances of difficulties in family relationships.

Regarding the size of the family, Al-Otayan (2001) found that delinquent youths tended to come from large families (where a 'large' family was defined as having 10 or more members). Similarly, the study found that youths from single-parent households, youths who reported having controlling fathers who were primarily responsible for meting out punishments, and youths from low-income families, or who have an unemployed father, had increased susceptibility to delinquency. Susceptibility was also affected by the impact of the mass media, exposure to unstructured activities during leisure and recreation time, and influences from friends and peers. Likewise, Al Garni (2000) found that, in Mecca City, family size and parent-child bonding are the key indicators of delinquent behaviours and that these issues can significantly affect the education and social performance (including the development of positive social connections with relatives) of young people from the sample of high school students. Al-Askah (2005) also found support for similar trends within a study sample comprising only of female delinquents, where those exhibiting delinquent behaviours tended to come from larger families.

Additionally, Aljibrin (1994) found that a higher number of delinquent youths than non-delinquent youths came from polygamous families. He suggests that this is likely to be because of the father being absent for longer periods than would be the case in monogamous

marriages or because the tensions in relationships between wives might lead to conditions conducive to delinquency. Similarly, it was found that there is a correlation between family structure and youth drug use, and it has been argued that drug use in Saudi Arabia is closely related to the social change that the Saudi society underwent after the discovery of oil (Al Bedaiwi, 2000: 2). However, the inconsistencies in different studies are clear, and caution should be exercised when examining the apparent correlation. In addition, Al Mutlag (2003) identified a relationship between family structure and youth drug use. An additional link may be found in the relationship between delinquency and polygamous families, but again, direct correlations are hard to draw given the lack of comparable studies to draw patterns from and the limited availability of data (Al-Askah, 2005; Al Mutlag, 2003; Al-Otayan, 2001; Al Bedaiwi, 2000).

Al-Shethry (1993), Aljibrin (1994), Al Garni (2000) and Al-Otayan (2001) all found that parents' low education was be associated with youth delinquency. They claimed that this link could be explained by the fact that the more parents become educated, the better skills they are likely to have acquired to equip them to raise their children. They indicated that some of the reported ways that parents have of dealing with youths, such as parental rejection and a lack of discipline, may lead to delinquent behaviours. Parents have an opportunity to influence their children's behaviours and values, and parents are the first and strongest sources of moral guidance and teaching, upon whom children are almost entirely dependent during infancy. Studies additionally revealed significant differences between delinquents and non-delinquents in their early family socialisation; these differences are associated with the nature of parental corrections of wrong behaviour, a parental contradiction within the family unit, parental rejection, and parental supervision (Al Qahtani, 2009). Indeed, indicators such as education level of parents could influence delinquency because educated parents might have social capital that could enable them to protect their child from formal punishment.

An additional indicator of delinquency identified in the limited previous work carried out in the KSA is child maltreatment. In one study, which aimed to explore factors related to delinquency among youth who are at Social Observation Homes, it was found that delinquency is related to child maltreatment with an identified link between child abuse and physical neglect and young offenders (Alreshoud, 1997). Furthermore, similar trends were identified in a study of an all-female sample, where it emerged that the delinquent behaviour of a majority of girls was reportedly precipitated by the abusive behaviour of the girls'

fathers, which was reported to be both physically and emotionally brutal and included sexual exploitation (Al Askah, 2005). Overall, in analysing the previous studies, it would appear that family pathology is one of the key indicators of delinquency among both girls and boys in Saudi Arabia.

The characteristics of the residential setting are also found to be an important factor in predicting delinquency among Saudi Arabian youth. The residential setting is the location in which young people receive, both directly (by instruction) and indirectly (by observation), their notions of accepted values and behaviours and a disorganised and/ or chaotic residential setting appears to be linked to the prevalence of delinquency (Al Roushoud, 2003). The results in this 2003 study reveal that a disorganised neighbourhood and lack of neighbourhood involvement are major indicators of delinquency, as these factors were found to be relevant for both the Saudi and non-Saudi student samples used in the research. In addition, Al Roushoud found that Saudi Arabian students had a greater fear of the community's reaction (stigma) to the commission of a crime when compared to their non-Saudi counterparts. The results demonstrate that the disorganisation of the neighbourhood and locality is a major indicator of increased youth delinquency. In line with this finding, Al-Shethry (1993), Al-Ghadyan (2001) and Al-Otayan (2001) all found support for the effect of the relationship with family members on youth delinquency or family involvement in crime or corruption in the past. Al-Shethry (1993) found that one-third of the sample in his study had one or more family members in prison, or who had been arrested for a criminal act.

With regards to SAT, families' involvement in crime and living in disorganised residential areas might be considered as criminogenic environments as these factors may affect youths' exposure to, an opportunity to engage in, crime or delinquency. Over time, they may develop individual characteristics such as propensity to commit a crime, or a greater tolerance for delinquent behaviour. A range of factors related to family structure, family size, and social disorganization has been illustrated by the studies referred to, to have a strong association between delinquency and family.

It is worth noting that it is difficult to distinguish here between the causes of crime and the causes of the causes of crime. In other words, it might be that polygamous families and broken families are more likely to disrupt the bonds of socialization of children. In addition, poor families tend to live in a disorganised or disadvantaged neighbourhood that increases the likelihood, frequency, and duration of exposure to criminogenic settings. With regard to using comparative samples between youths in schools and youths who are incarcerated in

formal institutions that are designed to deal specifically with youth crime, this may be only a reflection of who receives formal punishment, as opposed to those whose behaviour is sanctioned informally within the community or family, rather than what actually causes delinquency.

4.4.2.2 Economic Factors

Other studies extend the discussion from the structure of the family unit into the socio-economic conditions of a family. For instance, Al Ramaih (1985: 62) found that incarcerated youths were more likely to come from more disadvantaged socio-economic backgrounds. However, later studies have found less evidence of the correlation between social class and family structure and child misconduct (Al Romaih, 1994). Other studies produced conflicting results. In Al Qahtani's research (2009: 169), qualitative and quantitative data analysis suggested that socio-economic class was a key indicator of delinquency, with parental income playing a significant role in children's upbringing such as participation in education, shoplifting, truancy. The study indicated that the lower the family's income, the more likely it was that juvenile delinquency would occur (Al Qahtani, 2009, p.169). Similarly, Al Amri (1984) claimed that economic conditions have a significant impact on the causes of delinquency in Saudi Arabia, and poor families, as well as those whose head of the household is employed in menial labour, are predictors of delinquency. Additionally, Al Romaih's (1985) study revealed that families' lack of economic resources and/ or poverty, are related to youth delinquency. Indeed, Al Romaih (1994) found a positive correlation between income and delinquency, but this was not significant, and might simply be a result of differences in the sample size he used for comparing between delinquent and non-delinquent youths (which was 321 and 140 respectively).

The inconsistent nature of the results, which vary significantly between these studies, might be related to methodological factors. Thus, Al Romaih (1994) used a comparative sample of delinquents and non-delinquents, while Al-Amri (1984) and Al-Shethry (1993) only used samples of delinquent youth. The limitations of these previous studies – in terms of their number and scope – are further exacerbated by the fact that they employed various methodologies, meaning that there is a distinct scarcity of comparable data from the Saudi Arabian context, again highlighting the importance of the current study and its contributions to social science discourse in the KSA. Given these inconsistencies, it is not possible to draw

clear conclusions regarding the extent to which the socio-economic status of the youths' family units can be seen as an indicator of delinquency.

4.4.2.3 School Setting

The importance of schooling has long been identified as a key factor associated with juvenile delinquency. Social control theories, in particular, have identified school attachment and school achievement as key predictors of delinquency. Issues around schooling are well documented as playing an important role in predicting youth delinquency, and the disintegration of bonds with positive influential institutions such as schools are linked to the wider systematic marginalisation that precipitates delinquency (Goldson and Muncie, 2015). The previous studies of delinquency carried out in Saudi Arabia have similarly demonstrated that school, just like family, is one of the most important institutions in Saudi society because of its dual educational and cultural role, and its function of teaching social norms and values to young people (Al Amri, 1984). Youths in Saudi Arabia were found to be more likely to engage in drug use if they dropped out of school (Al Qahtani, 2009). However, most serious offenders in Saudi Arabia were found to be those with the weakest bonds with school, and school ties were identified as being part of the wider social bond context that acts to deter delinquent behaviour (Al Ramaih, 1994).

While it is again important to exercise caution when interpreting the results from such a limited selection of – in particular, recent – studies in the KSA, it is nevertheless relevant that the trends appear to support the notion of school as an important measure of social control. That is pertinent to the SAT approach since the level of social control will yield an effect upon the dynamics between personal propensity and external causes, or environmental criminogenic factors.

4.4.2.4 Peer Group

The influence of peer groups is central to youth tendencies to engage in delinquent behaviour. In the SAT framework, the issue of delinquent peers is a significant factor, since it forms part of the systemic factors of social organisation and structure which help us to understand why individuals become different (that is, why propensity for moral rule breaking varies between individuals) and why they come to operate in different environments. Within SAT, individual actions take place within settings, and different settings offer different opportunities, temptations, frictions, and provocations (Wikström, 2006: 88). It is with peer groups that young people tend to spend most of their time that is not spent with the family or at school, and so peer groups are regarded as a hugely significant criminological factor.

Most of the previous studies drew clear conclusions concerning the correlation between the influence of peers and the commission of delinquent acts (Al Amri, 1984, Al Romaih, 1985, Al-Shethry, 1993, Al Romaih, 1994, Alreshoud, 1997, Al-Qtayan, 2001, Al-Ghadyan, 2001, Al-Mutlag, 2003, Al Roushoud, 2003, Almutairi, 2004, Al-Qhatani, 2009, Beaver et.al., 2016). Almutairi (2004) researched predictive smoking behaviours among 715 male Saudi students aged between 19 and 22 and found peers to be the most powerful predictor factor for smoking tobacco. Similarly, Al-Mutlag (2003) focused on drug usage by youths in Saudi Arabia in a study that aimed to explore the reasons behind the increasing drug usage among Saudi's younger generation. He found that peer groups and friends were significant factors in encouraging drug use, and his study suggested that this could be controlled, if a school, family, and authorities were able to intervene more rigorously in a way that resonates with the ideas of control as a deterrence in SAT. The amount of leisure time available to young people was also found to have a major effect on juvenile involvement in drug-abuse (Al-Mutlag, 2003).

The study by Al Qahtani (2009) pointed to five related relevant factors that influence the way in which young people choose their peers/friends, such as school environment, neighbourhood, family life and relatives, attendance at mosques and attendance at structured leisure activities such as sports centres. The results indicated that delinquent youths tend to choose their friends from their schools and neighborhoods, with peers that they are already somewhat familiar with and in close physical proximity to. Again, we can see resonance with SAT and the way in which criminogenic factors operate in networks and not in isolation.

Furthermore, the results of a cross-sectional study that was conducted in Jeddah by Beaver et.al in 2016, aiming to examine two key elements from social learning theory and self-control theory (namely the effects of low self-control and the influence of delinquent peers on alcohol, tobacco and drug use using a sample of both male and female youths), found that the effect of peers is the strongest predictor of substance use among Saudi Arabian youths.

Al Amri also found that the peer group is one of the most important factors in juvenile delinquency (Al Amri, 1984: 39). In his study into juvenile delinquency in Saudi Arabia, which focused on male sample groups, Al-Amri additionally found that the extent of the impact of peer groups was inherently linked to the other factors of family and home-life. He found that the amount of time spent with peer groups is largely dependent on the nature of the individuals' relationships with their family members and other factors such as socio-economic conditions (Al Amri, 1984). If an individual has a poor relationship with their family members, they will likely spend more time with their peers. Similarly, if the socio-economic conditions of the family change, family members may have moved away from the family home to work, or the younger members of the family may no longer be engaged in employment within a small family business. Both situations might increase the level of exposure to peer groups. This observation is important given that SAT focuses on the interplay between the various criminogenic factors. Al Amri's study similarly recognises that each of the influential criminogenic factors cannot be considered in isolation but must be viewed holistically and dynamically. SAT is concerned with the interaction between the various individual and environmental factors, and although previous studies in the KSA are limited, there is some evidence to support Wikström's conception of crime causation.

In a study by Al-Shethry (1993), it was found that the way in which peers act around each other can vary significantly from the way in which they would act around other people (such as family members or teachers). While this is not a new revelation, it is nevertheless important to acknowledge the fact that youths were revealed to display 'offensive' behaviours (behaviour that would be widely perceived to be in violation of moral and cultural norms) in their groups and during social gatherings with peers, simply in order to please their companions (Al-Shethry, 2009). Indeed, the varying behaviour is an indication that moral

rules change depending upon the setting. Thus, it demonstrates that individual propensity is itself dynamic, subject to significant changes dependent on environmental factors. It further underlines the importance which SAT attaches to 'activity fields' and the proposition that the causes of crime (and the causes of the causes) are in a state of constant flux and should, therefore, be mapped in a comprehensive and interconnected way and cannot be properly understood in isolation.

4.4.2.5 Individual Factors

Given the significance attached to personal propensity in SAT, it is important to examine individual factors here; however, attention to this factor in the previous studies that have been conducted in Saudi Arabia is largely (although not entirely) absent. Some of the more recent studies, conducted in Saudi Arabia have investigated the impact of individual factors on youth delinquency in Saudi Arabia. Beaver et al. (2016), Sacarellos et al., (2016) and Connolly et al. (2016) explored self-control while Connolly et al. (2016) analysed aggression and psychopathy. The phenomenon of 'sensation seeking' has also been addressed by Al-Anazi and Al-Shamli, (2011). Sacarellos et al. (2016) found that self-control is a significant predictor of delinquency, violent behaviour, and exposure to delinquent peers, based on a large sample drawn from high school students (1,000 students- 50% male and 50% female). This survey indicated that, compared to males, females reported higher levels of self-control. Low self-control emerged as an 'ubiquitous predictor of a range of behaviour and life outcomes, including criminal and analogous behaviours' (Sacarellos et al., 2016, p.291). Self-control in the KSA was found to be strongly predictive of some measures of problem behaviour. However, the cultural context of Saudi Arabia, with its strict adherence to conservative traditions and the Islamic religion, which extend to all facets of life, may minimise the variance in life outcomes and may reduce the influence of self-control and other individual differences (Sacarellos et al., 2016, p.294).

In addition to low self-control, Connolly et al. (2016) examined the relationships between aggression and psychopathy and antisocial behaviours in a sample of 324 male Saudi youths. They found a higher level of aggression to be the most common factor associated with antisocial behaviour. The study by Al-Anazi and Al-Shamli (2011) aimed to explore the question of whether there is a link between sensation seeking and criminal offences among

male adolescents from rural and urban areas, and their study was based on a sample of 2,168 male high school students aged 16 to 18. The results revealed that young people committed delinquent acts because these activities provided them with the desired sensation – a form of thrill, excitement, or 'buzz'. Whereas the majority of the studies have utilised a survey method to gather their data, Al-Anazi and Al-Shamli (2011) also carried out interviews with 24 delinquents, using snowball sampling to find participants. This enabled more in-depth responses to be obtained, and one of the main findings was that delinquency was often acted out 'as result of boredom and due to seeking for excitement' (Al-Anazi and Al-Shamli 2011: 281).

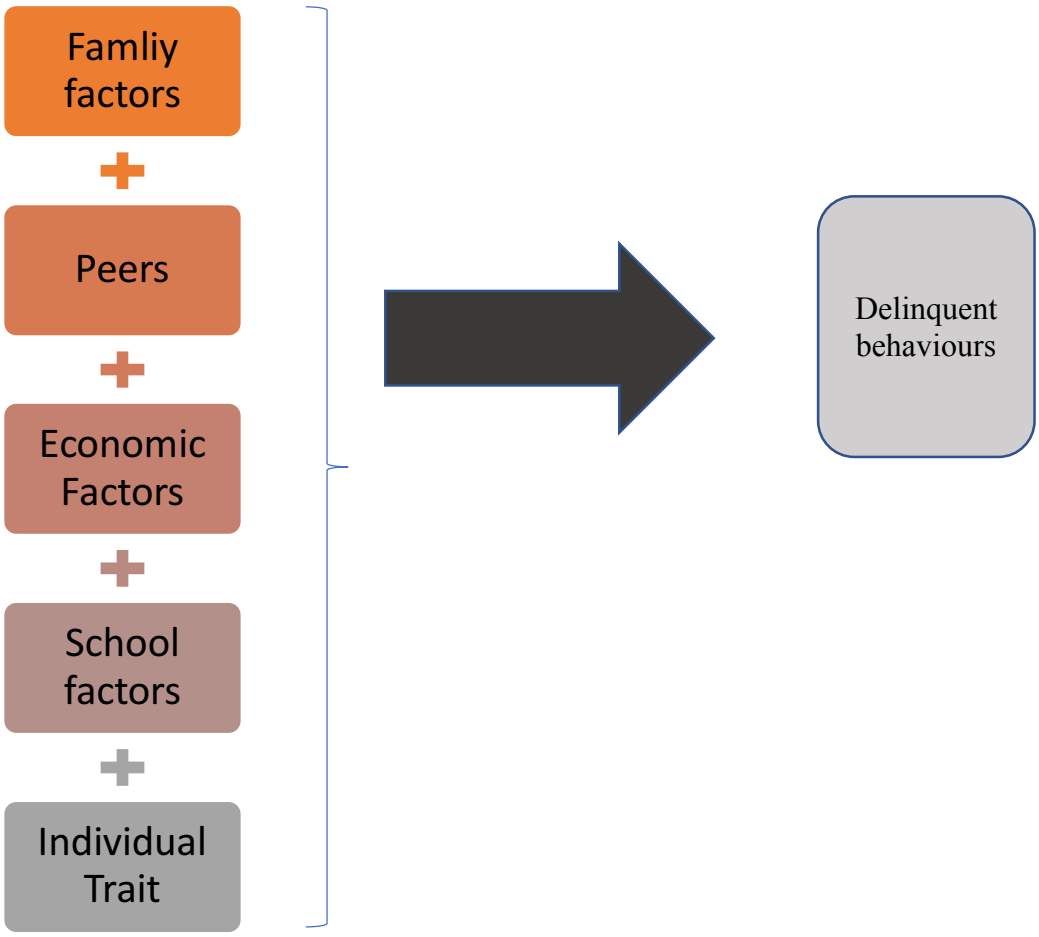
4.4.3 Summary of Findings of the Previous Studies

The above discussion and the results presented in Figure 4.2 set out the most important factors found to be related to juvenile delinquency in Saudi Arabia. This illustration focuses on the five exogenous factors: family/neighbourhood, economic, school, peer group, and individual traits, and their relationship with the level of individual propensity and morality. These five factors shape the nature of relationships with individuals' propensity and morality. All of the previous Saudi Arabian studies reviewed have attempted to investigate the causes of youth delinquency in the KSA and have revealed the emergence of common themes and factors associated with delinquent behaviour. None of these factors can be assessed in isolation, and they must be considered within the framework of SAT, in which criminogenic factors interact dynamically within the activity fields of the individual. The studies reported mixed results and it must be recognised that many are not recent, the number of studies is limited, and different methodologies were employed across the studies, however, some clear patterns did emerge.

Most of the studies have focused on factors concerning parental attachment and socialising, which suggests that parents and extended families have significant opportunities to teach their children both by instruction and via observation by presenting as positive role models. Additionally, the studies indicte family as playing a central role in nurturing morality in children, with schools playing an important secondary role. It was noted in Chapter Two of this thesis that morality is considered to be a key internal/ individual factor in SAT, and it greatly affects people's behaviour, determining their level of personal propensity

to engage in delinquent behaviour. Furthermore, the identified family factors do not act in isolation, but with each other. For example, poverty or the poor economic condition of the family may mean that the children have fewer schooling opportunities as they tend to live in poor districts. Poverty could make it difficult to afford school necessities, which ultimately leads them to drop out of school (Al Askah, 2005).

Figure 4.3 Causes of Youth Delinquency Based on Existing Studies



Alternatively, poverty might expose them to disadvantaged (government) schools that lack quality facilities available at private academies where richer families or middle-class families take their children. Consequently, they may have more opportunities to be exposed to criminogenic settings, where there is the possibility of forming friendships with influential peers. The majority of reviewed focused on exploring the socio-demographic characteristics

of delinquents, and the environment surrounding young people. The studies are primarily descriptive which offers a wide-ranging explanation of crime by integrating the environmental factors with individual factors. Besides the fact that there were limitations regarding the criteria of sampling procedure related to the non-delinquent and using male samples only, the trends from the reviewed studies support the ideas set out in SAT.

That sets a positive tone for the current study in applying the SAT framework to go beyond simple correlation towards a more causative analysis. The SAT theory approach can underpin an empirical analysis to map the multiple causal relationships (Wikström, 2006: 69). The reviewed studies are broadly in line with the previous crime theories. However, Wikström (2006: 71) argued that primary shortcomings of the classic action theory, in particular, and previous criminological theories are its reduction of criminogenic factors to a series of reasons and resulting actions, creating complex and abundant layers of analysis. That is to say, classic action theory analysis depends on mapping reasons and outcomes bilaterally, which is too simplistic an approach to take, and fails to offer a comprehensive analysis. Thus, SAT becomes an appropriate approach because of its analysis of the interplay between the various factors and acknowledges individual actions (or inactions) taking place within a specific setting. These settings will vary regarding the opportunities they provide for youths to commit delinquent acts, the frictions that they generate within societies and communities, and – crucially for the KSA – the nature and enforcement of moral rules and the severity of their sanctions (Wikström, 2006: 90).

At the heart of the SAT is the attempt to explain how individual characteristics and experiences and environmental factors 'interact in moving individuals' to break the moral rules that are defined in law. SAT's 'cornerstone' is the fact that individuals' actions (and inactions) are a consequence of how individuals perceive their action alternatives and make choices within specific settings (Wikström, 2006, p. 92). Studies to date in Saudi Arabia have failed to examine this, and while they have identified important issues, it will be necessary to analyse the factors that they have highlighted as causes of delinquent behaviour within the complex framework of SAT. In the preceding review of studies in KSA, the causes for why certain criminogenic settings emerge in society, and why certain youths are likely to be exposed to such settings are presented. However, only the more recent of these studies have made mention of the young people themselves, or their propensity to crime (Beaver et al., 2016; Sacarellos et al., 2016; Connolly et al., 2016).

Generally, there is limited published research about youth crime in Saudi Arabia. The previous research has not thoroughly examined juvenile delinquency through any theoretical framework. Only a few studies tested theoretical frameworks, which include Sacarellos et al. (2016) and Al Romaih (1994) who tested self-control and Beaver et al. (2016), who tested self-control with one element of social learning theory. It is important to acknowledge the findings from testing these theories before testing SAT in the KSA. The studies used empirical evidence drawn from their samples to draw conclusions and the reinthere by inform policy makers of merits and consequences regarding the use of selected theories and their constructs in juvenile justice. Beaver et al.'s (2016) test of self-control and elements of social learning showed that arrest history and exposure to delinquent peers are positively associated with psychopathic personality traits relative to victimisation and exposure to violence. Empirical findings from Sacarellos et al.'s (2016) study demonstrated that low self-control is a substantive predictor of self-reported delinquency, victimisation, violent behaviour, and delinquent peer association. Similarly, Al Romaih's (1994) research (also based on Social Control Theory) revealed that both religious practices and parental attachment or involvement in school negatively relates to delinquency. Additionally, association with delinquent friends positively related to delinquency (Al Romaih, 1994)). Thus, even though Western theories have originated in regions substantially different from the Arabian context, these studies show that it is still possible to use Western theories as an analytical basis and to examine whether such theories can explain delinquency in a different context. Consequently, using a modern theoretical framework that is appropriate for the specific cultural and social context of Saudi Arabia to explain the causes of delinquent behaviours empirically is fully justified.

For SAT, the cross-cultural context may become a minimal issue given that the SAT definition of crime is, one that is attached to the geographical and temporal context: it is simply those moral rules of society that have been formally codified in law. Looking at the results of the previous studies in Saudi Arabia, there emerges a vital need to address better the causes of delinquent behaviour, which are systemic and wide and could be better understood as the causes of the causes. These causes of the causes of crime, when viewed through the lens of SAT, will influence both the individual's propensity to commit a crime and the level and frequency of their exposure to criminogenic settings. However, the discussion of the factors/causes of the causes is important because it shows how the KSA context may impact on the values of the key causal variables. However, it is worth

mentioning that the current study will not be measuring or testing the causes of the causes, and it will be focusing only on the causes, due to the fact that testing causes of the causes is beyond the focus of this study. Moreover, because those factors have not been measured, and there is no a comparative framework that examines both the KSA and at least one other country. This research aims to test and explore whether Situational Action Theory in the Saudi Arabian context in a way that can better identify the causes of delinquency in the Kingdom which might contribute in providing solid foundations for evidence-based policy reform.

4.5 CONCLUSION

In Saudi Arabia, it is considered to be the parents' responsibility to teach their children the values and norms of society according to Sharia (Aljibrin, 1995). In other words, young people learn the moral norms (or what is right and wrong to do) that should be followed. These are based on Islamic rules, and the Islamic faith has been demonstrated to permeate all facets of Saudi Arabian society. According to Wikström and Sampson (2003), the process of social interaction influences criminological aspects of moral education. They argue that individuals take on board certain moral rules, codes, and emotions. In addition, the development of cognitive skills lies within the boundaries of the main social institutions of the family, school peer networks. All of these factors, in addition to the economic conditions of families and communities, have been identified as key influences on delinquency in Saudi Arabia. These factors are considered types of causes of delinquent behaviour within the framework of Situational Action Theory.

Overall, Muslims view crimes as a form of sin and believe that the prevention of crime is a religious duty. Therefore, those who commit a crime might face huge informal social pressures from their family and community members. They will be encouraged to repent for their mistake and to compensate for it. Alternatively, they may face penalties determined by the category of crime under Sharia law. Under the SAT, the informal pressures and punishments form the setting that links with choice or perception to commit a crime. Islamic views, values, and practices could considerably limit opportunities and frictions to which people are susceptible to committing a crime. Religion affects both key personal and environmental factors that motivate a person to consider pursuing criminal choices. However, it is the criminal act rather than the individual criminal that is strongly condemned in this

context (Serajzadeh, 2001). Bearing in mind that in Islam there is an opportunity to leave behind previous acts prohibited by God and to return to a life of conduct by what He has commanded (repentance) and by doing that, it is firmly believed that God will assure forgiveness, and exonerate the person from their misdeeds.

Despite this, the criminal justice system in Saudi Arabia is based on the concept of personal accountability. Consequently, this means that some people consider youths as mature enough persons to be held responsible for their behaviour in the eyes of God and that young people should take responsibility for their actions rather than relying upon supervision. However, the age of criminal responsibility is set so that a child in Islam has no criminal responsibility until they reach an age of puberty and maturity.
For the research conducted in this thesis, it is necessary to define the phenomenon of 'youth delinquency'. In this study, we consider delinquent young people aged 16 years and above to be included in the term (rather than use the Saudi age of criminal responsibility). That will help to conform to other definitions of 'delinquent', which have been used primarily in Western studies. That will further ensure that findings from this study can compare with a phenomenon that is not only the same but which takes place in an entirely different setting. The study will test the same phenomenon as addressed in SAT but will do so in a context in which the theory has never been tested before.

It is clear from analysing the previous studies that have been conducted in Saudi Arabia that existing research is limited. The majority of the existing studies were carried out more than a decade ago and therefore might not reflect the recent situation regarding youth crimes in the KSA. Both the recent and past studies existing regarding youth crimes in the KSA apply older theoretical frameworks that do not offer comprehensive analysis compared to SAT theory. Therefore, it is anticipated that using SAT to analyse the status quo of youth crimes in the KSA will fundamentally inform policy development in the Kingdom.

CHAPTER 5 : RESEARCH METHODOLOGY

5.1 Introduction

This chapter describes the methodological approach used in the present study. The current study is a partial replication of the Peterborough Adolescent and Young Adult Development Study (PADS+). Therefore, this chapter begins by giving a brief description of the PADS+ study and then outlines the research questions and hypotheses of the current study. In addition, the study design, sampling, study instrument, data collection procedures, data analysis and ethical considerations are described.

5.2 The Peterborough Adolescent and Young Adult Development Study (Pads+)

The PADS+ Study (Wikström and Sampson, 2003; Wikström, 2004; Wikström, 2005; Wikström and Butterworth, 2006; Wikström et al 2012) was a longitudinal study which started in 2002 and continued. The main objective of PADS+ was to test Situational Action Theory. It aimed to understand the causal processes which link crime propensity and criminogenic exposure to criminal behaviour and evaluate the interaction between the individual and environmental factors which lead individuals to see certain behaviours as viable action alternatives (or not). The study used four main methods for collecting individual, environmental and exposure data which included:

1) The Peterborough Community Survey; a large-scale postal survey undertaken in 2005, which collected comprehensive data on Peterborough's social environments.

2) Psychometric exercises used to measure aspects of cognition and decision making, which were conducted during one-to-one interviews with PADS+ participants.

3) Parent and young persons' questionnaires. The parent's questionnaire covered topics such as family life, school experience, childhood events, and peer relationship community characteristics. The young persons' questionnaire covered topics related to individual characteristics such as moral values and self-control, consequences of perceived risk, temptations, crime and the use of drugs and alcohol.

4) The space-time budgets of adolescents, which aimed to record the location and activities of the participants in four days during the week prior to the interview, using a data collection instrument that was completed retrospectively, on an hour-by-hour basis. Events measured in the instrument were criminological relevant, e.g., victimization and offending (Hoeben, et al., 2014).

When combined, these data allowed PADS+ researchers to study the interactions between participants' individual characteristics, their personal experiences and their exposure to different types of environment. Both cross-sectional and longitudinal comparisons were made. No previous study had used this method to show differences and changes in social behaviour. Seven hundred and sixteen randomly selected young people responded in the first child sweep in 2002. Researchers gathered the sample from pupils entering Year 7 in schools throughout Peterborough. Though randomly selected, researchers took care to ensure the study reflected an ethnically representative sample of the general population, evenly split by gender across a wide range of socio-economic classes. The PADS+ data were collected during the spring of every year from 2003 to 2008. In 2009, collection became biennial in order to ensure up-to-date participants' contact details. The PADS+ team ensured continuity throughout the survey with just a 4% loss of the sample. The main cause of this loss were participants moving abroad.

The current study is a partial replication of the PADS+ study as it involved the construction and distribution of a questionnaire using items from the PADS+ project. The questionnaire was modified to take account of cultural factors and types of crime in Saudi Arabia, based on Saudi law. However, neither the detailed space-time budget nor the psychometric tests were

replicated. Further details about the modifications in the PADS+ questionnaire are provided in the description of the questionnaire in Section 5.5.

5.3 Research Aims, Objectives and Questions

5.3.1 Research Aim

The principal aim of this study is to provide a new empirical test of SAT theory by testing its key propositions in Saudi Arabia (KSA) (Wikström 2009, Wikström, et al. 2012). Therefore, the study aim is to explore whether SAT can be applicable and valid in a culturally different research setting, Saudi Arabia. Moreover, the study will contribute a better understanding of youth crime in the KSA.

5.3.2 Research Objectives

The research objectives relate to the three main propositions of SAT, including the interaction of an individual's crime propensity and exposure to criminogenic setting in the causation of crime, the conditional relevance of control, and the perception-choice process. Thus, the objectives of this study are:

4- To examine the conditional relevance of self-control and deterrence in the prevention of criminal behaviours among adolescents in Saudi Arabia.

5- To examine the existence of an interaction between crime propensity and criminogenic exposure in the explanation of youth crime in Saudi Arabia.

6- To examine the situational factors that influence perception and choice of crime as an action alternative among adolescents in Saudi Arabia.

5.3.3 Research Questions and Hypotheses

The research questions for this study are also intended to explore the three key propositions of SAT. In the same vein, the hypotheses address each of the three main propositions of SAT. The first group of hypotheses focus on the conditional relevance of controls, including morality, self-control and deterrence. The second group of hypotheses deals with the interaction between propensity and criminogenic exposure. The last set of hypotheses is about the perception-choice process.

RQ1. How relevant are self-control and deterrence in the prevention of delinquent behaviours among adolescents in the KSA?

> **H1a**.There is a significant interaction between morality and self-control in the causation of youth crime.
>
> **H1b.** Self-control has a stronger effect on criminal behaviour for individuals with low levels of morality than for individuals with high levels of morality.
>
> **H1c**.There is a significant interaction between morality and deterrence in the causation of youth crime
>
> **H1d**. Deterrence has a stronger effect on criminal behaviour for individuals with low levels of morality than for individuals with high levels of morality.

RQ2. Does the interaction between individual (crime propensity) and environmental factors (criminogenic exposure) help to explain delinquent behaviours among adolescents in the KSA?

> **H2a.** There is a significant interaction between an individual's propensity for crime and criminogenic exposure in the prediction of youth crime.
>
> **H2b.** Criminogenic exposure has a stronger effect on criminal behaviour for young people with high levels of crime propensity.

RQ3. How do crime propensity and situational factors (provocation, monitoring) influence perception and choice of crime as an action alternative?

> **H3a.** The presence of monitoring reduces the likelihood of a violent behaviour
>
> **H3b.** The presence of provocation increases the likelihood of a violent behaviour.

H3c. Compared to the level of monitoring, the level of provocation has a greater effect on the likelihood of a violent behaviour.

H3d.The effect of scenario criminogeneity on choosing violent response is conditioned by the level of crime propensity

Research questions 1, 2 and 3 are answered in chapters 7, 8 and 9 respectively.

5.4 Research Design

As mentioned previously, the current research builds on the earlier work conducted by Wikström (2004, 2006, 2014, 2012; Wikström and Sampson 2003) for PADS+. A similar design and methods to those originally used by Wikström was adopted as far as was possible, in order to ensure comparability with that study, and with others that have used the PADS+ methodology.

This study used a cross-sectional design which is a suitable method for measuring the prevalence of delinquency. Prevalence refers to the proportion of cases showing a particular condition in a population at a given time (Mann 2003; p. 56). According to Sedgwick (2014), the advantages of cross-sectional studies include the following:

- Quick and easy data gathering even for a large target population;
- Saving the researcher time; and
- Being cheaper to perform.

The low cost of conducting this type of research makes thorough investigations of the overall condition of the population feasible. Cross-sectional designs are chiefly appropriate for estimating the prevalence of a behaviour or disease in a population.

On the other hand, cross-sectional studies have some limitations and disadvantages. The most important of these is that although cross-sectional designs do still often attempt to explore the influence of past variables on current behaviours, there is often a possibility that other variables may affect the relationship between the variables of interest (Bryman, 2012) and cross-sectional designs do not provide a good basis for establishing causality.

However, the cross-sectional approach was still chosen for this study two reasons. Firstly, due to the time limit of the PhD study period. Secondly, such a design was considered optimal for providing a snapshot of youth delinquency in the KSA and helping to assess relationships among major variables such as propensity to commit delinquent behaviours, exposure to criminogenic settings, and committing or intending to commit delinquent acts. It is also worth noting that most of the previous studies of SAT involve cross-sectional research designs (see Table 1 in Chapter 3). This work partly concerns itself with exploring the prevalence of delinquency in adolescents in the KSA. Mann (2003: p. 57) shows how cross-sectional studies provide the best way of discovering prevalence. Thus, the cross-sectional design provided a snapshot of the frequency of delinquent behaviours among Saudi Arabian youths at a specific time. In turn, this enabled the current research to explore associations between SAT variables relevant to delinquency and differences between subgroups (Creswell, 2014).

This study used a self-report, self-completion questionnaire. The self-report questionnaire has long been used in criminology to establish the prevalence and incidence of criminal acts. It is considered a quick and cheap instrument to administer, especially in comparison to interviews, and in particular when the sample is geographically dispersed. A number of weaknesses have also been identified with the self-report questionnaire. These include the problem that if the questionnaire is not easy to understand and to complete, then there is a high risk of missing data (Bryman, 2012). Another primary concern is that a self-report questionnaire containing sensitive questions about issues such as criminal behaviours may influence both willingness to participate and response validity (Junger-Tas and Marshall,1999). However, anonymity may help to increase the response rate. According to Junger-Tas

and Marshall,1999), self-report questionnaires are particularly suitable for theory testing. Additionally, 'self-reports are also excellent sources of data for studies of the correlates of individual differences in delinquent participation or propensity' (Junger-Tas and Marshall, 1999, p.296).

5.5 Target Population and Sample Selection

5.5.1 Riyadh as a Location

Riyadh is the capital city and commercial centre of Saudi Arabia. Its population is demographically diverse. The foreign population in Riyadh is around 65%, comprising individuals from different cultural backgrounds and social classes (GAS-KSA, 2017). There are significant differences in income and social conditions between Riyadh and the rest of the country (GAS-KSA, 2016). People are drawn to Riyadh City to seek better conditions of work, raise their standard of living, or for investments. Within the city, differences also exist between different districts' inhabitants. People normally choose to live close to other people of the same class with the same level of income, housing conditions and life style (Ashwan, 1990). The diverse social composition of Riyadh provided a broad-spectrum for this research. Data was collected in ten schools in different zones of the city, as described in section 5.6.4. However, it is worth noting that this study focuses on young people in Riyadh city and that the results will not necessarily reflect all young people in Saudi Arabia.

5.5.2 Target Population

The sample aimed to include a broad geographical coverage of Riyadh City, with a diverse representation of the population of the youth in high schools. There are three groups in the Saudi education system separated by age:

1) Primary school students aged 6-11.
2) Intermediate students aged 12-14.
3) High school students aged 15-18+ in the final stage of general education.

High school students may choose to complete their studying at university or may specialise at technical secondary institutes. The target population of the current study was male and female youths enrolled in high schools in Riyadh, so the sample is representative of young people in the high schools in Riyadh. The criteria for selection of participants were as follows:

- Included: High school students, Saudi or non-Saudi, aged 16 years old or over, male and female. Some participants who were aged 19-23 years old have been included in the analysis.
- Excluded: Students aged 15 years old or less.

5.5.3 Sample Size

A previous study of youth delinquency in Saudi Arabia found the prevalence of violent behaviour among young people was 28% (Sacarellos, et al. 2016). As this is the only prior study with an estimate of the prevalence of a variable of interest to the current study, the prevalence was used to calculate the sample size. Based on this proportion, a sample size of 525 gives +/- 4% estimated sampling error with a 95% confidence level (De Vaus 2013). The target sample size was set at 600, distributed approximately equally by gender. This researcher chose a larger sample size in order to ameliorate the impact of the likelihood of students leaving before completion of the study. This is also large enough for robust multivariate modelling to allow an accurate assessment of the association between the variables. The target sample for each school was set at 60 students.

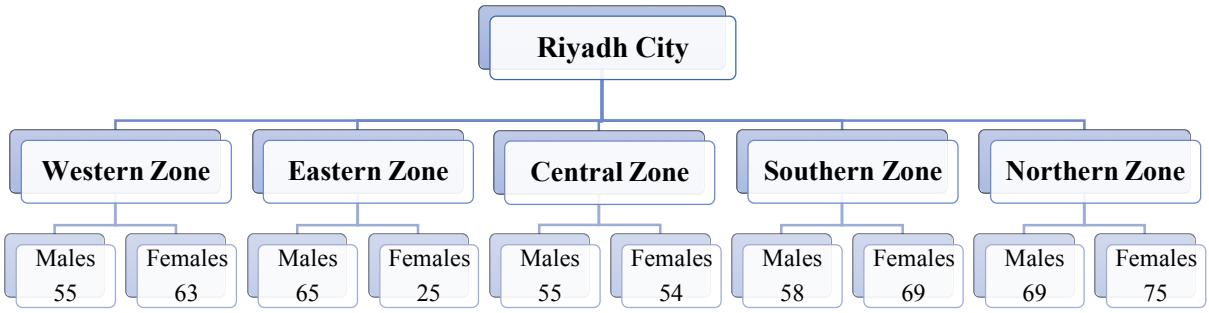
5.5.4 Sample Selection

A stratified multi-stage cluster sampling method was used for the data collection. There were two stages. In the first stage, Riyadh city was divided into five zones: north, south, east, west, and central. Based on the list of high schools in Riyadh (obtained from the General Administration of Education), schools were then divided based on their location and gender into ten clusters, with each of Riyadh's five zones having two clusters, one for boys' schools and one for girls' schools. One school was then randomly selected from each cluster. To achieve random selection of schools, the service offered by RANDOM.ORG was used to

generate random integers. Hence, the entire 452 schools in Riyadh are stratified into 'male' and 'female' schools. The list of high schools in Riyadh was categorised into two groups and contained 197 schools for the male group and 255 schools for the female group. Each list was divided into five zones depending on their location (zone) in Riyadh and numbered consecutively. Then, random numbers were used to select five schools from each group. Thus, five boys' schools and five girls' schools were selected.

In stage two, two classes were selected from a list provided by the school administrator in each school, who was responsible for pupils' enrolment and attendance. The list was separated into all Grade Two classes and all Grade Three classes, and a random selection of one class from each list was performed using the lottery method. This was repeated in all schools. The number of students in each class was between 20 and 35 students. All class members in selected classes were invited to take part in the survey. The aim was to obtain a sample from each school of approximately 60 students. However, in some cases, only small numbers of students attended school at the time of data collection, due to the beginning of the second term of the academic year. In these instances, the researcher (or assistant) selected additional classes from each grade, using the lottery method, so that the sample population from each grade was approximately equal. The sampling process is summarised in Figure 5.1, which also indicates the number of sampled students in male and female schools, in terms of their location. No schools and no pupils refused to take part therefore the school response rates and pupil response rates ware 100%.

Figure 5.1 Sampling Distribution



5.6 Measurement Strategy

The control variables in this study were age, gender and nationality. The key independent variables were crime propensity and criminogenic environment. These key independent

variables were derived from other independent variables including morality, moral values, moral emotions, self-control, peer crime involvement, time spent with peers and collective efficacy. The dependent variables were crime variety, crime prevalence and intention to commit crime.

5.6.1 Socio-demographic Information

Socio-demographic variables were collected both for the purpose of describing the sample and providing control variables for statistical modelling. The PADS+ Megadoc provides the theoretically relevant items (dependent and independent variables), but not socio-demographic items. Therefore, culturally or environmentally-appropriate socio-demographic variables, mostly derived from the International Self Report Delinquency (ISRD-3) questionnaire (Marshall et al., 2013), were included for this study. The ISRD-3 focused on the empirical integration of SAT, Institutional Anomie Theory and Procedural Justice Theory and is widely applied to test criminological theories using a youth sample. The socio-demographic variables include gender, age, nationality, place of birth, parents' education level and employment statuses, family structure and household monthly income. Also, questions relating to school location in Riyadh and school type (government or private) were added.

5.6.2 Crime Propensity

Crime propensity was measured as a combined construct of morality and self-control (the Z-scores of both scales were summed to create a measure of propensity), following the same theoretical conceptualisation as SAT's proponents (e.g. Wikström et al., 2012). In the crime propensity scale, a higher score indicates a higher level of crime propensity.

0) **Morality**: The morality scale is a construct combining a measure of moral value and moral emotions. Higher scores on the morality scale represent lower levels of morality. In other words, an individual with high scores on the morality scale is less likely to think criminal actions are wrong and less likely to feel shame/guilt were they to be caught engaging in criminal behaviour. An individual who has a low score on the morality scale is a more law abiding / moral person.

The **moral values** scale consists of questions about participants' judgment of the wrongfulness of sixteen behaviours. The participants were asked how wrong they believed it was for someone of their age to carry out 16 specific acts ranging from stealing a pencil from a classmate to using 'a weapon or force to obtain money or things from another young person'. The questionnaire used a Likert scale which ranged from 'not wrong at all', 'a little wrong', 'wrong', to 'very wrong' in order to record participants' opinions. A higher score on the moral value scale represents a lower level of moral value (they do not think crime is wrong) (Cronbach's alpha = 0.931).

The moral emotion scale is a construct combining a measure of the **shame** and **guilt** scales. A higher score on the moral emotions scale represents a lower level of moral emotions, i.e. feeling less shame / guilt.

The shame scale measures the extent that participants' feelings of shame contribute to the likelihood of them perceiving crime as being morally unacceptable. Shame was measured by twelve questions about four different types of crime. The participants were asked to report how ashamed they would feel in front of a) parents, b) teachers, or c) friends if they are caught shoplifting, breaking into a car or committing other crimes (see Appendix 1). These questions included 'If you were caught shoplifting and your parents found out about it, would you feel ashamed?' and 'If you were caught shoplifting and your teachers found out about it, would you feel ashamed?' The response options used a Likert scale varying from 'no, not at all', through 'yes, a little', to 'yes, very much' (Cronbach's alpha = 0.977).

Guilt was measured using six items in the questionnaire. Participants were asked to report how guilty they would feel when committing various acts. These include acts of crime (i.e. illegal acts) and moral transgressions not proscribed by law (i.e. legal acts), such as "If your parents found out that you had deliberately lied to them, would you feel guilty?" As with the items measuring shame, the response options were 'no, not at all', 'yes, a little', and 'yes, very much' (Cronbach's alpha = 0.860).

b) Self-control: The capacity to exercise self-control was measured using a modified version of Grasmick et al.'s (1993) self-control scale, which evaluates a young individual's general impulsivity, risk-taking, and future orientation (Wikström et al., 2012). Participants were asked how much they agreed with eight statements which offered descriptions of feelings or behaviours. Two examples of these statements were (I often act on the spur of the moment without stopping to think) and (I lose my temper pretty easily). Likert-scale response options ranged from 'strongly disagree' through 'mostly disagree' and 'mostly agree' to 'strongly agree'. A higher score in self-control scale represents a lower level of self-control (Cronbach's alpha = 0.659).

Propensity to start a secret relationship was measured as a combined construct of **morality** and **self-control** (the Z-scores of both scales were added to create measure of propensity to start a secret relationship). The morality scale is a construct combining a single item measure of moral value and a single item measure of guilt. In order to measure moral value, the subjects were asked how wrong they believed it was for someone of their age to start a secret relationship. The questionnaire used a Likert scale which ranged from 'not wrong at all', 'a little wrong', 'wrong', to 'very wrong' in order to record their opinions. Guilt was also measured using a single item. Participants were asked to report how guilty they would feel when starting a secret relationship. The response options were 'no, not at all', 'yes, a little', and 'yes, very much measured'. In the propensity to start a secret relationship scale, a higher score refers to higher level of propensity to start a secret relationship (Cronbach's alpha = 0.640).

5.6.3 Criminogenic Exposure

According to SAT, exposure to criminogenic settings for young people depends on the places they regularly visit and the people they tend to visit those places with. A key assumption of SAT is that the settings in which people take part directly influence human actions and human development (Wikström, 2009). The setting is the part of the environment that an individual can access with his or her senses at any moment in time. This includes any media present. This study focused on young people and their exposure to specific settings.

Measurement of such settings entails studying the places they spend time in and the people they normally associate with in those places. The peer group is particularly important for young people as activities outside the home and school are generally conducted with peers (Gallupe and Bouchard 2013, Hirtenlehner et al., 2015, Wikström et al., 2012). According to Wikström (2009), young people who spend more time unsupervised with peers in areas with poor collective efficacy – that is, areas which have a weak social cohesion and poor informal social control – and whose peers are more delinquent, have a higher exposure to criminogenic influences. Therefore, exposure to criminogenic setting was measured in the current study as a composite measure of peer crime involvement and time spent with peers in areas with poor collective efficacy (Z-scores of the scales were added to create the measure of criminogenic exposure). Hence the measure used in this study will capture some key variation in young people's general exposure to criminogenic settings (Wikström et al., 2012). A higher score on the criminogenic exposure scale represents a higher level of criminogenic exposure.

0) **Collective efficacy:** Areas of poor collective efficacy are those with weak social cohesion and poor informal social control. Wikström et al. (2012) theorise that collective efficacy taps into a major aspect of the moral context – the level of enforcement of key common rules of conduct relevant to young people. The collective efficacy scale used in this study combines participants' reports of social cohesion and the level of informal control in their neighbourhoods. A higher score on the collective efficacy scale represents a higher level of poor collective efficacy (Cronbach's alpha = 0.860).

Social cohesion was measured through the use of eight items that captured the level of social cohesion in a neighbourhood. For example, participants were asked to respond to the statement 'Adults who live in my neighbourhood help young people if needed'. The response options to the social cohesion questions were 'Strongly disagree', 'Disagree', 'Neither agree or disagree', 'Agree' and 'Strongly agree'. A higher score in social cohesion scale represents a higher level of low social cohesion (Cronbach's alpha = 0.887).

Informal control was measured through the use of four items, all of which related to the likelihood of adults' intervention. These included 'if a group of young people of your age

were fighting or beating someone up in your neighbourhood, how likely is it that any of the adults living in your neighbourhood would break it up?' Response options were 'very unlikely, 'unlikely', 'neither likely nor unlikely', 'likely', and 'very likely'. A higher score on the informal control scale represents a higher level of weak informal control (Cronbach's alpha = 0.759).

b) Time spent with peers: Wikström et al. (2012) posit that the most criminogenic circumstances are those where young people spend time unsupervised with peers outside school and work in unstructured activities. Therefore, participants were asked how often they and their friends spent time in unstructured peer-oriented activities (six items). For example, 'how often do you and your friends spend time outdoors in streets, parks or playgrounds without doing anything other than just hanging out together (for example, just chatting to each other)?' Response options to time spent with peer questions were 'never / almost never', 'once or twice a week', 'most days of the week (3-5 days a week)','all days, or almost all days, of the week (6-7 days a week)'. A higher score indicated a higher amount of time with peers (Cronbach's alpha = 0.716).

c) Peer crime involvement: Young people's peers' involvement in crime is an indicator of their exposure to criminogenic influences (Wikström, 2009; Hirtenlehner et al. 2015; Wikström et al. 2012). Participants were asked about the extent of their peers' engagement in eight acts of rule-breaking relevant to the Saudi context such as 'being absent from school without an excuse', smoking cannabis or having a secret relationship. For each crime, the response options were: 'no, never', 'yes, sometimes', 'yes, 'often (every month)' and 'yes, often (every week)'. A higher score represents a higher level of involvement in crime (Cronbach's alpha = 0.737).

The criminogenic exposure for starting secret relationship was computed similarly from the scores of peers' crime involvement and time spent with peers in areas with poor collective efficacy. The scores were transformed to categorical variables by recoding them to high, medium and low scores respectively using the same manner that used by (Wikström, 2009, Wikström et al., 2012). Therefore, is regarded high when the composite criminogenic exposure score

is one standard deviation or higher above the mean and regarded as low when the score is one standard deviation below the mean or lower. All other respondents with criminogenic exposure within one standard deviation of the mean were classified as medium criminogenic exposure.

5.6.4 Deterrence

Participants were asked questions about generalized deterrence perceptions – that is, the perceived risk of getting caught for certain crimes (perceived certainty). For example: 'do you think that there is a great risk of getting caught if you steal something from a shop? The response categories were: 'no risk at all', 'a small risk', 'a great risk' and 'a very great risk'. A higher score indicated a higher level of perceived risk of getting caught (Cronbach's alpha = 0.904).

5.6.5 Crime Involvement

The different types of criminal acts included in the PADS+ questionnaire (Wikström, et al. 2012) were adapted for the current study although variables in the PADS+ questionnaire which did not fit the Saudi context were changed. Questions describing bicycle use were replaced with car use because bicycles are not commonly used by adolescents in Saudi Arabia for climatic reasons. The researcher also changed the questions which referred to heroin use. Heroin use is uncommon in Saudi Arabia. Instead the researcher included a stimulant, fenethylline and amphetamine (known locally under the brand name of Captagon). The use of Captagon ranged between 10% and 73.3% (Bassiony 2013, Hafeiz 1995) in the Arabian Peninsula, because of its wide distribution (Bassiony 2013; Elasfar et al., 2014; Katselou et al., 2016). *'According to General Directorate of Narcotics Control, the Ministry of the Interior seizure of drugs in Saudi Arabia showed an increase for amphetamine (from 3.553231 tablets in 1998 to 62.016159 tablets in 2009'* (Bassiony 2013, p. 461*).*

Captagon is especially attractive to dealers because of its high profitability (Al-Hemiary, et al. 2014, Herbert 2014). Whilst taking illegal drugs (such as Captagon) is prohibited in Saudi Arabia in the same way as it is in many other countries. There are also delinquent acts which are culturally specific in that Saudi Law prohibits them although they are not illegal in many Western settings. For example, in Saudi Arabia it is illegal to engage in a secret relationship (have a romantic relationship out of marriage). Saudi law strongly segregates the sexes and

forbids gender relationships except those which are formally structured (e.g. at work). Saudi law thus regards secret relationships, which include meeting or dating, or chatting on the phone or on social media networks, as deviant behaviour. For these reasons, this researcher included questions about this behaviour.

The participants were asked about their (self-reported) involvement in the following twelve criminal / 'immoral' acts during the previous year and, if so, how many times they had committed the crime (crime frequency):

- Theft from a person
- Shoplifting
- Arson / fire-setting
- Taking Captagon
- Smoking cannabis
- Car crime
- Residential burglary
- Non-residential burglary
- Robbery
- Assault
- Vandalism
- Starting a secret relationship

The questions were framed in the following way: 'Have you taken Captagon in the last 12 months? The response options were 'Yes' or 'No'. The resulting data provided information on crime prevalence. Participants were then asked: 'If 'Yes', how many times did you take Captagon in the last 12 months?' This question provided information on crime incidence. However, to test different theoretical propositions of SAT theory, the current study used three different crime involvement measures as dependent variables. These include crime variety,

secret relationship and violent intention. Crime variety and prevalence of secret relationship will be discussed here and violent intention will be discussed in Section 5.6.6.

0) **Crime Variety**: Self-reported crime was measured using a variety scale which counted the different types of crime committed in the twelve months preceding the survey. Crime variety was chosen over the other two potential choices (crime incidence and crime prevalence) for the following reasons. Firstly, crime prevalence is a binary variable which indicates whether or not an individual has committed any crime in the preceding twelve months. Therefore, prevalence of crime is less statistically powerful because as a binary dependent variable it provides less discrimination between cases, compared to a continuous variable (MacCallum et al., 2002; Cohen, 1983). On the other hand, crime incidence is a frequency scale which counts how often an individual committed any type of crime in the preceding twelve months. Thus, it is also a continuous variable which discriminates between variables based on crime involvement, type of crime and frequency of crime. However, crime incidence was not chosen because many students who admitted committing crimes failed to provide the number of times each crime was committed, leading to multiple cases of missing data. Missing data was probably due to recall bias as it may be difficult for an individual to remember the specific number of times each crime was committed in the last twelve months, especially if such an individual is a serial offender. Such recall bias also makes frequency scales less reliable than variety scales (Bendixen et al., 2003; Sweeten, 2012). Finally, variety scales exhibit less skewness than frequency scales. This is important specifically when testing for interaction effects, which is one of the key propositions of SAT theory (Hirtenlehner, Pauwels and Mesko, 2015). However, a descriptive analysis will be performed on these different measures of crime.

b) Starting a secret relationship: Starting a secret relationship is considered a crime based on the criminal law in Saudi Arabia, but not a crime in other countries such as the UK. For comparative purposes this crime was considered separately and measured by one binary item (started or not started a secret relationship). As noted above, incidence was not used because of potential problems with a lack of memory.

5.6.6 Violent Intentions (Vignette Approach to Testing the Perception Choice Process)

Violent intentions were measured using a vignette (see Table 5.1). Alexander and Becker (1978) described vignettes as:

> *"…. Short descriptions of a person or social situation that contain precise references to what are thought to be the most important factors in the decision-making or judgement making processes of respondents" (1978: p. 94)*

The vignette approach is about presenting respondents with one or more scenarios and then asking them how they would respond if confronted with the circumstances of that scenario (Bryman 2012, p. 261, Hughes and Huby, 2004). The vignette approach is a way of asking mainly closed questions when examining people's intended behaviour or normative standards (Bryman 2012, p. 261).

In the current study, the researcher adopted a vignette developed by Wikström et al. (2012). Scenarios were used in PADS+ in order to test how participants would act "if they were the protagonists in specific hypothetical scenarios" (Wikström et al., 2012: p. 367). The respondents were asked to indicate what they would do if they found themselves in that situation.

Vignettes offer a useful method for testing the perception-choice process proposed in the situational model of SAT (Wikström, 2009). They represent "an experiment whereby we introduce individuals who differ in their crime propensity to settings that differ in criminogeneity, and observe how they interact" (Wikström et al., 2012: 365). Experimental manipulation of relevant key features of the setting enables this through variables which are causally relevant to the perception-choice process. The vignette approach thus facilitates the possibility of observing outcomes (whether or not crime occurs). This helps the researcher to understand personal and environmental factors, and the interactions which lead people to perceive and choose crime as an action alternative (Wikström et al., 2012).

Researchers in the PADS+ project aimed for clarity in vignettes, but also for familiarity and realism for adolescents growing up in the UK (Wikström et al., 2012: 370-373). One key

feature of the vignette approach, which is fundamental to this study, is that "it is plausible for participants to form judgements about how they would act in situations they have never encountered by applying attitudes to, and past experiences of, familiar situations" (Wikström et al., 2012: 371).

In the current study, the scene was the exit to a shopping mall, whereas the PADS+ version occurred at a bus stop, but buses (including school buses) are not commonly used by Saudis. The PADS+ version of this scenario was therefore modified to make the scenario easier to imagine and more realistic in the Saudi context. There were two manipulated criminogenic features of the setting; 'provocation' and 'monitoring' (deterrence). Each feature had two levels (see Table 5.1). The high-provocation scenario first involved the protagonist simply being pushed. He or she was then pushed again such that the second push broke the protagonist's property.

In the low provocation scenario, the protagonist was pushed for no reason and then ignored. The other manipulated criminogenic feature was monitoring, with its levels reflecting the presence or absence of security guards. The two levels of each of the criminogenic features of the setting were coded into categories A-D, accounting for levels of monitoring and provocation (Table 5.1). Levels of provocation and the presence or absence of security guards were each assigned a value according to the appropriate levels of each dimensions (Table 5.1). Based on the level of criminogeneity, the scenario permutations (A-D) were transformed into the criminogeneity scale, as shown in Table 5.2. The participants were asked to answer only one randomly assigned vignette, rather than several different vignettes. Being presented with more than one version of the scenario may lead to biased answers (Wikström et al., 2012: pp. 374-379). A criminogeneity scale scenario criminogeneity increases from scenarios A to D.

Table 5.1 Modified the KSA Scenarios – Derived from Wikström et al., 2012: P.374

Introduction: **Sara is waiting for her car at the shopping centre gate stop. She is listening to her Iphone.**		
DIMENSION	LEVEL	WORDING
Low Provocation High Provocation	Pushed and ignored Pushed twice and broken iPhone	Suddenly a girl walks by and pushes her. When Sara asks her why she pushed her the girl just ignores her. Suddenly a girl who walks by pushes her and she drops her iPhone to the ground and it breaks. When Sara asks her why she pushed her the girl pushes her once again.
High Monitoring Low Monitoring	Security guards None	There are two security guards walking near the shopping centre gate. There are no people at shopping centre gate.
OUTCOME	Violence	If you were Sara, how likely do you think it is that you would hit or push the girl that pushed you?
JUDGEMENT		Very likely Likely Unlikely Very unlikely
Scenario Universe Provocation	 Pushed and ignored Pushed twice and iPhone broken	Monitoring Security guards / No one A / B C / D

Table 5.2 Scenario Permutations, Levels of Dimensions and Criminogenity Source (Wikström et al. 2012: P.377)

Scenario Permutation	A	B	C	D
Level of Dimensions	High monitoring	Low Monitoring	High Monitoring	Low Monitoring
	Low Provocation	Low Provocation	High Provocation	High Provocation
Criminogeneity	Low	Medium Low	Medium High	High
Criminogeneity scale	0	1	2	3

5.7 Research Instrument

The lead PADS+ researcher, Professor Wikström, kindly provided the I-SAT Questionnaire Megadoc after he was contacted. The PADS+ items were selected from the original questions, with minor wording and context changes intended to enhance the appropriateness of the instrument to a different culture (Van De Vijer and Leung 1997: pp. 35-41). Therefore, variables in PADS+ questionnaire which did not fit the Saudi context were changed. However, these changes have been discussed in section 5.6.5. The full questionnaire English version is provided in Appendix 1.

5.7.1 Translation of the Questionnaires

The target population of the research were Arabic speakers. Because English is not widely spoken in the KSA, the questionnaire was translated and administered in Arabic. In order to ensure greater validity of the results, a multidisciplinary committee was set up to review the translated questionnaires based on guidelines provided by Beaton et al. (2000). The multi-disciplinary committee was comprised of a translator from a Translation Centre and an expert in criminology and social science from a Saudi University, who was a native Arabic and fluent English speaker. Methodological guidelines provided by Beaton et al. (2000) were used to adjust the study instrument for the target language and culture through the following stages:

Stage 1: Translating the questionnaire into Arabic from the base language of English. Two native speakers of Arabic from the Translation Centre, who were proficient in English, were employed. The researcher fully briefed the translators on the aims and measurement tools of the study. Each translated the questionnaires separately.

Stage 2: Gaining consensus from the multidisciplinary committee on the translated document. The translators and the researcher thoroughly discussed changes before adoption.

Stage 3: Back-translating the questionnaire from Arabic to English. The researcher employed a bilingual Arabic/English speaker to back-translate the questionnaires. This individual had no access to the original English version of the questionnaire.

Stage 4: Developing the final version for the pilot study. The study researcher and an expert in criminology and social science who was also bilingual Arabic / English speaker, carried out a comparative analysis of the questionnaire before and after the translation. Minor spelling mistakes were corrected after conducting the pilot study.

5.7.2 Pilot Study

The questionnaire was piloted to identify any potential issues or difficulties in understanding questions. Van Teijlingen et al. (2001) observe that a pilot study can be used to test the feasibility of the study and test any practical problems in actual use of the research instruments. The researcher piloted the questionnaire with ten students from schools (five students from one male school and five students from one female school) in Riyadh. These two schools were excluded from the list of high schools before conducting the random selection of schools in the main data collection phase. The purpose of pilot study was to assess each question's clarity and wording and to estimate the time needed to complete the entire questionnaire. The pilot respondents were encouraged to highlight ambiguous and / or unclear questions. Participants were allocated 45 minutes to complete the questionnaire. The researcher administered the questionnaire to female students and the research assistant administered to male students. This was due to the policy of gender segregation that applies in all Saudi education institutions. This procedure revealed that the instructions were clear and the time allocated was adequate to complete the questionnaire. Participants found minor spelling mistakes, which the researcher corrected. Overall, the piloted questionnaire was well received, understood, and easily completed by the pilot participants, confirming its suitability and validity.

5.8 Data Collection Procedure

A strict policy of gender segregation applies in all Saudi education institutions. As such, a male research assistant was employed to administer the questionnaires in boys' schools. This

assistant had a PhD and prior experience in managing questionnaire administration in a consistent, standardised way. His role was to distribute the questionnaires and collect them from the boys' schools. The researcher and the research assistant were in contact by mobile phone to answer any questions raised.

After the General Administration of Education (GAE) stamped copies of the questionnaire (in accordance with the regulation to conduct research in schools in Saudi Arabia), the researcher held meetings with the research assistant. The purpose was to explain the research aims and objectives, to describe the questionnaire and the method of distributing the questionnaires. In order to test intentions to use violence at different levels of criminogeneity, the questionnaires were organized in twenty repeating sets of four, to total 80 sets (FA, FB, FC and FD) for girls, and MA to MD for boys, before delivery to the research assistant. These versions related to the different scenarios outlined in Table 5.1.

Data collection took place during February 2017. The researcher visited the five selected girls' high schools and the research assistant similarly visited five boys' high schools. On the day of collection, the researcher visited the girls' schools for one day for each school. There she first met the school director showing her stamped copies of the questionnaire, confirming that the GAE had given permission for the study. The research assistant followed the same procedure for each of his allotted schools.

All students present in the selected classes were given the opportunity to participate in the study and they all participated. To ensure informed consent, all participants were given an identical information sheet detailing the purpose of the research and providing other information (Appendix 1). Section 5.10 discusses informed consent and other ethical issues in greater detail. The students were separated to prevent them from talking or copying the answers from each other. Participants completed questionnaires in their classrooms during one of their regular class periods, for about 40 minutes, with no teachers present. The students placed completed questionnaires in a box or envelope at the front of the classroom. The researcher and assistant used the same data collection procedure in all schools.

The final sample consisted of 588 students from high schools in Riyadh, of which 51.4% were male and 48.6% were female. Most (96.7%) of the participants were aged 16-18 years. A small number of participants were over 18, which is likely because they failed a year and then continued their studies. Slightly over half of the sample (55.6%) were Saudis

while the rest (44.4%) were non-Saudi. The high proportion of non-Saudi students might be related to the political conflicts in some Arab countries in the Middle East which led to migration into Saudi or it could be because their parents came to Saudi Arabia for work. However, 82.8% were born in Saudi Arabia while only 17.2 % were born in other countries. Further details on the sociodemopgraphic respondents are presented in Section 6.2.

5.9 Analytical Strategy

All analyses were conducted using IBM SPSS Statistics 24. Different regression analyses were employed to test the different hypotheses. Where appropriate, bivariate analysis, Ordinary Least Squares (OLS) regression and logistic regression were employed to investigate and evaluate relationships. The specific analytical methods used to address each research question will be discussed in the relevant chapters (Chapters 7 – 9).

5.10 Ethical Considerations

This study focused on young participants aged between 16 and 18 years old. Consequently, ethical considerations were fully considered during the design and data collection stages. Ethical approval was first obtained from the Ethics Panel at the University (see Appendix 2) and then permission was sought from the General Administration of Education (GAE) in Riyadh (see Appendix 3). In Saudi Arabia, researchers usually face difficulties in gaining access to the schools because of the regulation covering survey research. These regulations require the GAE to stamp each page of the questionnaire before its distribution to school students. The researcher delivered all eight versions of the questionnaire, containing the four variants (MA-MD) of the scenario for boys, and another four (FA-FD) for girls to GAE (female sector) for stamping. Sami was used as the male name in the scenario for the boys' version and Sara as the female name in the scenario for the girls' version. GAE tried to persuade the researcher to remove questions regarding secret relationships, smoking cannabis, drinking alcohol and taking Captagon. After a month of liaison and negotiation, the researcher succeeded in convincing officials that these questions were necessary and explained the relative significance of the selected questions to the study. Eventually GAE stamped all eight questionnaires and then more than 600 copies of the stamped questionnaires were made.

Research ethics concerns how researchers treat the people with whom they conduct research and whether they should or should not engage in particular research activities with research subjects (Bryman 2012, p. 130). Diener and Crandall (1978) list four main areas which should always be considered:

- The need to not harm participants;
- The need to obtain informed consent;
- The need to avoid invasion of privacy;
- Whether any deception is involved.

The definition of 'harm to participants' includes physical harm, harm to participants' development, loss of self-esteem and stress. To avoid this, cultural and religious differences between the KSA and those countries in which previous PADS+ and SAT studies had been conducted were noted, and consideration was given to questions that would or would not be acceptable within Saudi culture.

To overcome any possibility of a lack of informed consent, participants were provided with a written informed consent cover sheet on Page 1 of each questionnaire (see Appendix 1). The consent form notified them that:

- Each student's participation was voluntary;
- All students were free to refuse to answer any of the questions;
- Students could withdraw from completing the questionnaire at any time.

The information sheet also identified the researcher, gave contact details and encouraged the participants to ask questions and seek clarification.

To preserve confidentiality, the participants were instructed not to allow others to see or discuss their completed questionnaires. When processing data, the researcher followed the UK Data Protection Act (1998) and University guidelines, keeping the data file in secure password-protected files. To avoid any doubt, the researcher and research assistant also verbally informed the participants about the purpose of the study in class. They informed participants that if any student felt any emotional problems such as stress or anxiety arising from filling out the survey, they could contact either the researcher or their teacher or the social worker at their school. The participants were also informed they could leave any question blank if they did not want to answer it. The participants were assured that their data would be strictly confidential and only be used for the purposes specified and that no identifying information would be requested. Finally, the students were asked to indicate their consent before taking part in the research.

5.11 Conclusion

The chapter has discussed and justified the cross-sectional research approach used for this study, which is a partial replication of the PADS+ study in the KSA. The research questions focussed on the three main propositions of SAT including the interaction of propensity and exposure in the causation of crime, the conditional relevance of control, and the perception choice process. The research instrument, originally used by Wikström for PADS+, was adapted for the study while seeking to maintain the validity and reliability of the instrument. Finally, the data collection methods and data analysis techniques were also discussed. The next chapter will present some descriptive results. This is followed by three chapters (7, 8 and 9) that present the main findings from the current study.

CHAPTER 6 : DESCRIPTIVE RESULTS

6.1 Introduction

The purpose of this chapter is to describe the characteristics of the sample population in terms of the dependent and independent variables and the relevant control variables, including age, sex and nationality. The demographic characteristics of the sample will be outlined and the distribution of the dependent variables including incidence, prevalence, variety and violent intention, and their links with the control variables will be explored. The distribution of the independent variables, including crime propensity, morality, self-control and criminogenic setting will also be examined.

6.2 Sociodemographic Characteristics of the Respondents

The control variables in this study – gender, age and nationality – were decided based on the International Self Report Delinquency (ISRD-3) survey (Marshall et al., 2013) as discussed in Section 5.6.1. A total of 588 students completed the survey with almost an equal proportion of males (51.4%) and females (48.6%). Table 6.1 presents the nationality of the respondents. The proportion of Saudis was slightly above half of the respondents (55.6%), unlike in previous studies on SAT where a much larger proportion of the respondents were of the same nationality (Pauwels and Svensson, 2010; Wikström and Treiber, 2016). However, the majority of the respondents were born in Saudi and most (92%) of the non-Saudi respondents were citizens of other Arab countries which also operate the Islamic Sharia legal system. Thus, it is unlikely that the multinational composition of the sample influenced the results of the study.

Table 6.1 Nationality Distribution of The Respondents

Nationality	Frequency (%)
Saudi	327 (55.6)
Eritrean	7 (1.2)
American	1 (0.2)
Bengali	1 (0.2)
Chadian	1 (0.2)
Egyptian	25 (4.3)
Ethiopian	3 (0.5)
Iraqi	2 (0.3)
Jordanian	13 (2.2)
Lebanese	1 (0.2)
Malian	2 (0.3)
Moroccan	3 (0.5)
Nigerian	7 (1.2)
Pakistani	3 (0.5)
Palestinian	12 (2.0)
Sudanese	64 (10.9)
Syrian	67 (11.4)
Tunisian	1 (0.2)
Yemeni	47 (8.0)
Total	588 (100)

The age distribution of the respondents is presented in Table 6.2. The mean age of the respondents was 16.8 years with the majority (83.3%) aged 16 or 17 years. Only a small number of respondents (1.5%) were not teenagers.

Table 6.2 Age Distribution of The Respondents

Age	Frequency (%)
16	247 (42.0)
17	243 (41.3)
18	79 (13.4)
19	11 (1.9)
20	5 (0.9)
21	1 (0.2)
22	1 (0.2)
23	1(0.2)
Total	588 (100)

6.3 Prevalence of Crime in the Last 12 Months

6.3.1 Overall Crime Prevalence

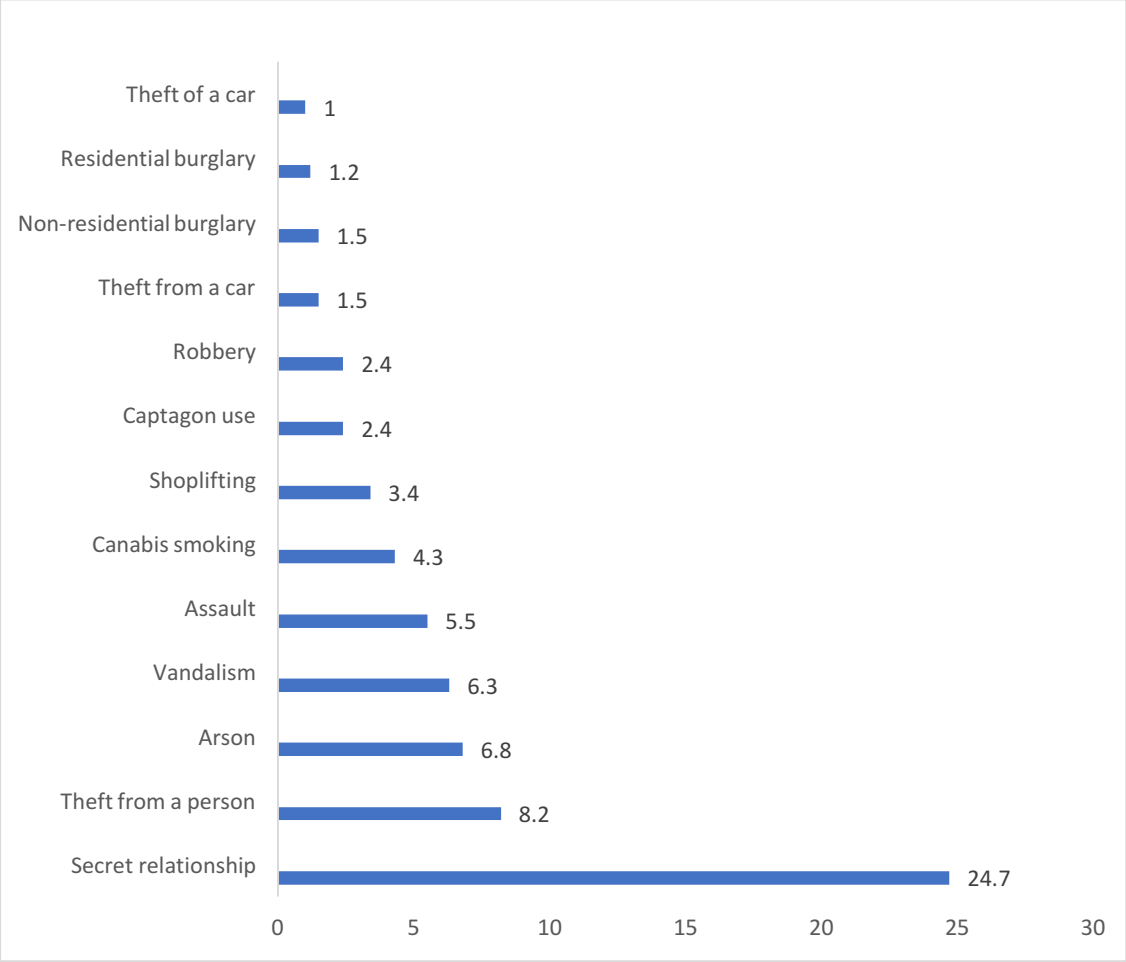
Crime prevalence indicates whether or not an individual has committed any crime in the preceding twelve months. When starting a secret relationship was not considered as a crime (for comparability with previous tests of SAT) a total of 136 students reported committing a crime in the past twelve months, giving a prevalence rate of 23.1%. However, the population of students who reported committing a crime in the last 12 months increased to 217 when starting a secret relationship was considered a crime (as it is within the Saudi context), with an overall prevalence of 36.9%.

Figure 6.1 shows the pravalence of each of the individual crimes. Starting a secret relationship was the most prevalent crime, with a prevalence of 24.7%. This was followed by theft from a person, with a prevalence of 8.2%. The high prevalence of secret relationship was not surprising among a group of adolescents.

Crime (excluding secret relationships) was less prevalent than the findings of a survey conducted in Dortmund and Nuremberg in which 20% of 6th grade pupils (aged 11 years old) and 26% of 10th grade pupils (aged 15 years old) reported committing a crime in the last 12 months (Schepers, 2014). The crime prevalence in this study is considerably less than the self-reported prevalence of 70% in the Peterborough study (Wikström et al., 2012). This is understandable as the Peterborough study was a longitudinal study in which the adolescents were followed up from 12 to 16 years with the prevalence reported over 5 years, in contrast to the cross-sectional approach of this study in which prevalence was reported over 12 months.

It is worthy of note that unlike other studies among adolescents in the Western World, shoplifting was less prevalent compared to other crimes which could be considered as more violent such as theft from a person and arson. The lower level of shoplifting among youths in Saudi Arabia compared to the Western World may be explained, albeit in part, by the strict penalty associated with shoplifting in Saudi Arabia.

Figure 6.1 Self-Reported Prevalence of Crime



6.3.2 Distribution of Crime Prevalence by Age

Table 6.3 shows the age distribution of crime prevalence among the respondents, along with independent sample t-tests, showing whether mean ages are different for those who do and do not commit each crime. The mean age of students who committed a crime was not significantly different from the mean age of students who did not commit a crime in the last 12 months, when secret relationship was not considered as a crime (p = 0.557). However, the mean difference between those who reported criminal behaviour and those who did not report criminal behaviour became significant when secret relationships were considered as a crime (p = 0.037). The only significant difference for individual crimes was for secret relationships, with those who started them tending to be older. This is interesting because, with such a narrow age range (mainly 16-17), one would not expect to find a significant difference in the age of those who offend, and the other 12 criminal behaviours showed that that was the case.

Table 6.3 Age Distribution of Crimes Among the Respondents

Variable	Mean Age (Standard deviation)		Mean difference (95% Confidence Interval)	p-value
	No Criminal Behaviour	Criminal Behaviour		
Theft from others	16.80 (0.91)	16.81 (0.73)	0.01 (-0.25, 0.27)	0.933
Shoplifting	16.80 (0.90)	17.00 (0.73)	0.21 (-0.14, 0.55)	0.233
Vandalism	16.80 (0.91)	16.78 (0.63)	0.02 (-0.24, 0.20)	0.858
Arson	16.80 (0.90)	16.78 (0.86)	0.03 (-0.32, 0.26)	0.837
Robbery	16.80 (0.90)	16.86 (0.86)	0.06 (-0.5, 0.56)	0.814
Assault	16.81 (0.91)	16.72 (0.68)	0.09 (-0.36, 0.17)	0.490
Residential burglary	16.80 (0.90)	16.71 (0.76)	0.09 (-0.79, 0.61)	0.767
Non-residential burglary	16.80 (0.90)	16.89 (0.60)	0.09 (-0.38, 0.55)	0.677
Theft from a car	16.80 (0.90)	16.89 (0.78)	0.09 (-0.52, 0.69)	0.747
Theft of a car	16.81 (0.90)	16.50 (0.55)	0.31 (-0.90, 0.27)	0.406
Captagon use	17.00 (0.88)	16.80 (0.90)	0.20 (-0.31, 0.71)	0.408
Cannabis smoking	16.79 (0.90)	17.00 (0.82)	0.21 (-0.14, 0.55)	0.229
Secret relationship	16.75 (0.86)	16.96 (1.02)	0.21 (0.02, 0.39)	0.028^{+}
All crimes excluding secret relationship	16.81 (0.93)	16.76 (0.96)	0.05 (-0.11, 0.21)	0.557

All crimes	16.74 (0.85)	16.90 (0.96)	-0.16 (-0.31, -0.01)	0.037[+]

[+] Significant result (p <0.05)

6.3.3 Distribution of Crime Prevalence by Gender

Details of gender differences in crime prevalence are presented in Table 6.4. More male students than females were involved in property and violent crimes including arson (p = 0.015), robbery (p = 0.040), assault (p = 0.044), residential burglary (p = 0.009), theft from a car (p = 0.002), theft of a car (p = 0.018) and shoplifting (p < 0.001). Furthermore, a higher number of females reported starting a secret relationship (p = 0.045). However, no gender differences were found for theft from others, vandalism, Captagon use or cannabis smoking. The higher prevalence of secret relationships among females could be due to a number of factors such as relationships with older men, relationships between a boy and multiple girls and / or international relationships through social media. It is worthy of note that only heterosexual secret relationships were investigated in this study, as stipulated in the Sharia Code of Conduct.

Surprisingly, females were also quite strongly represented in vandalism which are traditionally considered as more prevalent among males (Van Lier et al.,2005). The actual extent of female crime in Saudi Arabia has not been clear until now because of a lack of official statistics and published literature. The extent of female crime in Saudi Arabia has traditionally been difficult to assess because of its sensitive nature. No significant gender difference was found in overall crime prevalence between males and females. Although the overall crime prevalence was higher in males compared to females when secret relationships were excluded, the gender difference remained statistically insignificant. This is in contrast to the higher prevalence of crime among males which has been reported in recent empirical tests of SAT (Weerman et al., 2016).

Table 6.4 Distribution of Criminal Behaviour by Gender

Criminal Behaviours	No of Students (Percentage)		Test Statistics	
	Male N=302	Female N=286	χ 2	p-value
Theft from others	27 (8.9)	21 (7.4)	0.465	0.495
Shoplifting	18 (6.0)	2 (0.7)	12.320	0.001+
Vandalism	14 (4.6)	23 (8.1)	2.928	0.087
Arson	28 (9.3)	12 (4.2)	5.914	0.015+
Robbery	11 (3.6)	3 (1.1)	4.224	0.040+
Assault	22 (7.3)	10 (3.5)	4.056	0.044+
Residential burglary	7 (2.3)	0 (0)	6.686	0.009*+
Non-residential burglary	7 (2.3)	2 (0.7)	2.537	0.103*
Theft from a car	9 (3.0)	0 (0)	8.626	0.002*+
Theft of a car	6 (2.0)	0 (0)	5.721	0.018*+
Captagon use	9 (3.0)	5 (1.8)	0.946	0.331
Cannabis smoking	16 (5.3)	9 (3.2)	1.647	0.199
Secret relationship	64 (21.2)	81 (28.4)	4.120	0.042+
All crimes	109 (36.1)	108 (37.8)	0.176	0.732
All crimes excluding secret relationship	77 (25.5)	59 (20.6)	1.957	0.162

*Fischer's exact test used because of cells with expected count less than 5

+ Significant result ($p < 0.05$)

6.3.4 Distribution of Crime Prevalence by Nationality

The distribution of crime prevalence by nationality is presented in Table 6.5. The table shows that crime prevalence was not significantly influenced by the nationality of the respondents. As was noted in Section 6.2, nationality was not expected to play a prominent role in this study because most non-Saudi respondents were also born in Saudi or moved from

neighbouring Arab countries. Thus, they likely had similar criminogenic exposure to the Saudi respondents.

Table 6.5 Distribution of Crime Prevalence by Nationality

Criminal Behaviours	No of Students (Percentage)		Test Statistics	
	Saudi	Non-Saudi	$\chi 2$	p-value
Theft from others	24 (7.4)	24 (9.2)	0.631	0.427
Shoplifting	11 (3.4)	9 (3.4)	0.002	0.961
Vandalism	16 (4.9)	21 (8)	2.417	0.120
Arson	23 (7.1)	17 (6.5)	0.067	0.796
Robbery	7 (2.1)	7 (2.7)	0.178	0.673
Assault	21 (6.4)	11 (4.2)	1.395	0.238
Residential burglary	4 (1.2)	3 (1.1)	0.007	1.000
Non-residential burglary	4 (1.2)	5 (1.9)	0.455	0.520
Theft from a car	5 (1.5)	4 (1.5)	0.000	1.000
Theft of a car	5 (1.5)	1 (0.4)	1.897	0.234
Captagon use	10 (3.1)	4 (1.5)	1.467	0.226
Cannabis smoking	15 (4.6)	10 (3.8)	0.211	0.646
Secret relationship	78 (23.9)	67 (25.7)	0.237	0.626
All crimes	120 (36.7)	97 (37.2)	0.014	0.907
All crimes excluding secret relationship	77 (23.5)	59 (22.6)	0.072	0.788
Total	326	261		

6.4 Incidence of Crime in the Previous 12 Months

6.4.1 Overall Incidence of Crime

Crime incidence indicates how often an individual committed any type of crime in the preceding twelve months. Interpretation of crime incidence can be confusing as it indicates the number of times each person committed any type of crime rather than the number of times each crime was committed by each of the respondents in the last 12 months. The incidence of crime among the respondents is presented in Table 6.6. When secret relationships were considered as a crime, 46 (7.8%) of respondents reported committing a crime only once, while 75 (12.8%) of the respondents admitted being repeat offenders. When secret relationships were not considered a crime, the number of respondents who committed crime only once reduced to 27 (4.6%) and the number of repeat offenders reduced to 55 (9.4%). It is worthy of note that 14.5% of the respondents, despite admitting that they started a secret relationship in the last 12 months, did not provide the frequency of the crime. This illustrates the issue of missing data, which makes crime incidence an unreliable measure of crime involvement, as discussed in Section 5.6.5. Thus, the actual incidence of crime is likely higher than presented in Table 6.6. On the other hand, the respondents who reported a very high frequency of crime, above 20, might have provided an estimate since it would be practically difficult to remember the precise number of times a crime was committed in the last twelve months for very high frequency offenders, unless they kept a diary of crime, which was not the case in this study.

Table 6.6 Self-Reported Incidence of Crime

No of times crime was committed in the last 12 months (Incidence of Crime)	No of students (Percentage) N=588		
	All 13 crimes including secret relationships N (%)	12 crimes – excluding secret relationships N (%)	Only secret relationships N (%)
0	371 (63.1)	452 (76.9)	443 (75.3)
1	46 (7.8)	27 (4.6)	40 (6.8)
2	21 (3.6)	21 (3.6)	9 (1.5)
3	18 (3.1)	6 (1)	4 (0.7)
4	3 (0.5)	3 (0.5)	0 (0)
5	8 (1.4)	6 (1)	1 (0.2)
6	5 (0.9)	3 (0.5)	1 (0.2)
7	2 (0.3)	1 (0.2)	1 (0.2)
10	2 (0.3)	2 (0.3)	0 (0)
12	2 (0.3)	2 (0.3)	0 (0)
13	1 (0.2)	1 (0.2)	0 (0)
15	1 (0.2)	1 (0.2)	0 (0)
17	1 (0.2)	1 (0.2)	0 (0)
20	3 (0.5)	1 (0.2)	2 (0.3)
26	1 (0.2)	1(0.2)	0 (0)
27	1 (0.2)	1 (0.2)	0 (0)
28	1 (0.2)	2 (0.3)	0 (0)
30	0 (0)	1 (0.2)	0 (0)
31	2 (0.3)	0 (0)	0 (0)
44	1 (0.2)	1 (0.2)	0 (0)
50	0 (0)	0 (0)	1 (0.2)
70	0 (0)	1 (0.2)	0 (0)
120	1 (0.2)	0 (0)	0 (0)
200	1 (0.2)	0 (0)	1 (0.2)

6.4.2 Distribution of Crime Incidence by Age

The mean incidence rates for respondents of different ages are shown in Table 6.7. When secret relationships were not included as a crime, mean crime incidence in the last twelve months showed a consistent decreasing pattern as age increased. The decreasing incidence of crime with increasing age could be attributed to increasing psycho-social maturity, which allowed the individuals to overcome juvenile delinquency associated with adolescent years. However, this pattern was lost when secret relationships were considered as a crime. This was not unexpected as starting a secret relationship may be influenced by a number of other complex factors such as the legitimate age of marriage, fidelity etc.

Table 6.7 Distribution of Crime Incidence by Age

Age	Mean Crime Incidence		
	All 13 crimes including secret relationships	12 crimes – excluding secret relationships	Only secret relationships
16	7.34	7.8	3.7
17	4.9	5.4	2.5
18	4.9	4.8	4.1
19	1.7	2.0	1
21	1.00	-	1
22	200	-	200

6.4.3 Distribution of Crime Incidence by Gender

The distribution of crime incidence by gender is presented in Table 6.8. Generally, the incidence of crime appeared higher among males compared to females but there was no significant difference apart from secret relationships and all crimes. In addition, no female was involved in residential and non-residential burglary, theft from a car or theft of a car. The incidence of secret relationships was significantly higher among males than females despite the fact that the prevalence of secret relationships was higher among females in section 6.3.3. This might indicate that a small number of men were involved in secret relationships with a number females simultaneously. In the same vein, the mean crime incidence was higher for males for all crimes when secret relationships were considered as a crime. However, the mean difference between the genders was not significant for all other

crimes. Thus, it appears that male and female adolescents were equally involved in criminal behaviours in Saudi Arabia, apart from in starting secret relationships, which were more prevalent among females but with a higher incidence among males. Residential and non-residential burglary, theft from a car and theft of a car which were exclusively reported among males.

Table 6.8 Distribution of Crime Incidence by Gender

Crimes	Mean Incidence (Standard deviation)		Mean difference (95% Confidence Interval)	p-value
	Male	Female		
Theft from others	9.43 (18.39)	2.47 (2.26)	6.96 (-2.85, 16.77)	.157
Shoplifting	5.60 (8.11)	10 (-)	-4.400 (-29.07, 20.27)	.646
Vandalism	2.60 (2.07)	5 (6.13)	-2.400 (-8.33, 3.53)	.408
Arson	2.33 (2.89)	4 (4.44)	-1.667 (-4.76, 1.43)	.276
Robbery	3.75 (2.50)	5 (-)	-1.250 (-10.15,7.65)	.685
Assault	2.82 (2.82)	3.29 (5.19)	-.468 (-4.45, 3.51)	.806
Residential burglary	2.50 (3.00)	-	-	-
Non-residential burglary	1.00	-	-	-
Theft from a car	2 (1.41)	-	-	-
Theft of a car	1.00	-	-	-
Captagon use	3 (2.65)	2 (-)	1 (-12.15, 14.15)	.775
Cannabis smoking	5.33 (4.22)	4 (5.20)	1.333 (-6.23, 8.90)	.689
All crimes except secret relationship	7.9 (13.74)	5 (6.82)	2.6 (-2.18, 7.35)	0.284
All crimes	12.02 (32.50)	4.01 (5.9)	8.01(.158, 15.85)	0.046
Secret relationship	16.78 (47.25)	1.81 (4.06)	14 .97 (0.47, 29.46)	0.043

6.4.4 Distribution of Crime Incidence by Nationality

The distribution of crime incidence by nationality of the respondents is presented in Table 6.9. There was no significant different between Saudi and Non-Saudi respondents in reported incidence for all crimes, including secret relationships.

Table 6.9 Distribution of Crime Incidence by Nationality

Crimes	Mean Incidence (Standard deviation)		Mean difference (95% Confidence Interval)	p-value
	Saudi	Non-Saudi		
Theft from others	7.79 (18.07)	4 (5.79)	3.79 (-6.29 ,13.86)	.448
Shoplifting	2 (1.41)	8.50 (8.58)	-6.50 (-24.45, 11.45)	.372
Vandalism	5.38 (6.28)	3.85 (5.13)	1.53 (-3.72, 6.78)	.549
Arson	2.71 (3.22)	3.30 (4.14)	-.586 (-3.70, 2.53)	.700
Robbery	3 (2.83)	4.67 (2.08)	-1.67 (-8.51, 5.18)	.495
Assault	2.64 (4.13)	3.57 (3.36)	-.935 (-4.89, 3.02)	.623
Residential burglary	1 (.000)	4 (4.24)	-3.00 (-15.91, 9.91)	.423
Non-residential burglary	1 (-)	-	-	-
Theft from a car	1(-)	3 (-)	-2.33 (-)	-
Theft of a car	1 (-)	-	-	-
Captagon use	1 (-)	3.33 (2.31)	-2.33 (-13.81, 9.14)	.474
Cannabis smoking	4 (5.20)	5.33 (4.23)	-1.333 (-8.90, 6.23)	.689
All crimes	8.94 (28.94)	5.71(9.18)	3.23 (-4.64, 11.10)	0.418
All crimes except secret relationship	5.61(11.28)	7.08 (10.45)	-1.46531(2.41, -6.27)	0.546
Secret relationship	12.15 (39.61)	1.81 (3.26)	10.33 (-3.29, 23.95)	0.134

6.5 Crime Variety

6.5.1 Overall Crime Variety

Crime variety is defined as the number of types of crime committed in the past 12 months. Table 6.10 shows the crime variety statistics for the whole sample. When secret relationships were not considered as a crime, 87 participants (14.8%) reported they had committed only one type of crime in the last twelve months. This increased to 133 (22.7%) when secret relationships were included as a crime.

Table 6.10 Self-Reported Crime Variety

No of crime types committed in the last 12 months (Crime variety)	No of students (%) N=588	
	All 13 crimes including secret relationship N (%)	All 12 crimes without secret relationship N (%)
0	371 (63.1)	452 (76.9)
1	133 (22.7)	87 (14.8)
2	45 (7.7)	24 (4.1)
3	18 (3.1)	9 (1.5)
4	8 (1.4)	5 (0.9)
5	3 (0.5)	4 (0.7)
6	3 (.05)	1 (0.2)
7	1 (0.2)	1 (0.2)
8	2 (0.3)	2 (0.3)
9	2 (0.3)	2 (0.3)
10	1 (0.2)	0 (0.0)
12	0 (0.0)	1 (0.2)
13	1 (0.2)	0 (0.0)

6.5.2 Distribution of Crime Variety by Age

The age distribution of crime variety is presented on table 6.11. There is no specific pattern but it appears that young people who above 20 years of age were more likely to be involved in secret relationships.

Table 6.11 Distribution of Crime Variety by Age

Age	Mean Crime Variety	
	All 13 crimes including secret relationship (%)	All 12 crimes without secret relationship (%)
16	0.6	0.4
17	0.8	0.5
18	0.8	0.5
19	0.5	0.1
20	0.6	0.2
21	1	0
22	1	0
23	0	0

6.5.3 Distribution of Crime Variety by Gender

Table 6.12 shows the gender differences in crime variety. Mean crime variety was significantly higher among males compared to females for all crimes, when secret relationships were not included as a crime.

Table 6.12 Distribution Of Crime Variety By Gender

Variables	Mean Crime Variety (Standard deviation)		Mean difference (95% Confidence Interval)	p-value
	Male	Female		
All crimes	0.782 (1.71)	0.592 (.898)	.197 (-.027, .420)	0.085
All crimes without secret relationships	0.576 (1.53)	0.306 (.679)	.270 (.076, .464)	0.007

6.5.4 Distribution of Crime Variety by Nationality

Table 6.13 shows nationality differences in crime variety. There were no significant differences between mean crime variety among Saudi and Non-Saudi respondents.

Table 6.13 Distribution of Crime Variety by Nationality

Variables	Mean Crime Variety (Standard deviation)		Mean difference (95% Confidence Interval)	p-value
	Saudi	Non-Saudi		
All crimes	0.69 (1.41)	0.70 (1.35)	-0.015 (-0.240, 0.210)	0.896
Crimes without secret relationship	0.45 (1.23)	0.44 (1.17)	0.002 (-0.195, 0.198)	0.986

6.6 Intention to Commit Crime in a Hypothetical Scenario

Two criminogenic features of a hypothetical setting, provocation and monitoring, were manipulated to create 4 hypothetical scenarios (A, B, C and D). The low provocation scenario involved a student simply being pushed and ignored, while in the high provocation scenario the student was pushed twice such that his / her phone broke. Additionally, the presence or

absence of security guards was used to represent high and low monitoring respectively. The participants were randomly assigned to only one scenario to avoid biased answers (Wikström et al., 2012). Scenarios A, B, C and D represent High Monitoring with Low Provocation, Low monitoring with Low provocation, High monitoring with High provocation and Low monitoring with High provocation, respectively. Wikström et al. (2012) theorised that the criminogeneity of the scenarios increases from (A) to (D).

6.6.1 Distribution of Violent Intention

Table 6.14 shows the proportion of students who had violent intention. Nearly half (45%) of the respondents reported that they were very likely to respond violently and almost one third (31.6%) said they were likely to respond violently to the scenario. These were higher than the prevalence of 28% for violent behaviour among young people in Saudi reported in a previous study (Sacarellos, et al. 2016). The higher prevalence in this section compared to the rate in the previous study may be due to the use of violent intention, which is likely to be higher than violent behaviour, because not everyone with violent intention will go ahead to carry out a violent behaviour.

The overall high violent response rate suggests that even the low provocation scenario (pushing and ignoring the person) was provocative enough to evoke a violent response. However, this is unlikely to influence the testing of the Perception-Choice-Process as what is important is that the level of provocation in two of the scenarios is higher than the level of provocation in the other two scenarios.

Table 6.14 Distribution of Violent Intention

Likelihood of Violent Intention	No of students (Percentage)
Very likely	263 (45)
Likely	185 (31.6)
Unlikely	81 (13.8)
Very unlikely	56 (9.6)
Total	585(99.5)

6.6.2 Distribution of Violent Intention by Age

Table 6.15 shows the age differences in likelihood of violent intention. Age does not appear to influence the likelihood of violent intention.

Table 6.15 Distribution of Violent Intention by Age

Likelihood of Violent Intention	Mean Age of Respondents
Very likely	16.83
Likely	16.78
Unlikely	16.70
Very unlikely	16.84

6.6.3 Distribution of Violent Intention by Gender

Table 6.16 shows the distribution of violence intention across gender groups. This analysis indicates that male respondents were significantly more likely to demonstrate a violent intention compared to female respondents.

Table 6.16 Distribution of Violent Intention by Gender

Gender		**No of Students (Percentage)**				**Test Statistics**	
		Very likely	Likely	Unlikely	Very unlikely	$\chi 2$	p-value
Male	N	151	99	25	26	18.368	0.000
	%	50.20	32.90	8.30	8.60		
Female	N	112	86	56	30		
	%	39.40	30.30	19.70	10.60		

6.6.4 Distribution of Violent Intention by Nationality

Table 6.17 shows the distribution of violence intention across nationality groups. There was no significant difference between Saudi and Non-Saudi respondents with regards to violent intention.

Table 6.17 Distribution of Violent Intention by Nationality

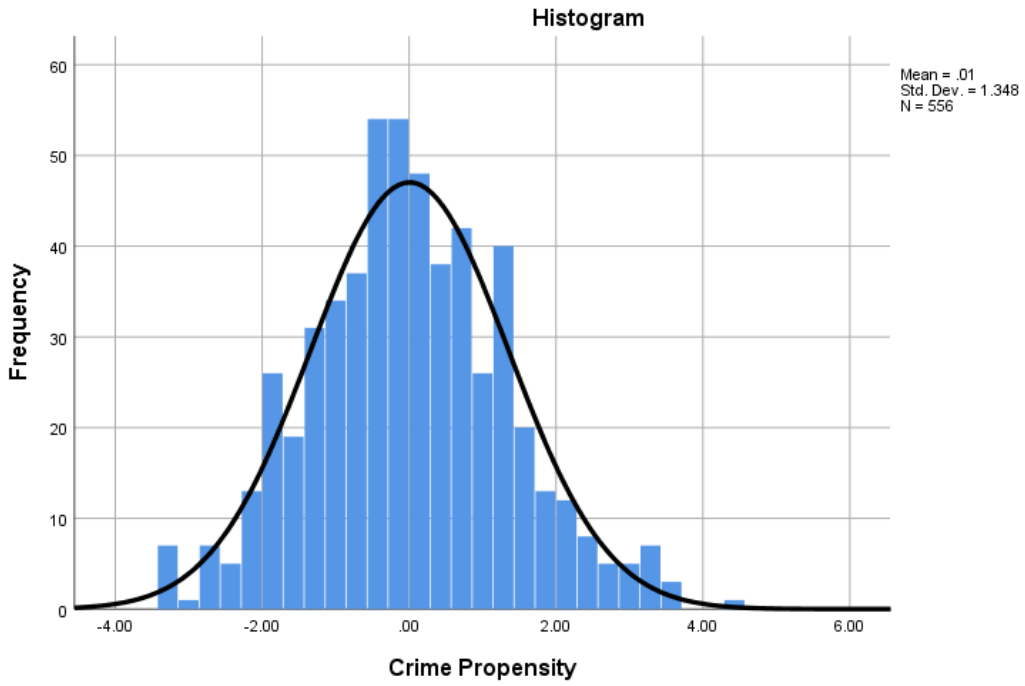
Nationality		**No of Students (Percentage)**				**Test Statistics**	
		very likely	likely	unlikely	very unlikely	$\chi 2$	p-value
Saudi	N	155	98	45	27	2.939	0.401
	%	47.70%	30.20%	13.80%	8.30%		
Non-Saudi	N	108	87	36	2900.00%		
	%	41.50%	33.50%	13.80%	11.20%		

6.7 Independent Variables

6.7.1 Overall Distribution of Independent Variables

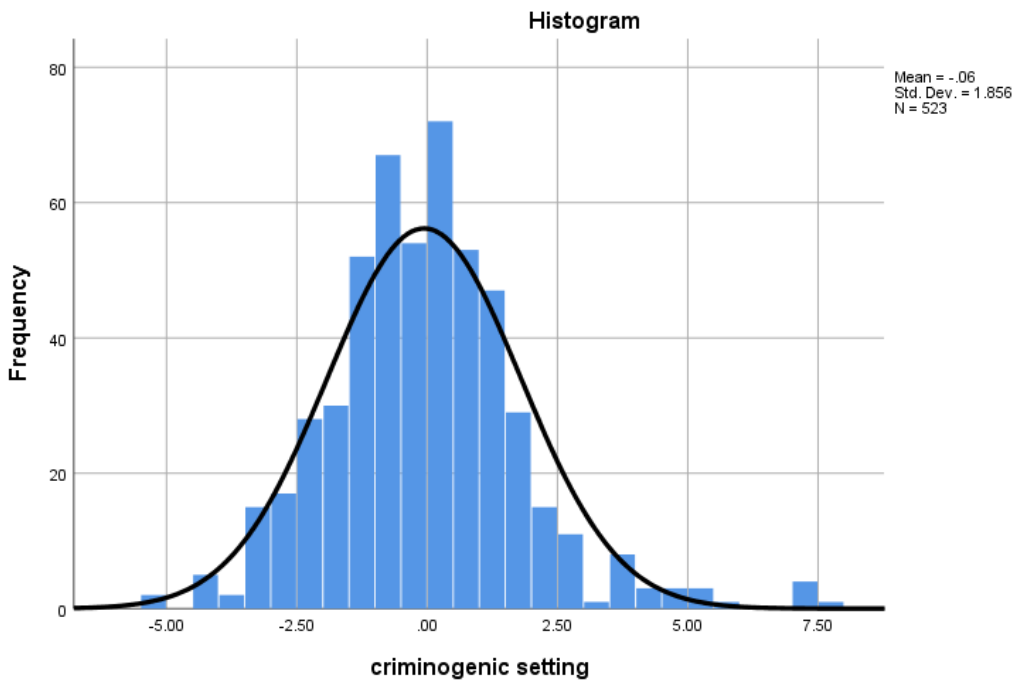
Crime propensity was obtained from the sum of z-scores of morality and self-control. Z-scores allow the combination of variables with different means and standard deviations, because they standardise the values in terms of distance from the mean. Thus, a student with a high self-control score (low self-control) and a high morality score (low morality) will have a high criminal propensity and vice-versa. Propensity to start a secret relationship was measured as a combined construct of morality and self-control (the Z-scores of both scales were added to create measure of propensity to start a secret relationship). Morality scale is a construct combining a measure of moral value and guilt (one item for each). As Figure 6.2 shows, the distribution was approximately normal with crime propensity ranging between -3.34 and 4.54 and a mean propensity of 0.01. This is similar to the results obtained by Wikström et al. (2012) where the crime propensity index ranged from -5.00 to 7.50 with a mean of 0.00.

Figure 6.2 Distribution of Crime Propensity



Criminogenic exposure was obtained by adding the z-score of time spent with peers, poor collective efficacy and peers' delinquency. Thus, high scores in both peer-delinquency and time spent with peers in areas with poor collective efficacy will result in a high exposure to criminogenic settings. As Figure 6.3 shows, the criminogenic exposure index in this study ranged from -5.16 to 7.81 with a mean score of -0.06. This is in contrast to the highly-skewed distribution with a mean of 6.80 obtained by Wikström et al. (2012) in which criminogenic setting was assessed using space–time budgets and social environmental data to determine how many hours a person spent in unstructured peer-oriented activities.

Figure 6.3 Distribution of Criminogenic Exposure



A summary of the independent variables' descriptive statistics is presented in Table 6.18. All of the variables have large standard deviations, suggesting a large spread of scores.

Table 6.18 Summary of Independent Variables' Descriptive Statistics

Variable	Mean score	Standard deviation	Minimum score	Maximum score
Moral emotion	9.26	10.50	0	40
Moral value	8.47	6.52	0	32
Morality	17.73	15.64	0	72
Morality of secret relationship	1.52	1.44	0	4
Self-control	10.36	4.70	0	23
Crime propensity (z score of self-control + z score of morality)	0.01	1.35	-3.34	4.54

Propensity to start a secret relationship	-.011	1.47	-3.26	4.20
Poor Collective efficacy (Social cohesion + Informal control)	26.74	8.95	0	44
Time spent with peers	3.47	2.87	0	16
Peers' crime involvement	2.79	2.89	0	21
Criminogenic exposure (z scores of peers. Crims + z score Time spent with peers+ z scores of poor collective efficacy)	-0.06	1.86	-5.16	7.81
Criminogenic exposure for starting a secret relationship (z scores of peer's crimes + z score Time spent with peers)	-.001	1.64	-1.98	7.16

6.7.2 Distribution of Independent Variables by Gender

Table 6.19 shows the distribution of independent variables by gender. Females had significantly higher mean scores for self-control and informal control. Since a high score indicates a lower level of the relevant construct, it indicates that females have less self-control and informal control compared to males. Having weak informal control might be related to the fact that, in general men in neighbourhoods (as men have more freedom for being ouside the houses) in Saudi Arabia people avoid contact with females or questioning them. It is worth mention that, the measurment of level of inforamal control in a neighbourhood captured the likelihood of adults' intervention. On the other hand, male respondents had significantly higher scores for moral values, moral emotion, morality, time with peers, peer crimes and criminogenic exposure, indicating a lower level of these variables among males. However, there was no significant difference in crime propensity between males and females. It was likely that the lower level of self-control in females counteracts the lower level of morality in males. Since criminal behaviour is based on propensity and exposure, equal propensity but higher criminogenic exposure in males may explain higher criminal behaviours among males.

Table 6.19 Distribution of Independent Variables by Gender

Variables	Mean (Standard deviation)		Mean difference (95% (Confidence Interval)	p-value
	Male	Female		
Self-control	9.31 (4.99)	11.43 (4.12)	-2.12 (-2.89, -1.36)	.000
Moral values	9.38 (7.78)	7.52 (4.66)	1.86 (0.81, 2.91)	.001
Moral emotions	10.86 (12.03)	7.57 (8.30)	3.29 (1.61, 4.97)	.000
Morality	20.24 (18.25)	15.09 (11.78)	5.15 (2.65, 7.66)	.000
Propensity	-0.048 (1.53)	0.059 (1.13)	-0.108 (-0.333, 0.117)	.344
Informal-control	8.38 (3.83)	10.01 (2.60)	-1.63 (-2.17, -1.09)	.000
Social cohesion	17.47 (8.61)	17.32 (6.11)	0.153 (-1.10, 1.41)	.811
Time spent with peers	4.37 (2.99)	2.51 (2.40)	1.86 (1.42, 2.31)	.000
Peer's crimes	3.08 (3.49)	2.49 (2.06)	0.58 (0.11, 1.05)	.015
Poor collective efficacy	26.10 (10.59)	27.35 (7.05)	-1.24 (-2.76, 0.27)	.108
Criminogenic exposure	.304 (2.18)	-.391 (1.43)	.694 (.380, 1.01)	.000
Criminogenic exposure for starting a secret relationship	.426 (1.80)	-.446 (1.31)	.873 (.613 ,1.13)	.000

6.7.3 Distribution of Independent Variables by Nationality

Table 6.20 shows the distribution of independent variables by nationality. Moral values and morality scores were higher among Saudis compared to non-Saudis. This suggests that Saudi respondents had lower moral values and lower morality. However, this did not reflect in overall difference in crime propensity or in criminal behaviours, as previously discussed.

Table 6.20 Distribution of Independent Variables by Nationality

Variable	Mean (Standard deviation)		Mean difference (95% Confidence Interval)	p-value
	Saudi	Non-Saudi		
Self-control	10.21 (4.88)	10.55 (4.45)	-.340 (-1.13, .449)	.398
Moral values	9.17 (7.36)	7.60 (5.19)	1.57 (.510, 2.62)	.004
Moral emotions	10.40 (11.59)	7.84 (8.78)	2.56 (.857, 4.26)	.003
Morality	19.57 (17.47)	15.44 (12.67)	4.13 (1.59, 6.66)	.001
Propensity	0.079 (1.42)	-0.090 (1.24)	.169 (-.056, .395)	.142
Informal-control	8.80 (3.45)	9.71 (3.18)	-.904 (-1.46, -.347)	.002
Social cohesion	17.29 (7.61)	17.52 (7.20)	-.236 (-1.50, 1.02)	.712
Time spent with peers	3.46 (2.97)	3.48 (2.75)	-.018 (-.490, .455)	.941
Peer's crimes	2.85 (3.12)	2.71 (2.58)	.141 (-.333, .616)	.559
Poor collective efficacy	26.181 (9.36)	27.46 (8.38)	-1.28 (-2.80, .244)	.100
Criminogenic exposure	-.086 (1.98)	-.025 (1.69)	-.061 (-.382, .260)	.708
Criminogenic exposure for starting a secret relationship	-.003 (1.73)	.002 (1.52)	-.005 (-.275, .266)	.974

6.7.4 Correlation of Independent Variables with Age

Table 6.21 shows the correlation of the independent variables with age. Criminogenic setting and peers' crime scores were weakly correlated with age. All independent variables, except criminogenic setting and propensity, were measured in such a way that a higher score means

a lower level on the construct they represent. This means the higher the age, the higher the peer crime score but the lower the peer crime. However, the positive correlation of age and criminogenic setting indicate that the higher the age, the higher the criminogenic setting exposure score and the higher the criminogenic setting exposure. One would have expected that criminogenic setting exposure and peer crime involvement should both relate similarly to age. However, it is likely that the effects of other measures that contribute to criminogenic exposure (i.e. time spent with peers and poor collective efficacy) attenuate the effect of peer crime involvement.

Table 6.21 Correlation of Independent Variables with Age

Variable (Scores)	Correlation with Age
Morality	.017
Self-control	.064
Moral values	-.010
Moral emotion	.031
Criminogenic setting	.108*
Peers' crime	.165**
Time with peers	.065
Collective efficacy	-.040
Social cohesion	-.032
Informal control	-.063
Crime Propensity	.056

6.8 Conclusion

This chapter has shown that the control variables including age, sex and nationality, played varying roles in the distribution of both the dependent and independent variables among the study population. Interestingly, the prevalence of secret relationships was higher among female respondents but the incidence of secret relationships was higher among the male

respondents. Crime variety for all crimes, without considering secret relationships and violent reactions, were also higher among males. Mean crime incidence also declined with age when secret relationships were excluded. Moral values and morality were lower among Saudi respondents compared to non-Saudi respondents. Females had less self-control and informal control compared to males. On the other hand, male respondents had significantly lower moral values, moral emotion, morality, time with peers, peer crimes and higher criminogenic exposure. It is worth reiterating that the purpose of this chapter was not to test any hypothesis of SAT. The results of testing of the three main propositions of SAT are presented in the following Chapters: 7, 8 and 9.

CHAPTER 7 : THE PRINCIPLE OF THE CONDITIONAL RELEVANCE OF CONTROLS

7.1 Part 1: The Interaction between Morality and Self-control in Crime

7.1.1 Introduction

The purpose of this chapter is to present and discuss the findings from the multivariate analyses to test for the Principle of Conditional Relevance of Controls (PCRC), which means that controls are only relevant to individuals whose low morality allows them to consider crime as an action alternative (Wikström and Svensson, 2010). In testing PCRC, two kinds of control will be considered: internal control, which is the level of the individual's ability to exercise self-control; and external control, which is the level of deterrence in the setting. Therefore, the first part of the chapter will test one of the key propositions of SAT theory. More specifically, the main objective of this analysis is to examine whether the effect of one's ability to exercise self-control on committing crime is conditioned on the level of personal morality. Therefore, this study seeks to contribute to the empirical foundation of SAT by testing the following hypotheses:

H1a. There is an interaction between morality and self-control in the causation of crime.

H1b. Self-control has a stronger effect on criminal behavior for individuals with low levels of morality than for individuals with high levels of morality.

7.1.2 Analytical Plan

Self-reported crime was measured using a variety scale which counted the number of different types of crime committed in the twelve months preceding the survey. As discussed in Section 5.65, Crime variety was chosen rather than crime prevalence because, being a binary variable, crime prevalence provides less discrimination between cases and is less statistically powerful (MacCallum et al., 2002; Cohen, 1983). Crime incidence was not used because there were issues with missing data and because recall bias made this variable less reliable (Bendixen et al., 2003; Sweeten, 2012). In addition, variety scales exhibit less

skewness than frequency scales. This is especially important when testing interaction effects, which are central to the hypotheses of SAT (Hirtenlehner, Pauwels and Mesko, 2015).

Starting a secret relationship, which is regarded as a crime in Saudi Arabia but not in other countries such as the UK, was considered separately and measured through the use of one categorical item. Self-control was measured using an 8-item scale which assessed impulsivity, risk-taking, and consideration of the future implications of actions (Wikström et al., 2012). Morality regarding crime was assessed using a 12-item shame scale, a 6-item guilt-scale and a 16-item moral value scale (Wikström et al., 2012)). Morality regarding secret relationships was measured using a 2-item scale involving a judgement about the wrongfulness of secret dating and guilty feelings after starting a secret relationship (See section 5.4.2).

Multiple linear regression analysis was used to investigate the interaction between self-control and morality in predicting crime variety. Multiple linear regression is a frequently used statistical method in social science research (Freedman, 1991). In particular, Ordinary Least Squares (OLS) regression is the procedure that is most popular in criminology research (Maddan et al., 2013). OLS regression is suitable for concurrently assessing the effects of multiple independent variables on a continuous dependent variable (Pallant, 2013). Given that this chapter is assessing the interaction effects of self-control and morality on crime variety, which is a continuous dependent variable, OLS regression is the most suitable method (Oberwittler and Gerstner 2014; Svensson and Oberwittler, 2010). In addition, OLS regression permits a researcher to assess the analysis of variance, which tells the amount of variance in the dependent variable that can be explained by the independent variables (Pallant, 2013). Thus, OLS regression allows a comparison of the relative contribution of each independent variable to changes in the value of the dependent variable (Pallant, 2013).

A number of assumptions need to be satisfied prior to multiple regression analysis (Berry and Feldman, 1985). Violations of assumptions are detected using a number of methods referred to as diagnostics. Before performing the OLS in this study, preliminary analyses were conducted to detect and (where necessary) correct for violations of the key assumptions of OLS. These assumptions include the linearity of relationships, homoscedasticity, the absence

of multicollinearity and the normality of the residuals (Maddan et al., 2013; Pallant, 2013). First, the distribution of the dependent variable – crime variety – was checked for normality. Crime variety showed positive skewness and kurtosis (skewness = 4.854, kurtosis = 30.716). However, skewness and kurtosis were alleviated after logarithmic transformation of crime variety (skewness = 2.239, kurtosis = 5.105).

Self-control and morality were mean-centred to avoid multicollinearity when introducing a multiplicative interaction term to the model (Wikström and Svensson, 2010; Hirtenlehner and Hardie, 2016). Correlation and collinearity diagnostics were used to test the multicollinearity assumption. The bivariate correlations between the variables (self-control, morality and age) was less than the suggested cut-off point of 0.7 (Pallant, 2013). The values of Tolerance and VIF in the OLS regression analyses results were also within the acceptable limits. Therefore, all the independent variables could be retained.

Finally, a visual inspection of both bivariate scatterplots and residual plots indicated that linearity and homoscedasticity assumptions were violated with the score roughly rectangularly distributed and most of the scores distributed around the centre. Linearity and homoscedasticity also improved after logarithmic transformation of crime variety. Although the assumptions of linearity of homoscedasticity were not completely alleviated after logarithmic transformation of crime variety, a strong association between a dependent and an independent variable should be noticeable irrespective of the chosen type of regression model (Fox, 1991). Although alternative regression models, such as negative binomial and Poisson, may alleviate this concern, these methods were not used because new problems may be introduced with regard to the study of interaction effects in models (Bowen, 2012). For example, a non-linear negative binomial regression model already captures a moderating effect before an interaction term is added and thus is not suitable for demonstrating an interaction effect (Bowen, 2012).

Although logarithmic transformation did not completely alleviate skewness, kurtosis, non-linearity and heteroscedasticity, the flexibility and robustness of multiple regression allows the use of the method even when assumptions are violated (Berry and Feldman, 1985). Thus, multiple linear regression models were run despite the skewed distribution of the crime

variety variable and other violations of OLS assumptions (Osgood, Finken, and McMorris 2002; Osgood, McMorris, and Potenza 2002; Sullivan and Livelsberger, 2010). Therefore, the interaction between self-control and morality in predicting crime variety was tested using OLS regression models (Antonaccio and Tittle, 2008; Wikström and Svensson, 2010; Bertok and Meško, 2013). The log of crime variety was added to the models as the dependent variable. Mean-centred self-control and mean-centred morality were included in the first model as independent variables. A multiplicative interaction term of self-control and morality was introduced in the second model. In the third OLS model, the control variables age, gender and nationality were added.

Separately, the interaction between self-control and morality in predicting the initiation of a secret relationship was investigated using binomial logistic regression models. The choice of binomial logistic regression was informed by the following reasons. Firstly, the secret relationship variable is dichotomous with two, mutually exclusive categories (i.e. 0 = not started a secret relationship in the previous 12 months; 1 = started a secret relationship in the previous 12 months). Secondly, logistic regression allows inclusion of both continuous and categorical predictor variables as used in this study (morality and age as continuous variables, self-control, gender and nationality as categorical variables). Therefore, the use of binary logistic regression is justified because this study is interested in testing the effects of multiple independent continuous and categorical variables in predicting the probability of a secret relationship, which is a dependent categorical variable (Pallanat, 2013;Van Damme and Pauwels, 2015). Morality was inputted as a continuous variable and self-control was inputted as a categorical variable because (in the current study) including both as continuous violated the Hosmer Lemeshow goodness of fit test. Mean self-control +/- 1 standard deviation was categorised as medium while higher and lower scores were categorised as low and high self-control respectively. Low self-control, Male and Saudi nationality were used as reference categories. Morality and self-control were added to the first model. Interaction terms between morality and the different categories of self-control were introduced in the second model. Finally, the control variables including age, gender and nationality were introduced in the third model.

7.1.3 Bivariate Correlation of the Variables

A bivariate correlation matrix between all the independent and dependent variables is presented in Table 7.1. Bivariate correlation is useful in estimating the magnitude and direction of linear relationships between two variables (Cohen et al., 2003)

Table 7.1 Bivariate Correlation Matrix

	Log of crime variety	**Mean centred Self-control**	**Mean centred morality**	**Age**
Log of crime variety	-			
Mean centred self-control	0.207***	-		
Mean centred morality	0.257***	- 0.097*	-	
Age	- 0.002	0.017	0.064	-

*p ≤ .05; **p ≤ .01; ***p ≤ .001

The correlation matrix shows a positive significant but fairly weak correlation between the log of crime variety and each of morality and self-control scores. As self-control and morality scores increase, log of crime variety also increases. High morality and self-control scores indicate low morality and self-control respectively. Thus, as morality and self-control reduce, log of crime variety reduces, which supports SAT. This supports SAT since high morality and self-control scores indicate low morality and self-control respectively. Therefore, the correlations between morality and crime and self-control and crime are relevant to the test of the theory. However, the results indicate only a weak correlation.

7.1.4 Testing the Interaction between Morality and Self-Control for Predicting Crime

The main aim of the analysis was to study whether there is an interaction between morality and self-control in the explanation of youth crime in Saudi Arabia. The OLS regression was conducted in order to answer this question and the results are presented in Table 7.2. In Model 1, the percentage of variance explained in the dependent variable, crime variety, was 12%. The results support the hypothesis that weak morality and low self-control are significant predictors of crime ($p<0.001$), as proposed by SAT. It is worth noting that low self-control was the stronger of the two (Beta = .279 vs. .234) (see Model 1 in Table 7.2).

This is not in line with SAT theory although similar results about the strong effect of self-control has been found in some studies among Dutch youth (Svensson et al. (2010), Bruinsma et al. (2015) and among Belgian youth (Pauwels and Svensson, 2017). Although morality and self-control are significantly associated with crime variety, and in the direction predicted by SAT, they do not explain a very large amount of the variance in crime variety. In the second model, the interaction term between self-control and morality was added, the interaction term was a significant predictor of crime engagement (Beta = 0.165, $t = 3.555$, $p<0.001$). These findings indicate an interaction between self-control and morality in the causation of crime, as predicted by SAT. Additionally, there was an increase in the overall variance explained by the model to 14%, with a significant change in F-value from the previous model (see Model 2 in Table 7.2). When the control variables of age, gender and nationality were introduced into the third model, both weak morality and low self-control remained significant predictors of crime ($p<0.001$). The interaction term of morality and self-control also remained significant (Beta = 0.152, $t = 3.372$, $p<0.001$), as predicted by SAT. In addition, gender has a significant negative coefficient (Beta = -0.119, $p <0.001$) indicating less crime among females. There was a significant change in F value compared to the previous model ($p<0.001$).

However, the interaction terms and the control variables had a low explanatory power as there was only a marginal increase in R^2 from 12% to 14% and 15% when interaction terms and the control variables were introduced to the second and third models respectively. The increase of 2% after the introduction of the interaction term suggests a weak size of interaction effect (Hirtenlehner and Kunz, 2016).

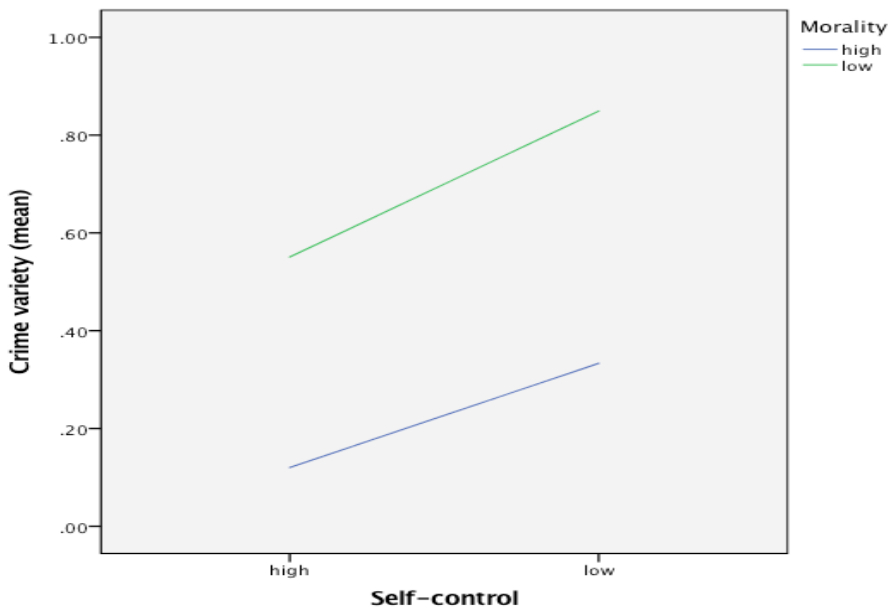
Overall, the OLS regression models confirm the existence of an interaction effect between morality and self-control in the prediction of crime. However, there was a clear distinction between the results of the current study and the SAT theory on the relative importance of morality and self-control in the prediction of crime. In this study, self-control was a stronger independent predictor of crime compared to morality in the first model, as opposed to the proposition of SAT that morality is a stronger predictor of crime.

Table 7.2 OLS Regression Models Showing Low Morality, Low Self-Control and The Interaction of Low Morality and Low Self-Control in Predicting Crime Variety

Predictors variables	Model 1				Model 2				Model 3			
	B	SE	Beta	t value	B	SE	Beta	t value	B	SE	Beta	t value
Low morality	0.003	0	**0.234*** **	5.832	0.004	0.001	**0.315*** **	6.88	0.004	0.001	**0.297*** **	6.391
Low self-control	0.012	0.002	**0.279*** **	6.966	0.011	0.002	**0.255*** **	6.331	0.012	0.002	**0.284*** **	6.86
Morality*self-control					0.000	0	**0.165*** **	3.555	0.000	0	**0.152*** **	3.272
Gender									-0.046	0.017	**-0.119** **	-2.797
Age									-0.008	0.009	-0.036	-0.901
Nationality									0.019	0.016	0.048	1.178
Constant	0.094	0.008		12.148	0.096	0.008		12.53	0.269	0.149		1.797
R2	**0.120*** **				**0.140*** **				**0.153*** **			
Change in F- value					**12.639*** **				**2.850** **			
*p ≤ .05; **p ≤ .01; ***p ≤ .001.												

To illustrate the nature of the interaction between morality and self-control in predicting the variety of youth crime in Saudi Arabia, and following previous researchers, an interaction diagram was also drawn to depict the relationship between self-control and crime variety, when the levels of morality are high and low (see Figure 7.1) (Wikström, 2009; Wikström and Svensson, , 2010 ; Svensson, , Pauwels and Weerman, 2010; Wikström, Tseloni and Karlis, 2011; Pauwels, Weerman, Bruinsma, and Bernasco, 2011 ; Hirtenlehner , Pauwels and Mesko, 2013; Hirtenlehner , Pauwels and Mesko, 2015; Svensson , 2015 **;** Hirtenlehner and Hardie , 2016 ; Hirtenlehner and Kunz , 2016 ; Pauwels and Svensson , 2017). Scores for self-control and morality were divided at the median into low and high levels for the purpose of the interaction diagram. The interaction diagram shows slightly less influence of self-control on mean crime variety at high morality compared to low morality, thus indicating that self-control has a stronger effect on criminal behaviour for individuals with low levels of morality than for individuals with high levels of morality. This supports SAT but the difference between the slopes of the two levels of morality is less pronounced compared to the results obtained by Wikström and Svensson (2010), who reported results more supportive of the SAT hypothesis. Wikström and Svensson (2010) reported a clear relationship between low self-control and the level of crime for youth with a low morality, while the relationship between the ability to exercise self-control and crime is non-existent for youth with high morality.

Figure 7.1 The Interaction Between Self-Control and Morality in Predicting Crime Variety



7.1.5 Self-control, Morality and Secret Relationships

The logistic regression models showing the relationship between self-control, morality and secret relationship are presented in Table 7.3. The first model shows that respondents with low morality were more than three times more likely to start a secret relationship compared to young people with high morality (OR = 3.678, $p<0.001$). On the other hand, participants with high self-control were 0.4 times as likely to engage in secret relationship, compared to those with low self-control (OR = 0. 386, $p<0.001$). In the second model, the interaction terms between morality and self-control in predicting secret relationships was introduced, the interaction term is a significant predictor of secret relationships. That supports SAT's proposition of the effect of self-control is substantially dependent on the level of morality that individual holds. Similarly, the interaction term between morality and self-control and low morality were significant predictors of a secret relationship when control variables were added in Model 3. In the third model, females were two times more likely to start a secret relationship compared to males (OR = 2.163, $p < 0.01$). Similarly, for each year increase in the age of the participants, the odds of starting a secret relationship increased 1.4 times (OR = 1.364, $p < 0.01$).

Nagelkerke R square increased across the models indicating improved model fit. The values of R square were generally higher for secret relationship models in Table 7.3 compared to crime variety models in Table 7.2 (52-55% compared to 12-14%). This is probably due to the logarithmic transformation which decreased the power of the OLS regression model for crime variety to demonstrate interaction effects.

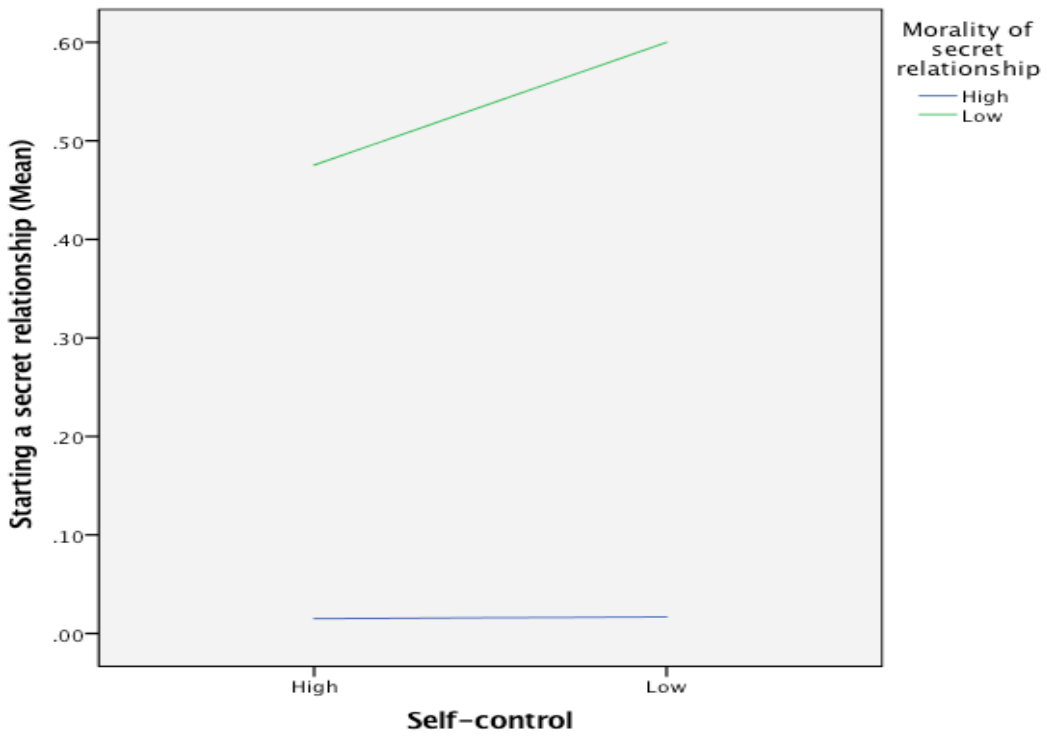
Table 7.3 Logistic Regression Models Showing Low Morality, Low Self-Control and The Interaction of Low Morality and Low Self-Control in Predicting Starting a Secret Relationship

Predictors variables	Model 1				Model 2				Model 3			
	B	S.E.	Wald	Exp (B)	B	S.E.	Wald	Exp(B)	B	S.E.	Wald	Exp(B)
Low morality (secret relationship)	1.302	0.115	127.257	**3.678*** **	1.614	0.238	46.147	**5.022*** **	1.682	0.244	47.714	**5.377*** **
Self-control			**11.54** **				0.937				1.391	
High self-control	-0.951	0.316	9.055	**0.386** **	0.777	0.803	0.935	2.175	0.958	0.817	1.377	2.607
Medium self-control	0.095	0.32	0.088	1.099	0.526	0.852	0.381	1.692	0.695	0.858	0.657	2.004
Morality* self-control							**6.363***				5.714	
Morality*self-control(High)					-0.647	0.287	5.092	**0.524***	-0.646	0.291	4.93	**0.524***
Morality*self-control (Med)					-0.151	0.326	0.215	0.86	-0.211	0.329	0.412	0.81
Gender (Woman)									0.771	0.287	7.235	**2.163** **
Age									0.31	0.154	4.057	**1.364***
Nationality (Non-Saudi)									0.366	0.283	1.672	1.442
Constant	-3.614	0.35	106.748	**0.027*** **	-4.396	0.644	46.625	**0.012*** **	-10.407	2.794	13.87	**0*** **
Nagelkerke R square	0.515				0.526				0.550			

*p ≤ .05; **p ≤ .01; ***p ≤ .001. Dependent variable reference category is No crime. Independent variable reference categories are Low self-control, Male and Saudi

To illustrate the nature of the interaction between morality and self-control in predicting starting a secret relationship among youths in Saudi Arabia, an interaction diagram was drawn. Self-control and morality scores were divided at the median into low and high levels for the purpose of the interaction diagram (Figure 7.2). Figure 7.2 shows that young people with high morality are unlikely to engage in secret relationships regardless of their ability to exercise self-control, as predicted by SAT. The findings show that the relationship between self-control and starting a secret relationship is completely absent among individuals with high morality and that low self-control is clearly related to crime involvement among individuals with low morality.

Figure 7.2 Interaction Between Self-Control and Morality nn Predicting Secret Relationship



7.1.6 Summary of the Interaction between Morality and Self-Control

The analyses in this section examined the existence of an interaction between self-control and morality in the causation of crime and tested whether morality moderates the effect of self-control on crime. The findings indicate that both self-control and morality are significant predictors of crime variety and secret relationships and demonstrate the existence of an interaction effect between morality and self-control, with regards to both secret relationship and crime variety.

However, the proposition on the conditioning effect of morality on self-control is more supported with regards to secret relationship than with crime variety. Self-control has no influence on starting a secret relationship among respondents with high levels of morality but substantial influence in those with low morality, indicating full support for SAT. On the other hand, self-control only has a slightly less influence on crime variety in individuals with high morality compared to individuals with low morality. Thus, this research indicates that young people with high morality are unlikely to start a secret relationship, regardless of their ability to exercise self-control, and less likely to engage in variety of crimes.

The second part of this chapter will test another key proposition of SAT theory, related to the interactive relationship between morality and deterrence on crime.

7.2 Part 2: The Interaction between Morality and Deterrence in Crime

The previous section examined the PCRC by testing the interaction between self-control (internal control) and morality in the causation of crime. The PCRC is further tested in this section by investigating the interaction between deterrence (external control) and morality, in the causation of crime. Therefore, this section seeks to contribute to the empirical foundation of SAT by testing the following hypotheses:

H1c. There is an interaction between morality and deterrence in the causation of crime.

H1d. Deterrence has a stronger effect on criminal behaviour for individuals with low levels of morality than for individuals with high levels of morality.

7.2.1 Analytical Plan

Crime variety, starting a secret relationship and morality were measured as described above (see Section 7.1). Deterrence was assessed with a 5-item scale on the perceived risk of getting caught when committing a crime (see Section 5.4.2). The rationale for the choice of crime variety as a dependent variable, OLS regression for investigating predictors of crime variety and logistic regression for investigating predictors of secret relationship have been discussed in Section 7.1 and remain the same here.

Before the multiple regression analysis, preliminary analyses were conducted to test assumptions of OLS including linearity, homoscedasticity, multicollinearity and normality of the residuals. Deterrence and morality were mean-centred to avoid multicollinearity (Wikström and Svensson, 2010; Hirtenlehner and Hardie, 2016). Multicollinearity diagnostics revealed tolerance and VIF within acceptable limits, that is, less than the suggested cut-off point of 0.7 for multicollinearity (Pallant, 2013). Finally, a visual inspection of both bivariate scatterplots and residual plots showed violation of linearity and homoscedasticity assumptions with a clustered distribution. Therefore, crime variety was transformed logarithmically to alleviate the non-linearity and heteroscedasticity issues.

7.2.2 Bivariate Correlation of Variables

The bivariate correlations of the independent variable and the continuous dependent variables are presented in Table 7.4.

Table 7.4 Bivariate Correlation Matrix

	Log of crime variety	Mean centred deterrence	Mean centred morality	Age
Log of crime variety	-			
Mean centred deterrence	-0.085*	-		
Mean centred morality	0.220*	- 0.477**	-	
Age	- 0.002	0.000	0.017	-

*p ≤ .05; **p ≤ .01; ***p ≤ .001

The correlation matrix shows a fairly weak correlation between the log of crime variety and morality. As morality score increases (i.e. morality decreases) log of crime variety increases. This suggests that people with lower levels of morality commit more crimes as predicted by SAT. However, there is a very weak negative correlation between crime variety and deterrence, which suggests that crime decreases as deterrence increases. This is in line with the prediction of SAT. Similarly, there is a moderate correlation between deterrence and morality. This correlation is lower than the recommended cut-off point of 0.7 for multicollinearity (Pallant, 2013).

7.2.3 Testing the Interaction between Morality, Deterrence and Crime

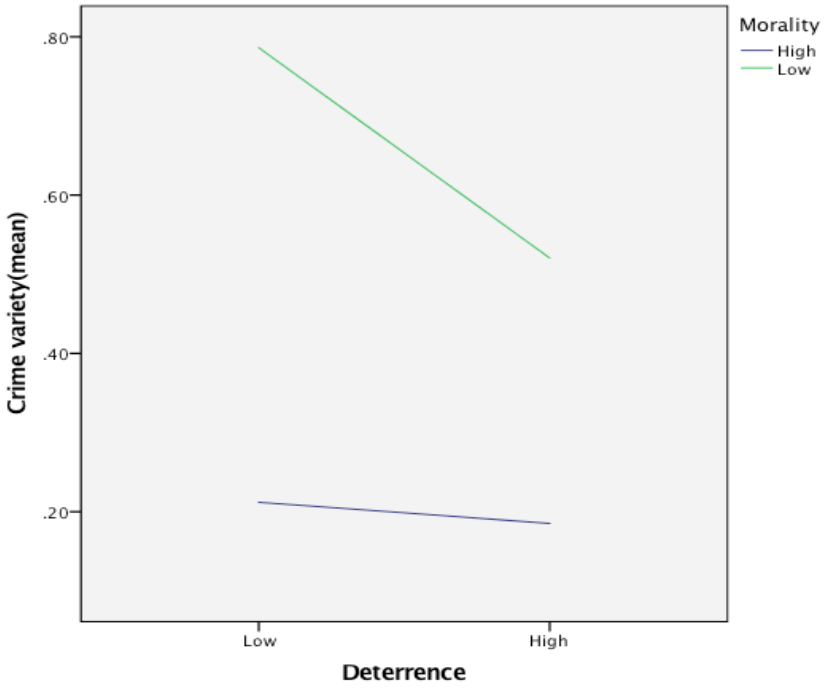
The OLS regression results are presented in Table 7.5. The first model shows the importance of low morality and deterrence in predicting Crime Variety, the second model includes the interaction term and the third model includes the control variables.

Table 7.5 OLS Regression Models Showing Low Morality, Deterrence and The Interaction of Low Morality and Deterrence in Predicting Crime Variety

Predictor	Model 1				Model 2				Model 3			
	B	SE	Beta	t value	B	SE	Beta	t value	B	SE	Beta	t value
low morality	0.003	0.001	**0.236*** **	5.115	0.006	0.001	**0.457*** **	7.045	0.006	0.001	**0.453*** **	6.951
Deterrence	0.001	0.002	0.028	0.609	0.003	0.002	0.08	1.709	0.003	0.002	0.083	1.762
Morality * Deterrence					0.001	0	**0.277*** **	4.76	0.001	0	**0.276*** **	4.744
Gender (Woman)									-0.021	0.016	-0.055	-1.309
Age									-0.002	0.009	-0.01	-0.256
Nationality (Non-Saudi)									0.012	0.016	0.03	0.715
constant	**0.095*** **	0.008		12.034	0.115	0.009		13.054	0.168	0.151		1.107
R2	**0.050*** **				**0.086** **				**0.089*** **			
change in -F value	**15.258*** **				**22.660*** **				0.637			
*p ≤ .05; **p ≤ .01; ***p ≤ .001. Reference categories are Male and Saudi												

The first model shows that weak morality is a predictor of crime (Beta = 0.236, t = 5.115, p < 0.001) as proposed by SAT, but deterrence is not a significant independent predictor of crime (see Model 1 in table 7.4). Similar results were reported by Wikström et al. (2011) for deterrence and shoplifting-related morality, and by Hirtenlehner and Hardie (2016). This model only explains 5% of the variance in crime variety. Thus, morality is a stronger predictor of crime as proposed by SAT compared to deterrence, which appeared not to be an independent predictor of crime involvement. This result is consistent with SAT in that the strength of personal morality is more fundamental for explaining crime than deterrence (Wikström and Treiber 2007; Wikström et al. 2011; Wikström 2014; Wikström et al. 2012). In the second model, the interaction term was added, and a significant interaction was found between deterrence and morality in the prediction of crime variety (Beta = 0.277, *t* = 4.76, p < 0.001). This indicates that deterrence has stronger effect for young people with weak morality level. The variance explained by the model increased to 8.6% and the change in F-value from the previous model was significant (p < 0.001) (see Model 2 in table 7.4). In Model 3, when the control variables Age, Gender and Nationality are introduced into the equation, and the interaction term remains significant (Beta = 0.276, t = 4.744, p < 0.001) with the increase in explained variance to 8.9%. It is worthy of note that the explained variance was generally lower for all the models (5-8.9%) compared to the OLS models in Table 7.2 which include self-control. This further highlights the lesser importance of deterrence as an external control of crime compared to self-control, which is the internal control. The coefficient of gender is negative suggesting females are less involved in crime than males, as previously reported in the literature. However, gender, age and nationality do not appear to be predictors of crime in this model as their effects are insignificant. In addition, an interaction diagram is presented to illustrate the nature of the interaction between morality and deterrence in predicting youth crime in Saudi Arabia. This depicts the relationship between deterrence and morality when the levels of morality are high and low (Figure 7.3).

Figure 7.3 The Interaction Between Deterrence and Morality in Predicting Crime Variety



Deterrence and morality were divided by the median into low and high levels for the purpose of the interaction diagram. Generally, the diagram shows that people with low morality committed a higher number of crimes irrespective of the level of deterrence. In addition, deterrence has a higher impact on mean crime variety at low morality compared to high morality. This indicates that deterrence is more relevant for individuals with low morality who consider crime as an action alternative. Thus, deterrence has a stronger effect on criminal behaviour for individuals with low levels of morality than for individuals with high levels of morality, as predicted by SAT. Thus, the effect of deterrence is conditioned by the level of morality of an individual.

7.2.4 Deterrence, Morality and Secret Relationship

Table 7.6 presents the results of logistic regression analyses showing the interaction between deterrence and morality in the starting of secret relationships.

Table 7.6 Logistic Regression Models Showing Low Morality (Secret Relationship), Deterrence and The Interaction of Low Morality (Secret Relationship) and Deterrence in Predicting Starting a Secret Relationship

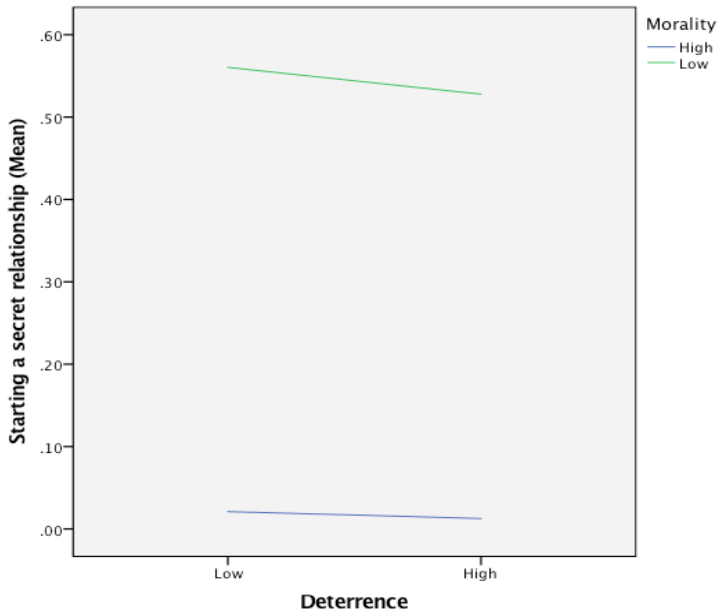
	Model 1				Model 2				Model 3			
	B	S.E.	Wald	Exp (B)	B	S.E.	Wald	Exp (B)	B	S.E.	Wald	Exp (B)
Low morality (secret relationship)	1.423	0.128	123.321	**4.149*** **	1.793	0.281	40.836	**6.009*** **	1.790	.278	41.559	**5.991*** **
Deterrence			**21.206*** **				3.151				3.889	
No risk at all	-1.131	.386	8.610	**0.323** **	.938	.833	1.271	2.556	1.046	.831	1.583	2.845
A small risk	0.404	.368	1.205	1.497	.819	.931	.774	2.269	.884	.927	.910	2.421
A great risk	-.591	0.451	1.716	0.554	-1.071	1.347	.632	.343	-1.288	1.387	.862	.276
Morality * Deterrence							**8.757***				**8.258***	
Morality * No risk at all					-.811	.332	5.977	**.445***	-.780	.330	5.598	**.459***
Morality *A small risk					-.260	.393	.439	.771	-.266	.392	.461	.766
Morality * A great risk					.133	.547	.059	1.142	.208	.565	.135	1.231
Gender (Woman)									.615	.278	4.887	**1.849***
Age									.253	.146	3.014	1.288
Nationality (Non-Saudi)									.373	.274	1.846	1.452
Constant	-3.745	.344	118.454	**0.024*** **	-4.424	.604	53.571	.012***	-9.218	2.568	12.887	**0.000*** **
Nagelkerke R square	0.543				0.557				0.573			

*p ≤ .05; **p ≤ .01; ***p ≤ .001.
Dependent variable reference category is No secret relationship. Independent variable reference categories are A very great risk, Male and Saudi

The first model shows that respondents with low morality are four times more likely to start a secret relationship compared to young people with high morality (OR = 4.149, $p < 0.001$), indicating that morality is an independent predictor of secret relationships. Surprisingly, respondents who perceived no risk of getting caught were 0.3 times as likely to start a secret relationship compared to those who perceived a very great risk of getting caught (OR = 0.323, $p < 0.01$). This is in contrast to SAT, which predicts reduction in crime involvement with an increased perceived risk of getting caught. When interaction terms were introduced in the second model, low morality remained a strong predictor of secret relationships, and students with low morality were six times more likely to start a secret relationship compared to students with high morality (OR = 6.009, $p < 0.001$). The interaction term of morality and deterrence is significant in the prediction of crime ($p < 0.05$) and the interaction is significant among the students with lowest level of perceived deterrence, i.e., no risk of getting caught (OR, 0.445, $p < 0.05$). When the control variables, Age, Gender and Nationality, were introduced, low morality remains a strong predictor of secret relationships, with respondents with low morality six times more likely to start a secret relationship compared to those with high morality (OR = 5.991, $p < 0.001$). In the same vein, the interaction between morality and deterrence was significant ($p < 0.01$). The interaction was significant among individuals who perceived no risk of getting caught (OR = 0.459, $p < 0.05$). Additionally, the Nagelkerke R square was generally high across the models.

To illustrate the nature of the interaction between morality and deterrence in predicting starting a secret relationship among youths in Saudi Arabia, an interaction diagram is used to depict the relationship between deterrence and morality when the level of morality is high and low. Deterrence and morality were divided at the median into low and high levels for the purpose of the interaction diagram (see Figure 7.4).

Figure 7.4 The Interaction Between Deterrence and Morality in Predicting Starting a Secret Relationship



The graph in Figure 7.4 shows that young people with high morality are unlikely to engage in secret relationships regardless of their perceived level of deterrence as predicted by SAT. When morality was low, involvement in crime reduced with increasing deterrence as also predicted by SAT. The results demonstrate that the relationship between perceived deterrence and starting a secret relationship is almost absent when morality is high and there is a clear relationship between deterrence and the level of offending for those with weak morality. However, it is not a strong relationship.

7.2.5 Summary of the Interaction between Morality and Deterrence

The second part of this chapter examined whether there is an interaction between morality and deterrence in crime variety and starting a secret relationship. This study finds an interactive effect between morality and deterrence. Morality is also shown as a predictor of crime variety and secret relationship as predicted by SAT. Similarly, deterrence is more relevant to individuals with low morality as predicted by SAT. However, deterrence does not appear to be an independent predictor of crime variety or starting a secret relationship among youth in Saudi Arabia. One explanation that might contribute to our understanding of this difference between Saudi Arabia and elsewhere is that, whilst committing a crime, including starting a secret relationship, is treated as breaking the law in Saudi Arabia, it is also

considered as a sin in Saudi culture. Therefore, people in Saudi Arabia tend to commit this type of crime with high level of awareness of the circumstances and precautions.

7.3 Conclusion

The main objective of this chapter is to test SAT's PCRC. That means examining the interactive effect between morality and internal and external controls (self-control and deterrence). Firstly, the findings provide a strong support for the key propositions of SAT that morality is a fundamental factor in explaining crime variety and secret relationships. Secondly, the findings provide only modest empirical support for the interaction between morality and controls (deterrence and self-control) in predicting crime variety as the explained variance is generally low (less than 20% for all models) even after introducing the multiplicative terms. However, the results of the PCRC testing with regards to secret relationships appear to yield a stronger empirical support for SAT. Although high pseudo R square in logistic regression models does not indicate explained variance, the consistently flattened slopes of the individuals with high morality of secret relationship provides evidence that the PCRC holds better for secret relationship, when compared to crime variety.

CHAPTER 8 : CRIME PROPENSITY, CRIMINOGENIC EXPOSURE AND YOUTH CRIME

8.1 Introduction

The main assumption of Situational Action Theory (SAT) is that crime is a result of the interaction between individuals' crime propensity and their criminogenic exposure. Therefore, the purpose of this chapter is to examine the extent to which there is an interaction between peoples' propensity to commit crime and their exposure to criminogenic settings which may affect levels of involvement in crime. In other words, the chapter will examine whether criminogenic setting has a different impact on levels of involvement in crime for youths with different propensities to crime. In this chapter, the following hypotheses will be tested:

H2a. There is an interaction between individual's propensity to crime and criminogenic exposure in the prediction of youth crime.

H2b. Criminogenic exposure has a stronger effect on criminal behaviour for young people with high levels of crime propensity.

8.2 Analytical Plan

The dependent variables crime variety and starting a secret relationship were measured as described in the preceding chapter (See section 7.1.2). SAT theory considers morality and self-control as the key factors that determine an individual's crime propensity (Wikström et al, 2012). Crime propensity was assessed as a composite measure using a 16-item morality scale and 8-item self-control scale (see section 5.6.2). When testing the interactive effect between criminogenic exposure and crime propensity on crime variety, criminogenic exposure was derived as an index of collective efficacy, time with peers, and peers' crime involvement (see section 5.6.3). However, to predict starting secret relationship, collective

efficacy, a measure of informal control by adults and social cohesion in the neighbourhood, was not included as this may not be a key factor influencing secret relationships. Criminogenic exposure for starting a secret relationship was measured as an index of peers' crime involvement and time with peers. Wikström et al. (2012) acknowledges that the measurement of moral context (criminogenic setting) is not straightforward.

Multiple linear regression analysis was used to investigate the interaction between crime propensity and criminogenic exposure in predicting crime variety while logistic regression was used to examine the interaction between crime propensity and criminogenic exposure in predicting initiation of a secret relationship. The rationales for the choice of multiple linear regression for investigating predictors of crime variety and logistic regression for investigating predictors of secret relationship have been discussed in Section 7.1.2.

Prior to the multiple linear regression, a number of preliminary analyses were carried out to detect and correct as necessary the violations of the key OLS assumptions including linearity of the relationship between dependent and independent variables, homoscedasticity, absence of multicollinearity and the normality of the residuals (Maddan et al., 2013; Pallant, 2013). All independent variables were retained because the bivariate correlations of propensity, criminogenic exposure and age were less than the recommended cut-off point of 0.7 for multicollinearity (Pallant, 2013) and the results of collinearity diagnostics, tolerance and VIF, were also within the acceptable limits. A visual inspection of bivariate scatterplots and residual plots indicated violation of linearity and homoscedasticity assumptions. Therefore, crime variety was transformed logarithmically to improve linearity and homoscedasticity. Although logarithmic transformation did not completely achieve linearity and homoscedasticity, the robustness of multiple regression allows the use of the method even when assumptions are violated (Berry and Feldman, 1985) and a sufficiently strong interaction should be noticeable irrespective in any type of regression model (Fox, 1991) as discussed in section 7.1.2.

Three OLS regression models were used to investigate the interaction between crime propensity and criminogenic exposure in the prediction of crime. Log of crime variety was added to all the models as the dependent variable. In the first model, crime propensity and

criminogenic exposure were added as independent variables. A multiplicative interaction term of crime propensity and criminogenic exposure was introduced in the second model. In the third OLS model, the control variables age, gender and nationality were added. On the other hand, the interaction between crime propensity and criminogenic exposure in predicting initiation of secret relationship was investigated using binomial logistic regression models. Propensity to start a secret relationship and criminogenic exposure (time with peers and peer crime involvement) were added to the first model. In the second model, an interaction term of the independent variables was introduced. The control variables, gender, nationality and age, were added to the third model. Each logistic regression model indicated goodness of fit due to non-significant Hosmer and Lemeshow test values.

8.3 Bivariate Correlation of the Variables

Table 8.1 presents the bivariate correlations of all the continuous variables that were included in the analysis. This is to estimate the magnitude and direction of linear relationships between the variables (Cohen et al., 2003), as well as to assess multicollinearity (Meyers, Gamst and Guarino, 2013).

Table 8.1 Bivariate Correlation Matrixrix

	Log of crime variety	Crime propensity	Criminogenic exposure	Age
Log of crime variety	-			
Crime propensity	0.345**	-		
Criminogenic exposure	0.329**	0.308**	-	
Age	-0.002	0.056	0.108*	-

There is a weak positive correlation between the log of crime variety and crime propensity. This suggests that crime increases with increasing crime propensity exposure, as postulated in SAT theory. Similarly, crime variety is positively correlated with criminogenic exposure, indicating a linear relationship between the log of crime variety and criminogenic exposure. Therefore, log of crime variety increases as crime propensity increases, as well as when

criminogenic exposure increases. There is also a very weak positive correlation between age and criminogenic exposure. Thus, as an individual grows older, criminogenic exposure increases. In addition, there is a weak correlation between crime propensity and criminogenic exposure, but this is lower than the threshold of 0.7 for multicollinearity. However, there is no significant correlation between age and log of crime variety as well as age and crime propensity.

8.4 The Interaction of Crime Propensity and Criminogenic Exposure in Predicting Crime Involvement

The OLS regression results are presented in Table 8.2. These analyses show the interaction between crime propensity and criminogenic exposure in the prediction of variety of youth crime in Saudi Arabia. The first model shows that both crime propensity and criminogenic exposure are significant predictors of crime variety (Table 8.1). This indicates that crime propensity and exposure to criminogenic setting correlated with higher levels of crime, which is in line with SAT theory. High crime propensity demonstrated a stronger effect compared to criminogenic exposure (Beta = 0.291 vs. 0.248) as postulated by SAT (see model 1 in table 8.1). Together, crime propensity and criminogenic exposure explained 19% of the variance in the dependent variable.

In the second model, the interaction between crime propensity and criminogenic exposure is a significant predictor of higher levels of crime engagement (Beta =0.217). This supports the first hypothesis in terms of prediction of crime variety. Introducing the interaction term to the model increased the variance explained in the dependent variable by 4 % (see Model 2 in Table 8.2). In the third model, both high crime propensity and criminogenic exposure remained significant predictors of crime ($p<0.001$) with high crime propensity maintaining its stronger effect (Beta = 0.316 vs 0.185). The interaction term of crime propensity and criminogenic exposure also remained significant (Beta = 0.22, $p<0.001$) as predicted by SAT.

Table 8.8.2 OLS Regression Models Showing Crime Propensity, Criminogenic Exposure and the Interaction of Crime Propensity and Criminogenic Exposure as Predictors of Crime Variety (Without Starting a Secret Relationship)

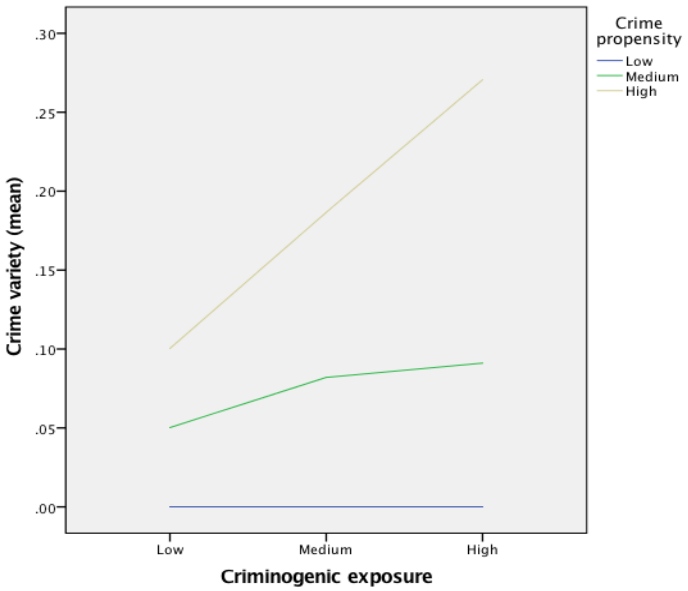
Predictors	Model 1				Model 2				Model 3			
	B	SE	Beta	t value	B	SE	Beta	t value	B	SE	Beta	t value
Crime propensity	0.044	0.006	**0.291*** **	6.872	0.046	0.006	**0.305*** **	7.396	0.047	0.006	**0.316*** **	7.564
Criminogenic exposure	0.026	0.004	**0.248*** **	5.867	0.021	0.004	**0.194*** **	4.585	0.02	0.005	**0.185*** **	4.273
Propensity*Criminogenic Exposure					0.013	0.002	**0.217*** **	5.392	0.013	0.002	**0.22*** **	5.429
Gender (Woman)									-0.024	0.017	-0.062	-1.471
Age									-0.014	0.009	-0.063	-1.59
Nationality (Non-Saudi)									0.014	0.016	0.034	0.835
Constant	**0.096*** **	0.008		12.133	**0.086*** **	0.008		10.818	**0.336** **	0.15		2.238
R2	0.19				0.235				0.242			
change in -F value	**58.822*** **				**29.078*** **				1.563			

*p ≤ .05; **p ≤ .01; ***p ≤ .001. Reference categories are Male and Saudi.

However, there was only a marginal increase in R^2 to 24% suggesting that addition of control variables did not significantly improve the amount of variance explained by the model. Overall, the findings show the existence of an interaction effect between crime propensity and criminogenic exposure in the prediction of youth crime in Saudi Arabia. This supports the main assumption of SAT. Additionally, propensity continued to be the strongest predictor. According to SAT, the extent to which an individual will perceive an act of crime as an action alternative, and act upon that perception, is dependent on his level of crime propensity (Wikström and Svensson,2008:312).

An interaction diagram (see Figure 8.1) was drawn to illustrate the nature of the interaction between crime propensity and criminogenic exposure in predicting the variety of youth crime in Saudi Arabia.

Figure 8.1 The Interaction Between Crime Propensity and Criminogenic Exposure in Predicting Crime Variety



The interaction diagram depicts the relationship between criminogenic exposure and crime variety when the levels of crime propensity are high, medium, and low. Crime propensity was categorised as high when the composite propensity score was one standard deviation or higher above the mean and low when the score was one standard deviation below the mean,

or lower. All other respondents with propensity within one standard deviation of the mean were classified as medium propensity (Wikström, 2009, Wikström et al., 2012). The interaction diagram shows that criminogenic exposure does not influence crime involvement among young people with low crime propensity, but has a strong effect on criminal behaviour of young people with high crime propensity, as predicted by SAT. However, it is worthwhile to note that at medium crime propensity, the increase in crime variety is less pronounced between medium and high criminogenic exposure compared to between low and medium criminogenic exposure. Thus, Figure 8.1 supports the hypothesis that there is an interaction between crime propensity and criminogenic exposure in the causation of crime. It also upholds the assumption that criminogenic exposure exerts lower influence in individuals with lower crime propensity.

It is also worth noting that crime variety is generally low in all circumstances – even high propensity people only have a mean crime variety of 0.1 in low criminogenic exposure and 0.26 in high criminogenic exposure. Thus, even in high criminogenic settings, individuals with high propensity still commit an average of less than one type of crime in 12 months.

8.5 The Interaction between Crime Propensity and Criminogenic Exposure in the Prediction of Starting a Secret Relationship

The results of the logistic regression analyses showing the interaction between secret relationship propensity and criminogenic exposure (peer crime and time spent with peers) in the prediction of starting a secret relationship among youths in Saudi Arabia are presented in Table 8.3.

Three models were used to test the effects of the independent variables. Model 1 tests the independent effects of crime propensity and criminogenic exposure. The results show that starting a secret relationship is more likely amongst youths with a higher propensity to start a secret relationship. Starting a secret relationship is 3 times more likely with each unit rise in secret relationship propensity (OR = 2.989, $p < 0.001$). This indicates that crime propensity

(starting a secret relationship) is an independent predictor of crime, as posited by SAT. However, criminogenic exposure did not appear to be a significant predictor of starting a secret relationship in the first model (see Table 8.3). This result is in accordance with results of other studies (Wikström, 2009; Wikström et al., 2010, Schils and Pauwels, 2014). Crucially, according to SAT theory criminogenic exposure is only significant when interacting with propensity.

In Model 2 the interaction term was introduced to test the interaction effect of crime propensity and criminogenic exposure. The results indicate that both high propensity to start a secret relationship and criminogenic exposure are shown to be significant predictors of starting a secret relationship at $p < 0.001$ and $p < 0.01$ respectively. Additionally, the interaction term propensity and criminogenic exposure is significantly correlated with higher level of secret relationship (OR = 0.895, $p < 0.01$). The results indicate that the effect of criminogenic exposure is substantially conditional on an individual's level of propensity to start a secret relationship. The Nagelkerke R square from 0. 416 to 0.423 in this model which indicates that this model explains 42% of the starting of secret relationship.

In the third model, similar results were obtained when the controls variables gender, age and nationality, were introduced. Secret relationship propensity and criminogenic exposure remained significant predictors of starting a secret relationship at $p < 0.001$ and $p < 0.01$ respectively. Similarly, the interaction of secret relationship propensity and criminogenic exposure is significant in predicting a secret relationship among the respondents (OR = 0.891, $p < 0.05$). In addition, gender is shown to be a significant predictor of secret relationship and males are 0.5 times less likely to report having started a secret relationship, compared to females (OR = 0.536, $p < 0.05$). This indicates that starting a secret relationship is higher among females in contrast to the prediction of other crime's variety which have been reported to be higher among males in this study (see Table 8.2). There was also an increase in the Nagelkerke R square to 0.437, which indicates an improvement of the explained variance in the predicting of secret relationship.

An interaction diagram was drawn to illustrate the nature of the interaction between propensity and criminogenic exposure in prediction of starting a secret relationship among

youths in Saudi Arabia (see Figure 8.2). The interaction diagram depicts the relationship between criminogenic exposure and starting a secret relationship when the levels of crime propensity are high, medium, and low. Propensity to start a secret relationship is regarded as high when the composite propensity score is one standard deviation or higher above the mean and regarded as low when the score is one standard deviation below the mean or lower. All other respondents with propensity within one standard deviation of the mean were classified as medium propensity. Criminogenic exposure as well is divided to high, medium, and low in the same manner (Wikström, 2009, Wikström et al., 2012).

The interaction diagram shows that high criminogenic exposure has a weak effect on starting a secret relationship for young people with low level of crime propensity (starting a secret relationship). However, the slope is not flat as predicted by SAT and obtained for crime variety. Paradoxically, individuals with low crime propensity have the highest mean secret relationship at medium level of criminogenic exposure. On the other hand, for young people with medium crime propensity, starting a secret relationship increases with increasing level of criminogenic exposure as predicted by SAT, but the rate of increase is more pronounced between medium and high criminogenic exposure.

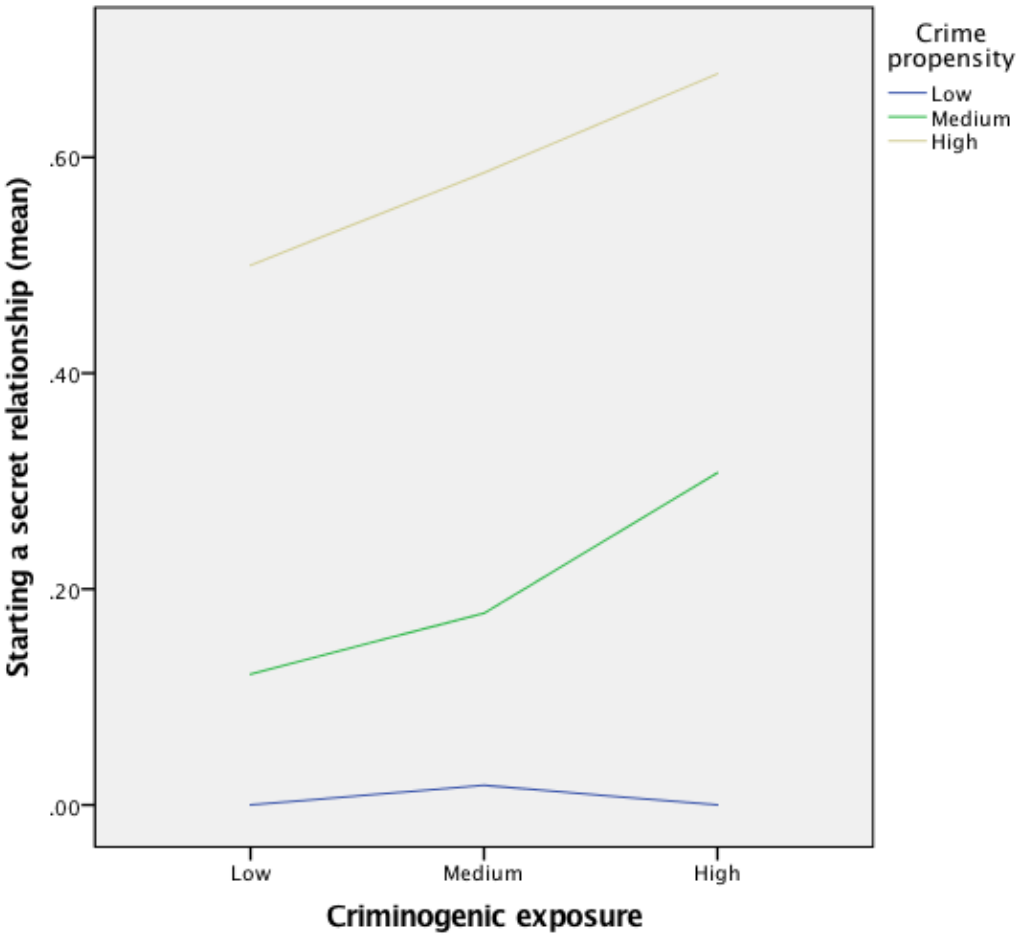
The interaction diagram shows that high criminogenic exposure has a weak effect on starting a secret relationship for young people with low level of crime propensity (starting a secret relationship). However, the slope is not flat as predicted by SAT and obtained for crime variety. Paradoxically, individuals with low crime propensity have the highest mean secret relationship at medium level of criminogenic exposure. On the other hand, for young people with medium crime propensity, starting a secret relationship increases with increasing level of criminogenic exposure as predicted by SAT, but the rate of increase is more pronounced between medium and high criminogenic exposure.

Table 8.3 Logistic Regression Models Showing Crime Propensity, Criminogenic Exposure and The Interaction of Crime Propensity and Criminogenic Exposure as Predictors of Starting a Secret Relationship

Predictors	Model 1				Model 2				Model 3			
	B	S.E.	Wald	Exp (B)	B	S.E.	Wald	Exp(B)	B	S.E.	Wald	Exp(B)
Propensity to start a secret relationship	1.095	0.112	95.287	**2.989*** **	1.152	0.12	92.274	**3.165*** **	1.121	0.122	84.776	**3.067*** **
Criminogenic exposure	0.119	0.075	2.543	1.127	0.214	0.086	6.15	**1.239** **	0.267	0.092	8.398	**1.306** **
Propensity*Criminogenic exposure					-0.111	0.057	3.804	**0.895** **	-0.115	0.057	4.031	**0.891* **
Gender (Woman)									-0.624	0.28	4.956	**0.536* **
Age									0.178	0.132	1.798	1.194
Nationality (Non-Saudi)									-0.052	0.261	0.039	0.95
Constant	-1.731	0.152	130.212	**0.177*** **	-1.743	0.158	122.184	**0.175*** **	-4.416	2.243	3.875	**0.012* **
Nagelkerke R square	0.416				0.423				0.437			

*p ≤ .05; **p ≤ .01; ***p ≤ .001. Dependent variable reference category is No crime. Independent variable reference categories are Male and Saudi

Figure 8.2 The Interaction Between Crime Propensity and Criminogenic Exposure in Predicting Starting A Secret Relationship.



Finally, starting a secret relationship increases with increasing level of criminogenic exposure for youths with high crime propensity as postulated by SAT. Generally, the interaction diagram supports SAT's assumption that criminogenic exposure has a stronger effect on individuals with high crime propensity compared to individuals with low crime propensity and supports the theoretical assumption that the relationship between criminogenic exposure and crime is dependent on the level of crime propensity.

8.6 Conclusion

The objective of this chapter was to test the main contention of Situational Action Theory (SAT) that crime is a result of the interaction between an individual's crime propensity and criminogenic exposure. The results of the analysis generally support SAT's propositions by demonstrating an interaction between individuals' propensity to crime and criminogenic exposure in the explanation of youth crime. Criminogenic exposure has a stronger effect on criminal behaviour for young people with high level of crime propensity for both crime variety and starting a secret relationship, but the effect was more pronounced in the predicting crime variety than in predicting the start of a secret relationship. A deviation from SAT theory was noticed among youths with low and medium crime propensity who had medium level of criminogenic exposure on the interaction graphs. Paradoxically, individuals with low crime propensity have the highest mean secret relationship at medium level of criminogenic exposure. Although both crime variety and secret relationship increased with increasing criminogenic exposure among youths with medium crime propensity, the rate of increase in mean crime variety slowed from medium to high level of criminogenic exposure while the rate of increase in secret relationship accelerated from medium to high level of criminogenic exposure. Notwithstanding, this chapter has shown fundamental support for the existence of an interaction between crime propensity and criminogenic exposure in the explanation of crime. In the next chapter, the results of the perception-choice process testing will be presented. This examines how young people in Saudi Arabia respond to hypothetical situations.

CHAPTER 9 : CRIME AS AN ACTION ALTERNATIVE: THE PERCEPTION-CHOICE PROCESS

9.1 Introduction

SAT posits that individuals respond differently to motivations (temptation or provocation) depending on their crime propensity (morality and ability to exercise self-control) (Wikström et al., 2012). This process links crime propensity and criminogenic exposure (for more details see section 2.4.1.3), According to SAT, individuals' crime propensity (morality and ability to exercise self-control) interacts with the moral context of the setting, and this interaction is crucial in determining if individuals will choose to act criminally or not. Action processes are started by motivation, and individuals respond to this motivation (provocation or temptation) in different ways. An individual's moral filter provides a person with action alternatives that will depend on their personal morality and level of self-control, as well as on external controls such as monitoring (Wikström et al., 2012). Therefore, this chapter tests the situational model of SAT – that crime is an action alternative resulting from a perception-choice process – by introducing different versions of a violent scenario to young people in Saudi Arabia, in order to capture an indication of their behavioural intention. Based on this, the following hypotheses will be tested in this chapter:

H3a. The presence of monitoring reduces the likelihood of a violent behaviour.

H3b. The presence of provocation increases the likelihood of a violent behaviour.

H3c. Compared to the level of monitoring, the level of provocation has a greater effect on the likelihood of a violent behaviour.

H3d. The effect of scenario criminogeneity on choosing violent response is conditional by the level of crime propensity

9.2 Methods

9.2.1 Scenario Randomization

As described in Chapter 5, violent intentions were measured by presenting participants with a vignette and asking them how likely they would be to push or hit someone who pushed them in a hypothetical scenario at the gate of a shopping mall (the options were very likely, likely, unlikely and very unlikely). In the low provocation scenario, the participant was pushed and when she asked why she was pushed, she was ignored. In the high provocation scenario, the participant was pushed and when she asked why she was pushed, she was pushed again, resulting in the breakage of her iPhone. In the high monitoring scenario, two security guards were present at the entrance of the shopping mall. In the low monitoring scenario, nobody was present. The scenarios were combined to create 4 scenarios of increasing criminogeneity, as presented in Table 9.1. Each participant was randomly assigned only one scenario during the survey. This was to avoid bias which may have arisen if participants were able to compare the four scenarios.

Table 9.1 Distribution of The Scenario Permutations

Scenario	Criminogeneity	Frequency	Percent
A. Low provocation, High monitoring	0	145	24.7
B. Low provocation, Low monitoring	1	147	25
C. High provocation, High monitoring	2	151	25.7
D. High provocation, Low monitoring	3	145	24.7

The responses were recoded as 1 (very likely, likely) and 0 (very unlikely, unlikely) to produce a binary variable that records whether the participant will hit or push the person that provoked them. Recoding the response into a binary variable is a precondition for testing the hypotheses with binomial logistic regression. This also makes interpretation of the results easier (Van Damme and Pauwels, 2016). Table 9.1 shows very clearly that there was nearly exactly an equal number of responses for each permutation of the scenario.

9.3 Scenario Findings

9.3.1 Distribution of Responses by Scenario

Table 9.2 shows the distribution of participants who reported the likelihood of violent and non-violent responses in all scenarios. Overall, the rate of violent behavioural intention is quite high with 77% of the participants indicating they would respond violently to provocation. As discussed in Section 6.6.1 in chapter 6 this was understandably higher than the prevalence of 28% for violent behaviour among young Saudi youths reported by Sacarellos, et al. (2016) because not all youths with violent intention will ultimately be involved in violent behaviour. The proportion of respondents that chose violence as an action alternative increased with the criminogeneity of the scenario, as predicted by SAT (Wikström et al., 2012). About 72% of the respondents chose violence in the least criminogenic permutation (A – Low provocation, High monitoring) compared to 82% in the most criminogenic permutation (D – High provocation, Low monitoring). The results suggest that as the criminogeneity of the scenario increases the likelihood of reporting a violent response increases, as proposed by SAT.

Table 9.2 Violent Responses by Scenario Permeation

Scenario	Violence Very Unlikely / Unlikely (%)	Violence Very Likely / Likely (%)
A. Low provocation, High monitoring	41 (28.3)	104 (71.7)
B. Low provocation, Low monitoring	37 (25.5)	108 (74.5)
C. High provocation, High monitoring	34 (22.7)	116 (77.3)
D. High provocation, Low monitoring	25 (17.2)	120 (82.8)
Total	137 (23.4)	448 (76.6)

9.3.2 Distribution of Violent Intention by Propensity Categories

Table 9.3 shows the distribution of the likelihood of violent and non-violent behaviour by propensity categories. Crime propensity was categorised as high when the composite propensity score was one standard deviation or higher above the mean and low when the score was one standard deviation below the mean, or lower. All other respondents with propensity within one standard deviation of the mean were classified as medium propensity (Wikström, 2009; Wikström, Wikström et al., 2012).

Table 9.3 Distribution of Violent and Non-Violent Intention by Propensity Categories

	Low propensity (%)	Medium propensity (%)	High propensity (%)
Violence Very Unlikely / Unlikely	35 (40.2)	84 (21.5)	14 (17.7)
Violence Very Likely / Likely	52 (59.9	306 (78.5)	65 (82.3)

The choice of violence as an action alternative increased with crime propensity, as proposed by SAT (Wikström et al., 2012). About 60% of respondents with low crime propensity chose violence compared to 79% and 82% of respondents with medium and high crime propensity respectively. The results suggest that young people with high crime propensity have a greater tendency to choose violence as an action alternative.

9.4 Multivariate Analysis

Binary (binomial) logistic regression was used because the data met all the pre-conditions for this test. Firstly, the dependent variable was dichotomous (0 = violence unlikely / very unlikely, 1 = violence likely / very likely) and the categories were mutually exclusive (i.e., both likely / unlikely violence categories could not be present at the same time). Secondly,

there were multiple independent variables (crime propensity and scenario criminogeneity) which were both categorical and continuous. Multiple analyses were used to test the effects of the independent variables. The data from the four scenarios were pooled and analysed together.

In the first analysis, propensity was added to the first model as a continuous variable without controlling for other variables. In Model 2, the situational variables, monitoring and provocation, were added to investigate their effects. These situational elements were computed as dichotomous variables with two levels (high and low for each). They were recorded by grouping vignettes with a high level of monitoring (the presence of security guards) as 1 and vignettes with a low level of monitoring as 0 (absence of security guards). Similarly, the vignettes with a high level of provocation (pushed twice and broken iPhone) were recoded as 1 and vignettes with low level of provocation (pushed and ignored) were recoded as 0. In Model 3, age was added as a continuous variable while gender and nationality were added as categorical variables using female and Non-Saudi as the reference categories, respectively.

In the second analysis, the three-stage regression model strategy was repeated but using crime propensity as a categorical variable. This was to investigate the non-linear effect of crime propensity as proposed by SAT theory (Van Damme and Pauwels, 2016). Crime propensity was categorised as high when the composite propensity score was one standard deviation or higher above the mean and low when the score was one standard deviation

below the mean, or lower. All other respondents with propensity within one standard deviation of the mean were classified as medium propensity (Wikström, 2009, Wikström et al., 2012). Other variables were added to the models as in the first analysis.

In the third analysis, scenario criminogeneity was introduced as a single continuous independent variable. This was instead of the separate provocation and monitoring variables that were included in the first and second analyses. It is crucial to assess the effects of scenario criminogeneity on the likelihood of violent intention because the perception-choice process in real-life involves individuals with different personal characteristics (propensity) and a combination of varying setting features (different levels of provocation and monitoring). All other variables were added to the models as in the first analysis.

In the last analysis, the regression models were repeated using scenario criminogeneity as categorical variables (high monitoring-low provocation; high monitoring-high provocation; low monitoring-low provocation; low monitoring-high provocation). This was to investigate the non-linear effects of scenario criminogeneity proposed by SAT theory (Van Damme and Pauwels, 2016). Scenario D (low monitoring – high provocation) was used as the reference category. All other variables were added to the models as in the first analysis.

9.5 Effects of Crime Propensity and Situational Elements

9.5.1 Effect of Propensity and Situational Elements on Violent Intention: Propensity as a Continuous Variable

The predictors of a violent intention are presented in Table 9.4 when the crime propensity score is added as continuous variable to the models. In the first model, the results indicate a significant and positive relationship between propensity and the likelihood of violent response, as predicted by SAT (OR = 1.456, $p \leq 0.001$). This indicates that with every 1 unit increase in crime propensity, the odds that an individual would react violently increase by 1.5. It is however worthy of note that the pseudo R^2 was only 6%, which is quite low.

The relationship between propensity and violent intentions was also maintained in the second model (OR = 1.452, $p \leq 0.001$) when the situational elements, high provocation and high monitoring, were added. However, high provocation and high monitoring did not have a

significant effect on violent intentions. The results were however in the direction predicted by SAT. The OR of high monitoring was less than 1 suggesting that a high level of monitoring reduces violent intention while that of high provocation was greater than 1 suggesting that a high level of provocation increases violent intention. However, the pseudo R^2 only increased marginally to 7%. Thus, introduction of situational elements did not substantially improve the goodness of fit.

In the third model, only propensity and gender significantly predicted the likelihood of violent responses. The odds ratio of crime propensity was 1.536. The odds of men act violently were 2.5 times greater than the odds of women reacting violently (OR = 2.472, $p \leq 0.001$). However, contrary to SAT, provocation and monitoring were not significant predictors of a violent intention in the third model. The Nagelkerke pseudo R-squared increased in the third model to 11%, showing that an improved goodness of fit and that the third model was better in explaining the variance in the dependent variable.

Table 9.4 Predictors of Violent Intention: Propensity as a Continuous Variable

	Model 1				Model 2				Model 3			
	B	S.E.	Wald	Exp(B)	B	S.E.	Wald	Exp(B)	B	S.E.	Wald	Exp(B)
Crime propensity	0.376	0.081	21.783	**1.456*** **	0.373	0.081	21.259	**1.452*** **	0.429	0.086	24.73	**1.536*** **
High Provocation					0.368	0.205	3.22	1.445	0.399	0.208	3.658	1.49
High Monitoring					- 0.241	0.205	1.386	0.786	-0.241	0.209	1.331	0.786
Gender (Male)									0.905	0.224	16.266	**2.472*** **
Age									-0.008	0.117	0.005	0.992
Nationality (Saudi)									-0.082	0.216	0.146	0.921
Constant	1.219	0.105	135.192	**3.385*** **	1.168	0.179	42.796	**3.217*** **	0.941	1.971	0.228	2.562
Nagelkerke R square	0.062				0.074				0.119			
*p ≤ .05; **p ≤ .01; ***p ≤ .001. Reference categories are Low provocation, Low monitoring, Female and Non-Saudi												

9.5.2 Effect of Propensity and Situational Elements on Violent Intention; Propensity as a Categorical Variable

The logistic regression models testing the effect of propensity on scenario violence, using a categorical propensity variable, are shown in Table 9.5. Low propensity was used as the reference category. The first model shows that crime propensity was a significant predictor of the likelihood of violent intentions. The odds ratio of respondents with medium crime propensity reacted violently was 2.5 times (OR = 2.452, $p \leq 0.001$) and the odds ratio of respondents with high crime propensity reacted violently was 3.1 times (OR = 3.125, $p \leq 0.001$) as compared to the odds ratio of respondents with low crime propensity. These findings are in line with the SAT theory – violent response increased with increasing crime propensity.

In the second model when the situational elements – provocation and monitoring – were added, the effect of crime propensity was maintained. However, contrary to SAT, provocation and monitoring were not significant predictors of violent intentions.

In the third model, the control variables gender, age and nationality were added. Of these, only gender had a significant effect on violent intentions (OR = 2.424, $p \leq 0.001$), indicating that the odds of men reacted violently were 2.5 times greater than the odds of women reacting violently. These results were quite similar to the first analysis, which used crime propensity as continuous (rather than categorical) variable (see Table 9.4). The Nagelkerke pseudo R-squared was also similar to those reported in Table 9.4, indicating that including crime propensity as categorical variable does not improve the goodness of fit or explained variance in the dependent variable.

Table 9.5 Predictors of Violent Intention; Propensity as a Categorical Variable

	Model 1				Model 2				Model 3			
	B	S.E.	Wald	Exp(B)	B	S.E.	Wald	Exp(B)	B	S.E.	Wald	Exp(B)
Crime propensity			14.912	***			14.202	***			18.239	***
Medium propensity	0.897	0.251	12.773	**2.452*** **	0.881	0.253	12.172	**2.414*** **	1.063	0.263	16.303	**2.894*** **
High propensity	1.139	0.367	9.645	**3.125*** **	1.117	0.368	9.187	**3.055*** **	1.264	0.38	11.086	**3.54*** **
High Provocation					0.368	0.204	3.261	1.444	0.395	0.207	3.634	1.484
High Monitoring					-0.227	0.203	1.249	0.797	-0.22	0.207	1.135	0.802
Gender (Male)									0.885	0.222	15.947	**2.424*** **
Age									0.007	0.115	0.004	1.007
Nationality (Saudi)									-0.047	0.214	0.048	0.954
Constant	0.396	0.219	3.279	1.486	0.352	0.257	1.887	1.422	-0.3	1.956	0.024	0.741
Nagelkerke R square	0.038				0.050				0.095			

*p ≤ .05; **p ≤ .01; ***p ≤ .001. Dependent variable reference category is Non-violent response, Low propensity, Female and Non-Saudi.

9.6 Effects of Scenario Criminogeneity and Crime Propensity

9.6.1 Predictors of Violent Intention: Criminogeneity as a Continuous Variable

In order to test the independent effect of scenario criminogeneity on the likelihood of violent intention, logistic regression models were performed. The results of the analysis are presented in Table 9.6. In the first model, propensity made a significant and positive contribution in the prediction of the likelihood of violent intention, as predicted by SAT (OR = 1.456, $p \leq 0.001$). This indicates that the odds ratio of people with higher crime propensity reacted violently was 1.5 times when other variables were not considered. This was also maintained in the second model when scenario criminogeneity was added (OR = 1.450, $p \leq 0.001$). In addition, the second model showed that there was a significant positive relationship between scenario criminogeneity and the likelihood of violent intention (OR = 1.216, $p \leq 0.05$), indicating that, the odds ratio of a violent response increased 1.2 times when scenario criminogeneity increased by 1 unit. In the third model in which the control variables were included, propensity, scenario criminogeneity and gender had a significant effect on the likelihood of violent intention. The odds ratio of crime propensity increased to 1.535. additionally, the odds of men reacted violently were 2.5 times greater than the odds of women reacting violently (OR = 2.473, $p \leq 0.001$). The Nagelkerke pseudo R-square increased slightly across the models. However, all the variables together only explained roughly 12% in the variance of likelihood of violent intention.

Compared to the results in Tables 9.4 and 9.5, in which provocation and monitoring were considered individually, the consistent significant result with scenario criminogeneity suggests that the combination of provocation and monitoring seems to be more relevant for violent intentions than their individual effects. Probably, the individual effect of high provocation was attenuated by the effect of high monitoring and vice-versa. It is also worthy of note that scenario criminogeneity was calculated based on the scores of 0 – 3 assigned to scenarios A to D. These results support the proposition that scenario criminogeneity increases from scenarios A to D. As the level of provocation increased and the level of monitoring

reduced, the scenario criminogeneity increased, leading to higher likelihood of violent intention.

9.6.2 Predictors of Violent Intention: Criminogeneity as a Categorical Variable

The results of the logistic regression using scenario criminogeneity as a categorical variable are presented in Table 9.7. Scenario criminogeneity was included as a categorical variable to examine the effect of each scenario permutation on the likelihood of violent intention. The first model shows that crime propensity significantly predicted the likelihood of violent intention, as predicted by SAT theory. The odds ratio of a violent response increased 1.5 times (OR = 1.456, $p \leq 0.001$) with each unit rise in crime propensity. This indicates that people with higher crime propensity were more likely to report that they would be likely / very likely to respond violently, as previously reported Table 9.4 and 9.6.

In the second model, scenario criminogeneity was included as a categorical variable with scenario A (high monitoring-low provocation) as the reference category. The results showed that crime propensity and scenario D (low monitoring-high provocation) category were significant predictors of likelihood of a violent response. Similar to the first model, the odds of a reported violent response increased 1.5 times (OR = 1.455, $p \leq 0.001$) with each unit rise in crime propensity in the second model. In addition, the odds of a violent crime increased 1.9 times (OR = 1.879, $p \leq 0.05$) in scenario D (low monitoring-high provocation) compared to scenario A (high monitoring-low provocation), which is in line with SAT, as these scenarios are considered in SAT as the most and the least criminogenic scenarios respectively. Although the results for the other scenarios were not significant, the odd ratio increased progressively from scenario B to D as predicted by SAT assigned level of criminogeneity.

The third model, with control variables included, showed that crime propensity, scenario D (low monitoring-high provocation) and gender were significant predictors of violent intentions. Similar to the first and second models, the odds of a violent response increased 1.5

times (OR = 1.543, $p \leq 0.001$) with each unit rise in crime propensity in the third model. The odds of a violent crime also increased 2 times (OR = 1.951, $p \leq 0.05$) in scenario D (low monitoring-high provocation) compared with scenario A (high monitoring-low provocation scenario).

In addition, the odds of men reacted violently were 2.5 times greater than the odds of women reacting violently (OR = 2.491, $p \leq 0.001$). This indicates that the permutation characterized as highly criminogenic (low monitoring-high provocation) was more likely to encourage violent responses compared to the high monitoring-low provocation scenario. However, contrary to SAT's predictions, the remaining scenarios characterized by SAT as medium low criminogeneity (B, low monitoring-low provocation) and medium high criminogeneity (C, high monitoring-high provocation), were not significant predictors of violent intentions. Nevertheless, the results suggest that when the scenario criminogeneity increased, the likelihood of reporting violent intentions increased even though the odd ratios did not reach statistical significance. Thus, these results demonstrate a partial support for the propositions of SAT. The pseudo-R^2 values of these models are similar to that found in Table 9.6.

Table 9.6 Predictors of Violent Intention: Criminogeneity as Continuous Variable

	Model 1				Model 2				Model 3			
	B	S.E.	Wald	Exp(B)	B	S.E.	Wald	Exp(B)	B	S.E.	Wald	Exp(B)
Crime propensity	0.376	0.081	21.783	**1.456*** **	0.372	0.081	21.228	**1.450*** **	0.429	0.086	24.732	**1.535*** **
Scenario criminogeneity					0.195	0.092	4.487	**1.216***	0.208	0.094	4.926	**1.231***
Gender (Male)									0.905	0.224	16.291	**2.473*** **
Age									-0.007	0.116	0.004	0.993
Nationality (Saudi)									-0.083	0.216	0.146	0.921
Constant	1.219	0.105	135.192	**3.385*** **	0.743	0.243	9.345	**2.102** **	0.479	1.964	0.06	1.615
Nagelkerke R square	0.062				0.074				0.118			

*p ≤ .05; **p ≤ .01; ***p ≤ .001. Dependent variable reference category is Non-violent intention, Female and Non-Saudi

9.7 The Nature of the Interaction between Crime Propensity and Scenario Criminogeneity

Figure 9.1 illustrates the nature of interaction between crime propensity and the situational elements of monitoring and provocation. SAT posits a sustained increase in violent intentions across the different levels of criminogeneity from the least criminogenic scenario (A) to the most crimongenic scenario (D), and higher levels of violent intentions at higher levels of crime propensity. However, this was not entirely so in this study, as presented in Figure 9.1.

Figure 9.1 Effects of Crime Propensity and Scenario Criminogeneity on Violent Response

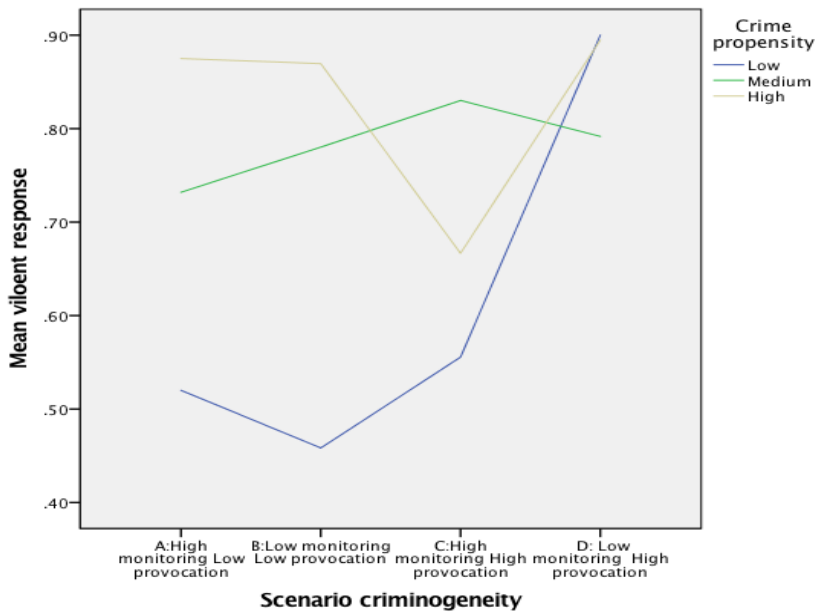


Figure 9.1 shows that among respondents with high crime propensity, the mean violent response was highest in the most crimongenic permutation (D; low monitoring, high provocation) and decreased in permutation C (high monitoring, high provocation), in agreement with SAT. However, the mean violent response was higher in permutation B (low monitoring, low provocation) and permutation A (high monitoring, low provocation), when compared to permutation C, among respondents with high crime propensity, which is contrary to SAT's predictions.

Respondents with medium crime propensity showed approximately no differences in violent responses across all permutations. However, a clear linear decrease in the mean frequency of violent response was observed when the level of provocation decreased from permutations C (high monitoring, high provocation) to A (high monitoring, low provocation), in agreement with SAT theory, whereas the mean violent response was lower in permutation D (high monitoring, high provocation), compared to permutation C, which is in contrast to SAT's predictions.

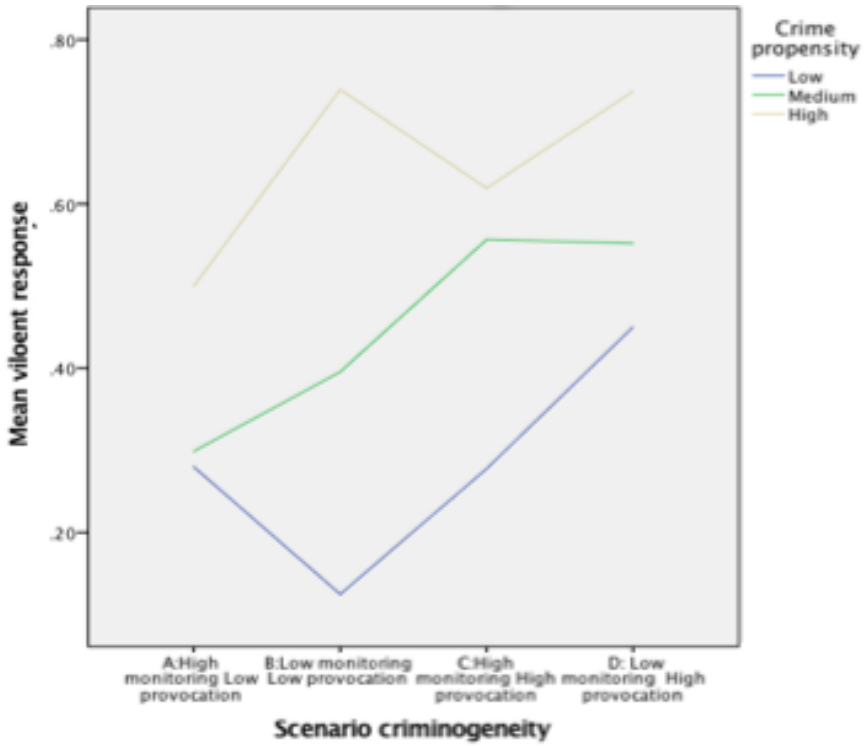
Table 9.7 Predictors of Violent Intention, Criminogeneity As a Categorical Variable

	Model 1				Model 2				Model 3			
	B	S.E.	Wald	Exp(B)	B	S.E.	Wald	Exp(B)	B	S.E.	Wald	Exp(B)
Crime propensity	0.376	0.081	21.783	**1.456*** **	0.375	0.081	21.441	**1.455*** **	0.434	0.087	25.055	**1.543*** **
Scenario criminogeneity							4.772				5.401	
Low Monitoring, Low provocation					0.127	0.277	0.21	1.135	0.087	0.282	0.094	1.091
High Monitoring, High provocation					0.251	0.279	0.809	1.285	0.243	0.284	0.732	1.275
Low monitoring, High provocation					0.631	0.299	4.452	**1.879***	0.668	0.305	4.817	**1.951***
Gender (Male)									0.913	0.225	16.475	**2.491*** **
Age									-0.005	0.117	0.002	0.995
Nationality (Saudi)									-0.078	0.216	0.132	0.925
Constant	1.219	0.105	135.192	**3.385*** **	0.983	0.195	25.523	**2.672*** **	0.712	1.956	0.133	2.038
Nagelkerke R square	0.062				0.075				0.120			
*p ≤ .05; **p ≤ .01; ***p ≤ .001. Dependent variable reference category is Non-violent response. High Monitoring, Low provocation, Female and Non-Saudi												

For respondents with low crime propensity, the mean violent response was highest in permutation D (low monitoring, high provocation) and progressively decreased in permutation C (high monitoring, high provocation) and permutation B (low monitoring, low provocation), which is in agreement with SAT, but increased again slightly in permutation A (high monitoring, low provocation), which is contrary to SAT.

In permutation A, the mean violent response was highest among those with high propensity, followed by those with medium propensity and lowest in those with low propensity, as predicted by SAT. However, the effect of propensity on the mean violent response was variable in other scenarios. Surprisingly, low and high propensity ultimately have the same mean violence scores in permutation D (low monitoring, high provocation) which is contrary to SAT's predictions. It appears that when provocation is quite high and monitoring is low, most respondents tend to respond violently irrespective of their criminal propensity. Overall, the linear decrease in violent response from the most criminogenic permutation (D) to the least crimongenic permutation (A) and from high to low propensity, as predicted by SAT, was not fully supported by Figure 9.1. Wikström et al. (2012) considered only respondents who chose 'very likely' as having violent intentions while both 'likely' and 'very likely' were categorised as violent intentions. Similar method was conducted as well in the present study (Figure 9.2). However, SAT's predictions were still not supported even when the analysis was conducted again using Wikström et al.'s (2012) operationalisation of violent intention.

Figure 9.2 Effects Of Crime Propensity And Scenario Criminogeneity On Violent Response (Based On Wikström's Operationalisation Of Violent Intention)



9.8 Summary

The chapter has examined the effects of crime propensity and scenario criminogeneity on the perception-choice process. The effects of crime propensity and gender on violent reaction were consistently significant in all the regression models. Conversely, the effect of scenario criminogeneity was variable across the different models. Provocation and monitoring did not demonstrate any significant effect on violent intention when they were considered individually, as suggested by SAT. However, scenario criminogeneity demonstrated a significant effect on violent intention and the permutations characterized by low monitoring, high provocation (scenario D) increased the likelihood of a violent response, as predicted by SAT. Thus, in this study the interaction between provocation and monitoring in scenario criminogeneity was more relevant in the prediction of crime than their individual effects. This might justify SAT's proposition based on different scenario permutations which combine high/low provocation/monitoring (A, B, C, D) rather than individodual situation elements. Overall, the hypothesis (as predicted by SAT) that the effect of scenario criminogeniety on choosing the violent response is conditional on the level of crime

propensity (linear increase in violent responses from scenarios A to D and from low to high propensity) was not fully supported by this study. On the other hand, the results do show that the level of provocation has a more important effect on the likelihood of violent responses than the level of monitoring, which is congruent with SAT's propositions. However, there is a low level of variance explained in these models even where SAT's propositions are supported – SAT can only explain a small percentage of the variance in the dependent variable.

CHAPTER 10 : DISCUSSION AND CONCLUSION

10.1 Introduction

Situational Action Theory (SAT) has been tested in a number of empirical studies since it was first published (Wikström, 2004). The current study sought to contribute to the empirical foundation of SAT and examine its core propositions in the Saudi context, by partially replicating the study by Wikström et al. (2012), which was the most comprehensive test of SAT. It is often considered prestigious to use an entirely new methodology or pioneer a completely new theory (Bunge, 1999; Cullen et al., 2008). However, replication studies are becoming increasingly popular in criminology as repeated empirical tests are essential to determine the validity of a theory and the extent of its application (Bunge, 1999; Lucas, 2003; Cullen et al., 2008). This study is the first attempt to conduct a test of SAT in a fully Islamic context. Although a partial test of SAT (Brauer and Tittle, 2016) was conducted in Bangladesh, where the prevailing religion is Islam, a secular constitution exists in Bangladesh rather than the Sharia legal system that is found in the KSA (McColl, 2014; Alsaif, 2013).

This chapter will present a critical discussion of the study findings based on the research objectives:

1) To examine whether the effects of self-control and deterrence on crime are conditioned by the level of personal morality among youths in Saudi Arabia.

2) To examine the interaction between an individual's crime propensity and the level of exposure to criminogenic settings in the causation of crime among youths in Saudi Arabia.

3) To examine how the level of provocation, the level of monitoring and an individual's crime propensity influence the perception and choice of violent responses among adolescents in Saudi Arabia.

The discussion is organised into three major subsections, drawing on the literature to critically analyse the findings presented in Chapters 7, 8 and 9, corresponding to objectives 1, 2 and 3 respectively. In addition, youth crime in Saudi Arabia will also be discussed. Apart from discussing the hypotheses relating to the objectives, the findings will also be discussed and compared to other contexts to determine the extent of SAT's applicability in a Saudi context. Recommendations will then be made for future research on SAT and youth delinquency in the KSA.

10.2 Summary of Key Findings

It is necessary to recall that two dependent variables, crime variety and starting a secret relationship, were tested with regards to the first and second objectives. Crime variety refers to the number of types of crime committed by each participant within the 12 months prior to the survey. Crime variety in this study counts the following types of crime: shoplifting, theft from others, theft from a car, theft of a car, residential burglary, non-residential burglary, robbery, vandalism, arson, assault, captagon use and cannabis smoking. In order to allow comparison with previous empirical studies of SAT, starting a secret relationship was not considered as part of crime variety because it is only regarded as a crime in the Saudi (Islamic) context. However, starting a secret relationship was tested separately using a binary variable which measured whether an individual had started or had not started a secret relationship in the twelve months preceding the survey. On the other hand, the independent variable for the third objective was violent intentions, which refers to the likelihood of choosing violence as an action alternative when exposed to provocation.

The summary of key findings in relation to the hypotheses are presented in Table 10.1. Both crime variety and secret relationships demonstrated an interaction between an individual's propensity to crime and criminogenic exposure in the prediction of youth crime in Saudi Arabia. However, full support for the theory was only found in relation to crime variety for the stronger effect of criminogenic exposure among individuals with high crime propensity. Similarly, the interaction between self-control and morality was fully demonstrated for crime variety and secret relationships. However, the stronger effect of self-control on criminal behaviour among individuals with low levels of morality was only fully demonstrated in relation to secret relationships. Finally, only partial support was found in this study for all hypotheses in relation to the perception-choice process.

Table 10.1 Summary of Key Findings

S/N	Hypothesis	Level of Support		
RO1	**Conditional Relevance of Controls**	**Crime Variety**	**Secret Relationship**	**Violent Intention**
H1a.	There is a significant interaction between morality and self-control in the causation of crime.	Full	Full	N/A
H1b.	Self-control has a stronger effect on criminal behaviour for individuals with low levels of morality than for individuals with high levels of morality	Partial	Full	N/A
H1c.	There is a significant interaction between morality and deterrence in the causation of crime.	Full	Full	N/A
H1d.	Deterrence has a stronger effect on criminal behaviour for individuals with low levels of morality than for individuals with high levels of morality.	Full	Partial	N/A
RO2	**Propensity and Exposure**	**Crime Variety**	**Secret Relationship**	**Violent Intention**
H2a.	There is a significant interaction between an individual's propensity to crime and criminogenic exposure in the prediction of youth crime.	Full	Full	N/A
H2b.	Criminogenic exposure has a stronger effect on criminal behaviour for young people with high levels of crime propensity.	Full	Partial	N/A
RO3	**Perception-Choice Process**	**Crime Variety**	**Secret Relationship**	**Violent Intention**
H3a.	The presence of monitoring reduces the likelihood of a violent behaviour.	N/A	N/A	Partial
H3b.	The presence of provocation increases the likelihood of a violent behaviour.	N/A	N/A	Partial
H3c.	Compared to the level of monitoring, the level of provocation has a greater effect on the likelihood of a violent behaviour	N/A	N/A	Partial
H3d	The effect of scenario criminogeneity on choosing violent response is conditional by the level of crime propensity	N/A	N/A	No

10.3 The Conditional Relevance of Controls

The first objective of this study was to test the Principle of the Conditional Relevance of Controls (PCRC). The aim was to examine whether the effects of self-control (internal control) and deterrence (external control) were influenced by the level of personal morality of youths in Saudi Arabia. Thus, the findings will be discussed in two subsections: conditional relevance of self-control and conditional relevance of deterrence.

10.3.1 Conditional Relevance of Self-control

This study found that self-control and morality were significant predictors of crime variety and starting a secret relationship, as predicted by SAT (Wikström et al., 2012; Wikström and Svensson, 2010). As self-control increased, involvement in secret relationships and other crimes decreased. Similarly, involvement in secret relationships and other crimes decreased with increasing morality. This corresponds with the SAT position that an individual's propensity to crime depends on personal morality and the ability to exercise self-control (Wikström et al., 2012). In the same vein, a number of previous studies have reported self-control and morality as significant predictors of crimes among adolescents (Pauwels and Svensson, 2017; Svensson et al., 2010; Schepers and Reinecke, 2018) and adults (Hirtenlehner and Kunz 2016, Craig 2017). Moreover, this study demonstrated the existence of an interaction effect between morality and self-control, for both crime variety and secret relationships. In other words, the effect of self-control was modulated by morality with respect to involvement in secret relationships and other crimes. This same interaction between morality and self-control has also been reported in previous studies (Pauwels and Svensson 2017; Wikström and Svensson 2010; Svensson et al. 2010; Schepers and Reinecke 2018).

The results of this study supported SAT's hypothesis that self-control had a substantial influence on individuals with low morality (Wikström et al., 2012). Among individuals with low morality, crime variety and secret relationships decreased with increasing self-control. In other words, high level of self-control leads individuals who perceive crime as an action alternative, because of their low morality, not to choose criminal actions. Although this agrees with SAT, the operational definition of self-control used in empirical testing derives from the General Theory of Crime (Gottfredson and Hirschi, 1990, Grasmick et al., 1993)

and focuses on traits such as impulsivity and risk seeking rather than the ability to hold onto one's personal morality when faced with temptations and provocations (Wikström et al. 2012). Going by this latter definition, self-control is supposed to make individuals with low morality commit more crimes in conformity with their low morality (Kroneberg and Schulz 2018). However, according to Kroneberg and Schulz (2018), the role of self-control among individuals with low morality is not clear. Based on SAT's definition of self-control, Kroneberg and Schulz (2018) investigated whether high self-control reduces crime among individuals with high morality but increases crime among individuals with very low morality. Although their findings did not support this proposition of self-control being a double-edged sword, they emphasised the importance of clarifying the pattern of self-control operation as a resource that facilitates conformity to the moral rule of the setting rather than conformity to personal morality. Based on this current study and previous SAT studies, it may be appropriate to re-define self-control as the ability to conform with the rules of the context, rather than personal moral rules, when faced with temptations and provocations.

The proposition that self-control has "little or no influence" in individuals with high morality was demonstrated with respect to secret relationships in this study, but not with respect to crime variety. For crime variety, self-control still had appreciable influence among individuals with high morality although this was slightly less than the influence demonstrated among individuals with low morality. That different findings were found for the two difference measures of crime, questions the claim that SAT is a general theory that applies equally to the breach of all moral rules.

However, this was in contrast to the "little or no influence" of self-control among individuals with high morality reported in a number of previous SAT studies (Schepers and Reinecke 2018; Pauwels and Svensson ,2017; Wikström et al., 2012; Svensson et al. 2010). The deviation of this study from SAT and previous studies may be related to categorisation issues or differences between types of crime, as further discussed below.

The relatively stronger influence of self-control among individuals with high morality with regards to crime variety, but not with regards to secret relationships, suggests that the applicability of SAT may be limited to certain type of crimes, but not others. Secret relationships were analysed separately because of its peculiarity of being considered a crime

only in a Saudi context. However, there is a possibility that different levels of conformity to the conditional relevance control may have been found if each of the other twelve crimes were also considered separately. It could be argued that the relevance of self-control will be different in a crime that requires careful planning and execution such as a secret relationship, compared to a crime such as assault, which may be an immediate response to provocation, and a crime such as Captagon (drug) abuse, which is associated with addiction. In fact, the overall effect seen with crime variety could be regarded as a cumulative effect of different crimes with different levels of conformity to SAT. This highlights the need for future tests of the conditional relevance of self-control for each crime type among the same population to enable true comparison between crimes.

In the same vein, the current method of measuring self-control, unlike the specific approach to measurement of personal morality, raises some concern. While personal morality was assessed based on personal belief and emotion with regards to specific crimes such as shoplifting, assault etc., self-control was based on a scale developed by Grasmick et al. (1993) which assumes that impulsive behaviour, a hot temperament and risk taking are associated with lower executive capacity to overcome temptations and provocations (Kroneberg and Schulz, 2018; Wikström, 2005). For example, in this study personal morality relating to secret relationships was measured based on whether each individual believed in the wrongfulness of secret relationships, would feel guilty if they started a secret relationship and would be ashamed if caught in a secret relationship. It would have been more appropriate to similarly assess self-control based on whether an individual would be able to resist provocation or temptation to start a secret relationship rather than assessing their general risk-taking, impulsivity and temperament. According to Kroneberg and Schulz (2018), a scale which assesses how individuals hold on to their moral belief when faced with temptation may be a more direct and valid measure of self-control when testing SAT.

Furthermore, this study provides support for the SAT proposition that choosing a crime as an alternative is more a function of weak morality than low self-control (Wikström and Treiber, 2007). According to SAT, personal morality is the fundamental factor in the prediction of crime because it serves as a filter which determines what each individual considers as an

action alternative. An individual with high morality does not perceive crime as an action alternative and has no need for self-control. Self-control is only relevant when the personal moral filter is not strong enough to prevent perception of crime as an action alternative, as in the case of individuals with low morality. In such an instance, self-control is required to overcome the temptation of choosing crime among the perceived action alternatives. Thus, when morality, which is the primary crime preventive measure, does not block the perception of crime as an action alternative, self-control secondarily comes into play to prevent the choice of crime as an action alternative. This is further explored in section 10.5 on the perception-choice process.

In contrast to SAT and the findings of the present study, a number of studies have identified self-control rather than morality as the more fundamental factor in the prediction of criminal behaviour (Svensson et al., 2010; Pauwels and Svensson, 2017). Pauwels and Svensson (2010) investigated the conditional relevance of self-control with regards to violent extremism and found that self-control was more fundamental than morality in the prediction of violent extremism. However, Pauwels and Svensson (2010) used moral belief alone which represent only a partial measure of morality. This might have had an effect on the finding that morality exerted less influence than self-control since moral emotion, which is regarded as a significant part of morality, was not accounted for. While moral belief indicates personal belief about whether a crime is wrong or right, moral emotion assesses whether a person would feel guilty or ashamed if caught in the act.

This study generally demonstrated a low explanatory power (12%, 14% and 15% for models 1, 2, 3) with regards to the conditional relevance of self-control and crime variety. The fact that the explanatory power only increased from 12% to 14% when the interaction term was added indicated a low explanatory power of the interaction between morality and self-control (Hirtenlehner and Kunz, 2016). This suggests that the conditional relevance of self-control does not explain much of criminal behaviour in the Saudi context. Similarly, the conditional relevance of self-control does not explain criminal behaviour in many other contexts even in the western world. The explained variance in this study was greater than those reported in some other contexts: 10% in the USA (Craig, 2017); 10% in Germany (Hirtenlehner and

Kunz, 2016); 11.5% in Belgium (Pauwels and Svensson, 2017). However, other studies reported higher explained variance such as 16% in Germany (Kroneberg and Schulz, 2018); 24% in the Netherlands (Svensson et al., 2010); 33% in the UK (Wikström and Svensson, 2010); and 28% in Colombia, Ecuador, and El Salvador (Serrano Maíllo, 2018).

On the other hand, the explanatory power appears to be much higher in this study with regards to secret relationship (>50%). As previously suggested, self-control may be more relevant to secret relationships, compared to other crimes, because it may involve a considerable amount of planning. It is also possible that the explained variance was more for secret relationships because it is a less complex variable compared to crime variety.

10.3.2 Conditional Relevance of Deterrence

This study found an interactive effect between morality and deterrence with regards to both secret relationships and crime variety. Deterrence was more relevant to individuals with low morality, as predicted by SAT, and documented in previous tests of SAT (Wikström and Svensson, 2010; Wikström et al., 2011; Gallupe and Baron, 2014; Svensson, 2015; Cochran, 2015; Eifier, 2016; Hirtenlehner and Hardie, 2016; Piquero et al., 2016; Schepers and Reinecke, 2018). However, deterrence was not an independent predictor of crime among youth in Saudi Arabia and only became relevant when interacting with morality. These findings agree with the position of SAT deterrence plays role when there is a conflict between individual's moral rules and the moral norms that applied in the setting breaking the law will and when people deliberate about whether or not to choose an act of crime (Wikström et al.,2012)

This finding underscores the need for societies to focus more on morality which is a primary determinant of crime instead of the current focus on deterrence (perceived certainty of sanction). The family and school settings provide an opportunity to mould the morality of young people.

Interestingly, the results of this study differed from SAT with regards to starting a secret relationship, as respondents who perceived no risk of getting caught were less likely to start a secret relationship compared to those who perceived a very great risk of getting caught. This is in contrast to the prediction of SAT, which predicts a reduction in crime involvement with an increased perceived risk of getting caught. It is possible that those who started secret relationships would have previously reflected on their likelihood of getting caught and this might have affected their response. People who had not tried a secret relationship might think it is easy to cover up whereas those who have started a secret relationship might know it is not. This is an issue that comes with cross-sectional research, measuring the predictor and outcome at the same time, and a longitudinal analysis may be better able to explore this issue.

Finally, the findings of this study, with regards to the conditional relevance of deterrence, highlight the sensitive and complex nature of secret relationships in the context of the highly conservative KSA. Although committing a crime, including starting secret relationships, is treated as breaking the law in the KSA, crime is also considered a sin in Islamic culture. This consideration of crime as a sin might also contribute to our understanding of the strong influence of morality on crime and the lesser relevance of deterrence in this study. It is possible that the adolescents who perceived no risk of getting caught were still less likely to be involved in secret relationships because of their religious belief. It is generally believed in Islam that God is monitoring human actions and will reward each person accordingly. Future studies may need to consider religious beliefs such as 'divine retribution' in highly religious settings like Saudi Arabia.

The explained variance with regards to the conditional relevance of deterrence in this study was quite low (5%; 8.3% and 8.9%). This was lower than in other countries where the conditional relevance of deterrence has been tested. For example, the conditional relevance of deterrence explained 18% of the variance in Germany (Eifier, 2016). This indicates that the conditional relevance of deterrence does not explain as much criminal behaviour among adolescents in the KSA as it does in other countries.

However, the explanatory power appears to be much higher in this study for the conditional relevance of deterrence with regards to secret relationships (>50%). The possibilities

associated with this have already been discussed with regards to the conditional relevance of self-control.

10.4 Crime Propensity, Criminogenic Exposure and Crime Involvement

According to SAT, crime involvement is dependent on an individual's crime propensity, on criminogenic exposure, and the interaction of both factors. The second objective of the present study was to test this main proposition of SAT.

Both higher levels of propensity and criminogenic exposure were independently associated with increased crime involvement in this study. This result agrees with the findings of previous studies that also demonstrated the independent predictive power of crime propensity and criminogenic exposure in crime (Wikström, 2009; Wikström et al., 2010; Schils and Pauwels, 2014).

The current study also provides strong support, with regards to secret relationships and crime variety, for the theoretical prediction of SAT that crime propensity has the greater impact on predicting crime involvement compared to criminogenic exposure. Thus, both personal factors (computed as crime propensity) and environmental factors (represented by criminogenic exposure) contribute to crime involvement, but the personal factors play a more significant role. Similar findings have also been reported in previous studies (Wikström, 2009; Wikström et al., 2012; Wikström and Treiber, 2016; Cochran, 2016; Antonacio et al., 2017; Uddin, 2017; Wikström et al., 2018). However, a few previous studies reported criminogenic exposure to be the stronger of the two predictors of crime involvement (Wikström and Svensson, 2008; Svensson and Pauwels, 2010; Noppe, 2016). This difference may have resulted from the use of different measures of criminogenic exposure and propensity. For instance, some studies relied either on only moral emotions (Wikström and Svensson, 2008) or on moral values (Svensson and Pauwels, 2010; Noppe, 2016) as a

measure of morality. Criminogenic exposure was also measured differently in many studies. Thus, Wikström and Svensson (2008) added alcohol consumption, Wikström et al. (2010) used unsupervised time with peers as a single item, and Gerstner and Oberwittler (2018) used the frequency of leisure activities and meeting with friends.

In addition, the results of this study upheld the SAT prediction about the existence of an interaction between an individual's propensity for crime and criminogenic exposure in the explanation of youth crime. Exposure to criminogenic settings has a stronger effect on criminal behaviour for young people with a high level of crime propensity for both crime variety and starting a secret relationship, but the effect was more pronounced in predicting crime variety than in predicting starting a secret relationship. Criminogenic exposure was found to be more relevant at a higher level of crime propensity. Thus, people with lower crime propensity were unlikely to be involved in criminal behaviour irrespective of the level of criminogenic exposure, while individuals with high crime propensity were more vulnerable to temptations and provocations associated with criminogenic exposure. This proposition has been supported in a number of previous studies (Wikström, 2009; Svensson and Pauwels, 2010; Wikström et al, 2010; Wikström et al., 2012; Schils and Pauwels, 2014; Wikström and Treiber, 2016; Noppe, 2016; Hirtenlehner and Treiber, 2017; Antonacio et al., 2018; Gerstner and Oberwittler, 2018).

However, the results of the current study are in contrast with other studies that did not establish a significant interaction between crime propensity and criminogenic exposure (Cochran, 2016; Brauer and Tittle, 2016; Miley, 2017). Cochran (2016) conducted separate analyses for each of the four indicators of criminogenic exposure in his study: the number of student organizations that students belong to, the number of credit hours currently enrolled, pressure from friends, and current grade point average, and found a significant interaction only between propensity (measured by morality) and the number of student organizations. However, criminogenic exposure and crime propensity are composite measures; the approach of analysing each indicator separately, adopted by Cochran (2016), could not adequately capture all relevant aspects of each measure. Brauer and Tittle (2016) conducted household surveys of adults in the Dhaka District of Bangladesh, a context that is culturally similar to

the context of the current study although not exactly the same. In that study, exposure to violent settings and the level of families' and friends' morality towards the use of violence were used to measure the criminogenic setting. It would have been more valid if the actual involvement of families and friends in the use of violence was used instead to indicate peer crime involvement. Miley (2017) used a very limited indicator of criminogenic exposure - past experience with intimate partner violence. Past experience of intimate partner violence may not be sufficient to account for all aspects of criminogenic exposure. It is also worth noting that Cochran (2016) and Miley (2017) acknowledged that their studies were not originally aimed to test SAT.

A deviation from SAT's predictions was noted in the present study among youths who had a medium level of criminogenic exposure on the interaction graphs. Paradoxically, individuals with low crime propensity had the highest mean prevalence of secret relationships at a medium level of criminogenic exposure. Although both crime variety and secret relationships increased with increasing criminogenic exposure among youths with medium crime propensity, the rate of increase in mean crime variety slowed from the medium to high level of criminogenic exposure, while the rate of increase in secret relationships increased from the medium to high level of criminogenic exposure. It is interesting that divergence from SAT was noted mainly in relation to medium criminogenic exposure. It is worthy of note that this study divided criminogenic exposure into high, medium and low categories in the interaction diagram as opposed to high and low used by Wikström et al. (2012) and other SAT studies (Wikström and Svensson, 2008; Wikström, 2009; Svensson and Pauwels, 2010; Wikström et al., 2010; Wikström et al., 2012; Schils and Pauwels, 2014; Wikström and Treiber, 2016; Noppe, 2016; Hirtenlehner and Treiber, 2017; Uddin,2017; Antonacio et al, 2018; Gerstner and Oberwittler, 2018; Wikström et al., 2018). It thus appears that SAT is unable to completely explain criminal behaviour in individuals with medium criminogenic exposure.

Another interesting finding in this study is the role of gender in crime involvement. Females were more likely to start a secret relationship compared to males. The higher prevalence of secret relationships among females could be due to a number of factors, such as relationships with older men or relationships between a boy and multiple girls, as well as international

relationships through social media. Starting a secret relationship was the most common crime among youths in Saudi Arabia, both in this study and in previous studies of youth crime in Saudi Arabia (Al-Mutlag, 2003; Al-Qhatani, 2009; Al-Askah, 2005). Al-Askah (2005) observed that modern young Saudi females yearn for more freedom beyond what society is willing to accept. Also, in the current study, some female respondents left handwritten comments regarding the need to be treated equally with men. However, as starting a secret relationship is considered a crime based on Saudi law, there are no international data to compare with. According to Alluhaibi (2014), Saudi society is undergoing a rapid social change which has led to family life disjunction, negative social pressures and a deterioration of family life. The traditional values have been eroded with new clearly defined and acceptable moral values replacing them, thus affecting religious values and morality (Al-Askah, 2005). However, it is worthy of note that while prevalence of starting a secret relationship was higher among girls, the incidence was higher among boys, as presented in sections 6.3 and 6.4. The results of this study highlight the significant role of gender in the frequency of starting a secret relationship, which might be related to the impact of differences in mobility and access. It is worth mentioning that men in Saudi Arabia have much easier access to move around than women, which would be, according to SAT, one of the causes of the causes of crime.

The explained variance in this study (19%, 23.5% and 24.2%) was comparable with that reported in previous tests of SAT: 16% in the UK (Wikström and Svensson, 2008); 22% in the UK (Wikström et al., 2010); 24% in Austria (Hirtenlehner and Treiber, 2017); 27% among an immigrant sample in Sweden (Uddin, 2017); 28% in the UK (Wikström, 2009). Other studies reported much higher percentages of explained variance: 48% to 53% in Belgium and Sweden (Svensson and Pauwels, 2010); 31% in Belgium (Noppe, 2016); and 43% among indigenous Swedish (Uddin, 2017). It is also worth mentioning that the introduction of the interaction term in the current study increased the proportion of explained variance from 19% to 24% for predicting crime variety. One would have expected the explained variance to be very high with regards to the testing of crime propensity and criminogenic exposure as this is the central proposition of SAT. Conversely, the models for secret relationships showed a generally higher proportion of explained variance (41.6%,

42.3% and 43.7%). This has been explained in relation to the conditional relevance of controls.

A meta-analysis conducted by Pratt and Cullen (2000) found that studies that included variables from social learning theory along with the self-control theory (Gottfredson and Hirschi, 1990) explained 15.3% more of the dependent variable compared with those that did not include social learning variables. Since SAT theory included other variables such morality and criminogenic environment in addition to self-control, it is expected to yield a higher explained variance. However, according to Vazsonyi et al. (2001), the typical amount of explained variance in the studies that examined the General Theory of Crime (Gottfredson and Hirschi, 1990) accounted for 20 % in total deviance. This amount of variance that explained by self-control theory varied from 17% for a Swiss sample, 19% for a Hungarian sample, 22% for a Dutch sample, and 28% for an American sample. This is similar to the amount of variance explained by SAT.

In summary, this study supports the prediction from SAT that crime results from an interaction between crime propensity and criminogenic exposure. However, the direction of the interaction, especially at medium criminogenic exposure, requires further assessment.

10.5 The Perception-Choice Process

The third objective of the current study was to examine the perception-choice process in Saudi Arabia. This part of the study is different because it uses a scenario to locate the respondent in a specific situation, whereas the previous measures were general measures of deterrence and criminogenic exposure. However, according to SAT, perception and choice are the two consecutive steps in decision-making. Before committing a crime, an individual need to first perceive crime as an action alternative when faced with a criminogenic situation (temptation or provocation), and then deliberately choose crime from among available action alternatives (Wikström et al., 2012). SAT states that this perception-choice process is influenced by an individual's propensity to crime. The current study was born out of the fact

that only a few studies have tested SAT from the perception-choice process perspective. Although this study adapts the scenario used in Wikström et al. (2012), the analysis was more extensive, using different models based on Van Damme and Pauwels (2016). This study found that the effect of crime propensity on violent intentions was significant in all the regression models. Individuals with high and medium propensity were more likely to express violent intentions compared to individuals with a low crime propensity, as predicted by SAT (Wikström et al., 2012). This indicates that higher propensity increases the likelihood of perceiving and choosing crime as an action alternative, as proposed by SAT. This is consistent with previous tests of the perception-choice process of SAT (Wikström et al., 2012; Wepsäläinen, 2016; Van Damme and Pauwels, 2016; Pauwels, 2018). According to SAT, crime propensity is an important cause of crime but it is not sufficient reason to break moral rules. This is because SAT emphasizes the fundamental importance of interaction patterns - the kinds of people and the kinds of environments individuals are situated in (Wikström et al., 2012).

However, the effect of scenario criminogeneity was variable across different models. No significant effect on violent intentions was found when provocation and monitoring were considered individually. The effect of scenario criminogeneity on violent intentions only became significant when levels of provocation and monitoring were considered jointly in each scenario. Additionally, low monitoring and high provocation (scenario D) increased the likelihood of a violent response as predicted by SAT. Similar results were found in study by Wepsäläinen (2016) with a sample of Swedish youths, where the individual levels of provocation and monitoring did not make a significant contribution to the model. In addition, the study by Van Damme and Pauwels (2016), based on a classroom violence scenario, did not demonstrate any significant effect of monitoring on violent intentions, but did find that the level of provocation is more fundamental than monitoring in the perception-choice process, as proposed by SAT (Wikström et al ,2012).

Overall, the linear increase in violent responses from scenarios A to D and from low to high propensity, predicted by SAT theory, was not fully demonstrated by this study. In permutation A, the mean violent response was highest among those with high propensity,

followed by those with medium propensity and lowest in those with low propensity, as predicted by SAT. However, the effect of propensity on the mean violent response was variable in other scenarios. Surprisingly, low and high propensity ultimately had the same mean violence scores in permutation D (low monitoring, high provocation) which is contrary to SAT's predictions. It appears that when provocation is quite high and monitoring is low, most respondents tend to respond violently irrespective of their crime propensity. It is worth noting that the study conducted by Wikström et al. (2012) only regarded respondents who chose 'very likely' as violent intentions while 'likely' and 'very likely' were categorised as violent intentions in the present study. However, SAT's predictions of the effect of scenario criminogeneity on choosing violent response is conditional by the level of crime propensity were not supported even when the analysis was conducted based on Wikström's operationalisation of violent intentions (see figure 9.2 in chapter 9).

Furthermore, the effects of gender on violent intentions was significant in all the regression models in this study. In contrast to predictions made by SAT theory, the current study found that gender has the greatest effect on the prediction of violent response rather than crime propensity, with males more likely to express violent intentions compared to females. A recent study conducted by (Pauwels, 2018) also found that gender has a greater effect in predicting crime than crime propensity. However, it is possible that if the scenario was replaced by a less violent offence pattern, such as property offending or secret relationships, the effect of gender may not be as pronounced or may even be reversed. As discussed in chapter 6, violent crimes were more prevalent among males so it was not surprising that violent intentions were also more prevalent. The finding of fewer violent intentions among females also reflects the role of gender norms as part of the moral context of the Saudi setting. It is not culturally acceptable for a female to engage in a physical fight in public.

Finally, there was generally a low level of explained variance (3-12%) in all models even when SAT's propositions were supported, which indicates that the perception choice-process was only able to explain a small percentage of the variance in the dependent variable among Saudi youths.

10.6 Youth Crime in Saudi Arabia

The secondary objective of this study was to contribute to the explanation of youth crime in the KSA. The overall prevalence of youth crime in this study was 36.9%. However, the prevalence of crime reduced to 23.1% when starting a secret relationship was not considered as a crime. Starting a secret relationship was the most frequent crime with a prevalence of 24.7%, followed by theft from a person with a prevalence of 8.2%. Indeed, the prevalence of secret relationships alone was more than the prevalence of all the other youth crimes combined. Based on the results of this study, it would not be out of place to state that the prevalence of youth crime is quite high in Saudi Arabia. As discussed in section 4.4, youth crimes in the KSA have been associated with family, economic factors, school, neighbourhood and individual factors (Al-Shethry, 1993; Aljibrin, 1994; Al Garni, 2000 and Al-Otayan 2001).

However, the current study explored youth crime in the KSA from the perspective of SAT. This study has revealed that youth crime in the KSA is influenced by an individual's propensity to crime and exposure to criminogenic settings. Youths with higher crime propensity due to low morality and low self-control are more likely involved in secret relationships and other crimes. Thus, crime propensity (self-control and personal morality) is the primary determinant of crime involvement among the KSA youths. In the same vein, exposure to criminogenic settings significantly influences youth crimes in the KSA. Criminogenic exposure is based on peer crime involvement, time spent with peers and poor collective efficacy. Thus, youths with greater exposure to criminogenic settings due to higher peer crime involvement, higher time spent with peers and poor collective efficacy are more likely involved in secret relationships and other crimes. In addition, criminogenic exposure has a stronger influence on Saudi youths with a higher crime propensity especially for other crimes other than secret relationships.

Furthermore, there is an interaction between self-control and personal morality among youths in the KSA. Self-control has a stronger effect on criminal behaviour for youths with low levels of morality than for youths with high levels of morality, especially with regards to

secret relationships. On the other hand, deterrence has a stronger effect on criminal behaviour for youths with low levels of morality than for youths with high levels of morality, especially with regards to other crimes apart from secret relationships.

Finally, this study provides some evidence about why and how Saudi youths perceive and choose crime as an action alternative. A simultaneous increased level of provocation and decreased level of monitoring increase the likelihood of violent intentions among youths in the KSA. However, there is no evidence of an effect of increased levels of provocation or decreased levels of monitoring on violent intentions among youths in the KSA when considered individually.

10.7 Strengths and limitations of the current study

To the best of my knowledge, the present study is the first test of SAT in an Islamic context, operating with the Sharia legal system, and specifically in Saudi Arabia. This is important as the social-cultural and legal context is entirely different from where all the previous empirical tests of SAT were undertaken, especially with regards to the status of secret relationships as a crime. It is worthy of note that this study shows very similar findings using two different dependent variables: crime variety, which is similar to what has been used in most previous empirical tests of SAT, and the prevalence of secret relationships, a culturally specific type of crime, which gives the findings additional weight. The applicability of SAT to secret relationships further supports the definition of crime as behaviour that breaks the moral rules of the context. Although secret relationships are not internationally regarded as a crime, the results for this behaviour in Saudi Arabia still demonstrate support for SAT.

This study also provides insight into the predictors of youth crime in Saudi Arabia. Furthermore, the use of a fairly representative sample of male and female young people allows for generalisability of the study findings to all young people in Riyadh. Finally, the study has contributed to the understanding of predictors of crime which could be useful while designing interventions to reduce crime in Saudi Arabia and similar contexts.

However, this study also has a number of limitations. Firstly, a cross-sectional design was used in the study. Although a cross-sectional study design is useful for studying prevalence, the use of a cross-sectional design limits the investigation of causal effects. Most of the independent variables were measured at the time of the survey, but the dependent variables (except for violent intentions) measured things that had happened in the 12 months prior to the survey. Thus, the dependent variable occurred before the independent variables. It could be that the dependent variable (crime) could have an effect on some independent variables (e.g., moral beliefs, or time spent with other young people) so that the causal connection between the two is obscured in the cross-sectional design. Nevertheless, the use of the scenario to investigate violent intentions avoided this problem. Since the results of the scenarios were broadly supportive of SAT, this could be seen as lending greater weight to the findings based on reports of previous involvement in crime.

Secondly, this study used an indirect measure of peer delinquency by asking participants about crime involvement of their peers. This approach may lead to bias as the participants may report peer delinquency based on their own delinquency thus leading to overestimation of the correlation between peer and personal delinquency. On the other hand, the participnats may also seek to minimise their friends' involvement in crime. This may introduce systematic error in the measurement of exposure to criminogenic settings (Haynie and Osgood, 2005; Meldrum et al., 2009; Young et al., 2011; Gerstner and Oberwittler, 2018). Finally, the findings may not be fully generalizable to other locations outside Riyadh city since the socio-economic context elsewhere may be slightly different. However, this is not considered to be particularly problematic as one of the main objectives of this study was to test SAT in a different context, not to produce findings that represent the whole country.

10.8 Limitations of SAT Theory

This study has confirmed that SAT offers a comprehensive analytical framework that can be applied to explain crime even in an Islamic setting with a Sharia Code of Conduct. However, a number of limitations of SAT were observed based on the experience and results of this current study.

Firstly, the discrepancy in the definition and operationalisation of self-control by SAT was observed, as previously identified by recent studies (Hirtenlehner and Reinecke, 2018; Kroneberg and Schulz, 2018). The measurement of self-control, based on the Grasmick et al.'s (1993) scale, does not conform with the definition of self-control as the inhibition of a perceived action alternative that conflicts with one's personal morals. Grasmick et al.'s scale was originally developed to assess the tendency of an individual to avoid action alternatives whose long-term costs outweigh their benefit (Gottfredson and Hirschi, 1994). In addition, measurement of self-control based on Grasmick et al.'s scale is generic, unlike personal morality which is measured based on a sense of wrongfulness, guilt and shame with regards to crime. Moreover, the definition of self-control based on conflict with personal morality is not supported by the findings of this study among individuals with low morality. This study shows that self-control helps individuals with low morality to conform to the moral rules of the context rather than personal moral rules.

Secondly, although the measurement of personal morality in SAT is comprehensive and specific, it is important to distinguish between measuring the general opinions and beliefs (the individuals' own beliefs) and the measurement of how important to them to obey the law. In other words, how important it is for people to adhere to the moral conducts that are stated in the law. Currently, SAT measures morality based on an individual's beliefs about the moral rules stated in the law. However, this is somewhat problematic as moral rules stated in the law are context-specific. For example, secret relationships are only regarded as a crime in the context of the KSA. It means that non-Saudi nationals residing in the KSA will be considered to be of low morality in a Saudi context, if they do not see secret relationships as wrong. The issue with this is that an individual may not agree with a moral rule stated in the law, but still consider it important to obey the law anyway. Thus, it may not be fair to consider such an individual as being of low morality because she or he considers it important to obey the law in spite of their personal reservations. Therefore, another possible area of future research would be to test SAT using specific measurements of morality focusing on the importance to the individual of obeying the law.

10.9 Recommendations for Future Research

Based on the findings of this study, the following recommendations are made for future research:

1. Future research should expand the sampling frame by drawing participants from different locations across Saudi Arabia. The area chosen for the current study is the capital city of Saudi Arabia, therefore inclusion of rural samples would capture more conservative and traditional Saudi culture.

2. Longitudinal studies are required to draw inferences with regards to crime causation. It would be useful in the future to test theoretical propositions of SAT in Saudi Arabia based on a longitudinal design. This would ensure the correct sequencing of the measurement of the dependent and independent variables.

3. Only a small body of existing research has tested the perception-choice process and a number of these studies, including the current study, have reported mixed results. Therefore, further research is required to enhance our understanding of this important process.

4. Future studies could include the moral context when testing the conditional relevance of controls, to investigate the effect of moral correspondence / or conflict between individuals' morality and the moral context of the setting on the relevance of controls.

5. Future research could develop a more direct and valid measure of self-control in relation to their definition in SAT.

6. Future research could consider categorisation of SAT's independent variables based on universally applicable scales, which will enhance comparison between contexts.

10.10 Conclusion

SAT is a new theoretical framework in the field of criminology. SAT has been argued to be able to address the shortcomings of previous criminological theories. However, most criminological theories, including SAT, were developed in Western settings. Since contexts, values, and priorities differ across cultures, theories developed in the Western world may not adequately provide an understanding of delinquent behaviour or crime in other countries - especially Islamic countries with different legal contexts. However, data collected in the KSA in this study showed patterns of covariance and associations that are similar to those reported in SAT studies conducted in Western world, with a few exceptions. For example, when testing the perception-choice process, the results were mixed. The findings indicate that there is significant interaction between crime propensity and the scenario criminogeneity (measured by provocation and the absence of monitoring). However, when examined closely, the nature of this interaction is not consistent with SAT. This is because individuals who have low levels of crime propensity also reported that they would choose the violent response as well. A similar result has also been found by Pauwels (2018). This indicates there is a need of further research that examines the perception choice process. However, it is worth mentioning the fact that the likelihood of choosing the violent response was still greatest among individuals with high crime propensity and that this study shows very similar findings when using two different dependent variables: crime variety and secret relationships.

In conclusion, the present study has made a critical contribution to the criminological research base, and to the empirical foundations of SAT, by examining its core propositions in an Arabic population, specifically in Saudi Arabia. The main aim of this research was to test the generality of the theory, and the results from the present study demonstrate that the core ideas of SAT, namely the importance of the individual–setting interaction in the explanation of human action, can be applicable to explain youth crime in Saudi Arabia. While there were a number of findings contrary to SAT theory, including a low proportion of explained variance, overall it is fair to say that the study has found evidence to support the main proposition of SAT, that *"it is all about interactions"* (Wikström et al., 2012: 406). The study provides support for SAT as a general theory of crime, which can now be said to be applicable in the Islamic context of Saudi Arabia.

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Appendices

10.11 Appendix 1: The Questionnaire –English Version

Research Participant Consent Form for young people

CONSENT FORM

Hello,

This questionnaire is about you and your friends. We are interested in your life, school, what you do in **your** free time and about the problems you might have. The questions are about your personal experience and your opinions, but you are free to answer them or not. It is important to note that the questionnaire is anonymous, thus your name is not needed, and your parents and teachers will not see your answers.

The researcher will not know who has given what answer. Once you have finished, the questionnaires will be transferred securely to the University of Salford in United Kingdom. If there are any questions you do not understand, please ask the researcher [or assistant] who has come to your class to help you (Do not allow others to look at your answers). Please do not think too much about answering the questions, just answer them spontaneously.

Please tick below if you agree to participate in this study:
[ ] I have read the participant information sheet (V1.3, 2016_11_30) and I accept that by filling in this questionnaire and submitting **it to the researcher/teacher I am agreeing to participate in the study.**

Thank you for your participation!

Some questions about yourself:

- **Please tick the appropriate answer.**

1) Are you male or female?

i. Male [_____]

ii. Female [_____]

2) How old are you?

i. [_____] years (Enter your age)

3) What is your nationality?

i. Saudi [_____]

ii. Another nationality (write in) [_____]

4) Which country were you born in?

(Please tick only ONE box!)

i. in this country (Saudi Arabia) [_____]

ii. in another country (write in): [_____]

5) Which country was your (natural) mother born in?

(Please tick only ONE box!)

i. In this country (Saudi Arabia): [_____]

ii. in another country (write in): [_____]

iii. I don't know [_____]

6) Which country was your (natural) father born in?

(Please tick only ONE box!)

i. in this country (Saudi Arabia): [_____]

ii. in another country (write in): [_____]

iii. I don't know [_____]

7) Which people are involved in bringing you up?

i. Father and mother [_____]

ii. Father and Stepmother [_____]

iii. Mother and stepfather [_____]

iv. One parent only (Father or mother) [_____]

v. Other situation (specify): [_____]

8) who is the mainly responsible about raising you up?

_____]

9) What is the highest level of your father's education?

i. Illiterate [_____]
ii. Less than high school [_____]
iii. High school [_____]
iv. Bachelor's degree [_____]
v. Master [_____]
vi. PhD [_____]

10) what is the highest level of your mother's education?

i. Illiterate [_____]
ii. Less than high school [_____]
iii. High school [_____]
iv. Bachelor's degree [_____]
v. Master [_____]
vi. PhD [_____]

11) Is your FATHER (or the man in your home) unemployed?

Tick ONE box

i. Yes, he is unemployed [_____]
ii. No, he is working [_____]
vii. Other (is retired, has long-term illness, looks after the home, is a student) [__]

12) Is your MOTHER (or the woman in your home) unemployed?

Tick ONE box

i. Yes, she is unemployed [_____]
ii. No, she is working [_____]
iii. Other (is retired, has long-term illness, looks after the home, is a student) [__]

13) How many wives does your father have?

i. My Father has one wife [_____]
ii. My Father has two wives [_____]
iii. My Father has three wives [_____]
iv. My Father has four wives [_____]

14) Where does your family get its income from?

Tick ALL that apply.

i. Earnings, wages, or property of my parents. [_____]
ii. They receive unemployment or Social security allowance. [_____]

iii. Other, (write in) [_____]

15) What is your household monthly income?

i. Less than 600 £ [_____]

ii. 600- 1200 £ [_____]

iii. 1200- 2000 £ [_____]

iv. 2000 £ or more [_____]

16) What type is your school?

i. Government school [_____]

ii. Private school [_____]

17) Where is your school located?

iii. In north of Riyadh [_____]

iv. In south of Riyadh [_____]

v. In central of Riyadh [_____]

vi. In east of Riyadh [_____]

vii. In west of Riyadh [_____]

Some questions about your activities and opinions:

18) <u>How often do the following things happen?</u>

		Never/almost never 0	Once or twice a week 1	Most days of the week (3-5 days a week) 2	All days, or almost all days, of the week (6-7 days a week) 3
18.1	How often do you and your friends spend time in your home? (the place where you live)?				
18.2	How often do you and your friends spend time in one of your friends' homes?				
18.3	How often do you and your friends spend time outdoors in streets, parks or playgrounds without doing anything particular other than just hanging out				

	together (for example, just chatting to each other)?				
18.4	How often do you and your friends spend time in youth clubs?				
18.5	How often do you and your friends spend time in shopping centres or shopping malls?				
18.6	How often do you and your friends spend time in the evenings in the city centre or (streets)?				

19)How often do the following things happen?

		No, never 0	Yes, sometimes 1	Yes, often (every month) 2	Yes, very often (every week) 3
19.1	Does it often happen that some of your friends skip school or work without an excuse?				
19.2	Does it often happen that some of your friends start a secret relationship?				
19.3	Does it often happen that some of your friend sniff glue, or gas, or use drugs (for example, cannabis, Captagon)?				
19.4	Does it often happen that some of your friends steal things from others or steal things from shops?				

19.5	Does it often happen that some of your friends destroy things that do not belong to them (for example, smash street lights, paint graffiti on walls, smash window, scratch the paint on parked cars)?				
19.6	Does it often happen that some of your friends beat up or get into fights with others?				
19.7	Does it often happen that some of your friends have stopped and questioned from police?				
19.8	Does it often happen that some of your friend drink alcohol?				

19) <u>Do you think that there is a great risk of you getting caught if you ...?</u>

		No risk at all 0	A small risk 1	A great risk 2	A very great risk 3
20.1	Steal something in a shop?				
20.2	Smash a street light?				
20.3	Beat up a stranger?				
20.4	Break into a car to steal something?				
20.5	Start a secret relationship				

20) <u>Do you think that you would be in great trouble if you got caught...?</u>

		No - nothing would happen 0	No not very much trouble 1	Yes, some trouble 2	Yes, a lot of trouble 3
21.1	Stealing something in a shop?				
21.2	Smashing a street light?				
21.3	Beating up a stranger?				
21.4	Starting a secret relationship				

21) Do you think is very wrong, wrong, a little wrong or not wrong at all to

		Not wrong at all 0	A little wrong 1	Wrong 2	Very wrong 3
22.1	Skip doing homework for school.				
22.2	Skip school or work without an excuse.				
22.3	Lie, disobey or talk back to teachers/tutors.				
22.4	Tease a classmate/work colleague because of the way he or she dresses.				
22.5	Smoke cigarettes.				
22.6	Drink wine or alcohol with friends on the weekend.				
22.7	Hit another child [person]who makes a rude comment.				
22.8	Steal a pencil from a classmate.				
22.9	Damage a house wall.				
22.10	Smash a street light for fun.				
22.11	Take Captagon.				

22.12	Steal something from a shop.				
22.13	Break into or try to break into a building to steal something				
22.14	Secretly date someone.				
22.15	Use a weapon or force to get money or things from another young person.				
22.16	Smoke cannabis.				

22) <u>Do you think that you would feel ashamed if…?</u>

		No, not at all 0	Yes, a little 1	Yes, very much 2
23.1	If you were caught shoplifting and your best friends found out about it, would you feel ashamed?			
23.2	If you were caught shoplifting and your teachers found out about it, would you feel ashamed?			
23.3	If you were caught shoplifting and your parents found out about it, would you feel ashamed?			
23.4	If you were taking Captagon and your best friends found out about it, would you feel ashamed?			
23.5	If you were taking Captagon and your teachers found out about it, would you feel ashamed?			
23.6	If you were taking Captagon and your parents found out about it, would you feel ashamed?			
23.7	If you were smoking cannabis and your parents found out about it, would you feel ashamed?			
23.8	If you were smoking cannabis and your best friends found out about it, would you feel ashamed?			
23.9	If you were smoking cannabis and your teachers found out about it, would you feel ashamed?			
23.10	If you were caught breaking into a car and your best friends found out about it, would you feel ashamed?			

23.11	If you were caught breaking into a car and your teachers found out about it, would you feel ashamed?			
23.12	If you were caught breaking into a car and your parents found out about it, would you feel ashamed?			

23) <u>Do you think that you would feel guilty if…?</u>

		No, not at all 0	Yes, a little 1	Yes, very much 2
24.1	Would you feel guilty if did something your parents (step-parents) have told you absolutely not to do?			
24.2	Would you feel guilty if you cheated on a test in school?			
24.3	Would you feel guilty if you teased another pupil so he or she started to cry?			
24.4	Would you feel guilty if you stole something from a shop?			
24.5	Would you feel guilty if you hit another pupil who made a rude remark to you?			
24.6	Would you feel guilty if you took Captagon?			
24.7	Would you feel guilty if you smoked cannabis?			
24.8	Would you feel guilty if you start a secret relationship?			

24) <u>How often do you feel tempted to...?</u>

		Never 0	Sometimes 1	Often (every month) 2	Very often (every week) 3
25.1	Steal something from a shop				

25.2	Destroy or damage something not belonging to you				
25.3	Hit someone who annoys you ormakes you angry				
25.4	Start a secret relationship				

25) <u>When was the last time you felt tempted to...?</u>

		Never Felt tempted 0	More than a year ago 1	Last year 2	Last month 3	Last week 4
26.1	Steal something from a shop					
26.2	Destroy or damage something not belonging to you					
26.3	Hit someone who annoys you or makes you angry					
26.4	Start a secret relationship					

26) Have you stolen something from another person in the last 12 months?

i. Yes [_____] ii. No [_____]

27.a If Yes, how many times did you steal something from another person in the last 12 months?

27) Have you stolen something from a shop in the last 12 months?

i. Yes [_____] ii. No [_____]

28.a If Yes, how many times did you steal something from a shop in the last 12 months?

_____

28) Have you in the last 12 months damaged or destroyed things not belonging to you for fun or because you were bored or angry (for example, smashed windows or street lights, scratched the paint off cars, sprayed graffiti on a wall, damaged a car)?

i. Yes [_____] ii. No [_____]

29.a If yes, how many times have you damaged or destroyed things not belonging to you in the last 12 months.

_____

29) Have you in the last 12 months set fire to something you were not supposed to set fire to (for example, started a fire in a school, started a fire in an empty building, set fire to a house, started a fire in a playground, started a fire in a wood)?

i. Yes [_____] ii. No [_____]

30.a If yes, how many times did you set fire to something you were not supposed to set fire to in the last 12 months?

_____

30) Have you in the last 12 months used a weapon, hit or threatened to hurt someone to take money or other things from them?

i. Yes [_____] ii. No [_____]

31.a If yes, how many times did you use a weapon, hit or threaten to hurt someone to take money or other things from them in the last 12 months?

_____

31) Not counting events when you took money or other things from someone, have you during the last 12 months beaten up or hit someone, for example, punched, kicked or head butted someone (do not count fights with your brothers and sisters)?

i. Yes [_____] ii. No [_____]

32.a If yes, how many times did you beat up or hit someone in the last 12 months?

_____

32) Have you in the last 12 months broken into someone's house or flat to steal something?

i. Yes [_____] ii. No [_____]

33.a If yes, how many times did you break into a house to steal something in the last 12 months?

_____

33) Have you in the last 12 months broken into a non-residential building to steal something (for example, broke into a shop, school, warehouse, office)?

i. Yes [_____] ii. No [_____]

34.a If yes, how many times did you break into a non-residential building to steal something in the last 12 months?

_____

34) Have you in the last 12 months broken into a car to steal something?

i. Yes [_____] ii. No [_____]

35.a If yes, how many times did you steal a car or break into a car to steal something in the last 12 months?

_____

35) Have you in the last 12 months stolen a car?

i. Yes [_____] ii. No [_____]

36.a If yes, how many times have you stolen a car in the last 12 months?

_____

36) Have you taken Captagon in the last 12 months?

i. Yes [_____] ii. No [_____]

37.a If yes, how many times did you take Captagon in the last 12 months?

_____

37) Have you smoked cannabis in the last 12 months?

i. Yes [_____] ii. No [_____]

38.a If yes, how many times did smoke cannabis in the last 12 months?

_____

38) Have you started a secret relationship in the 12 months?

i. Yes [_____] ii. No [_____]

39.a If yes, how many times did you start a secret relationship in the last 12 months?

_____

40. Sara is waiting for her car at the shopping centre gate. She is listening to her iPhone. Suddenly a girl who walks by pushes her so she drops her iPhone to the ground and it breaks. When Sara asks her why she pushed her, the girl pushes her once again. There are two security guards walking near the shopping centre gate.

If you were Sara, how likely do you think it is that you would hit or push the girl that pushed you?

1. Very likely. [_____]

2.Likely. [_____]

3. Un likely [_____]

4. Very unlikely. [_____]

41) Do you agree or disagree with the following statements about yourself?

		Strongly disagree 0	Mostly disagree 1	Mostly agree 2	Strongly agree 3
41.1	When I am really angry, other people had better stay away from me.				
41.2	I often act on the spur of the moment without stopping to think.				
41.3	I sometimes find it exciting to do things that may be dangerous.				
41.4	I don't devote much thought and effort preparing for the future.				
41.5	Sometimes I will take a risk just for the fun of it.				
41.6	I often try to avoid things that I know will be difficult.				
41.7	I never think about what will happen to me in the future.				
41.8	I lose my temper pretty easily.				

42) If young people of your age were skipping school and hanging out in your neighbourhood how likely is it that adults living in your neighbourhood would do something about it (for example, contact the school or tell the parents of the children skipping school)?

Very unlikely 0	Unlikely 1	Neither likely nor unlikely 2	Likely 3	Very likely 4

43) If young people of your age were spray-painting on a house wall how likely is it that adults living in your neighbourhood would do something about it (for example telling off the children who were spray painting or tell their parents about it)?

Very unlikely 0	Unlikely 1	Neither likely nor unlikely 2	Likely 3	Very likely 4

44) If a young person of your age was showing disrespect to an adult living in your neighbourhood (for example, swearing at him or her) how likely is it that the adult would tell the child off or tell the child's parents about it?

Very unlikely 0	Unlikely 1	Neither likely nor unlikely 2	Likely 3	Very likely 4

45) If a group of young people of your age were fighting or beating someone up in your neighbourhood, how likely is it that any of the adults living in your neighbourhood would break it up?

Very unlikely 0	Unlikely 1	Neither likely nor unlikely 2	Likely 3	Very likely 4

46) How strongly do you agree or disagree with the following statements?

		Strongly disagree 0	Disagree 1	Neither agree or disagree 2	Agree 3	Strongly agree 4
46.1	Young people who live in my neighbourhood are very friendly to each other					
46.2	Young people who live in my neighbourhood can be trusted					
46.3	Young people in my neighbourhood help each other if needed.					
46.4	Young people in my neighbourhood share the same values (for example, about what is right and wrong to do).					
46.5	Adults who live in my neighbourhood are friendly towards young people.					
46.6	Adults who live in my neighbourhood can be trusted.					
46.7	Adults who live in my neighbourhood help young people if needed.					
46.8	Adults who live in my neighbourhood generally know who the local young people are.					

10.12 Appendix 2: A copy of the Ethical Approval Letter

University of Salford MANCHESTER

Research, Innovation and Academic Engagement Ethical Approval Panel

Research Centres Support Team
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University of Salford
M5 4WT

T +44(0)161 295 2280

www.salford.ac.uk/

7 December 2016

Dear Norah,

RE: ETHICS APPLICATION–HSR1617-10–'Situational Action Theory: A New Theoretical Framework to Explain Youth Delinquency in Saudi Arabia.'

Based on the information you provided I am pleased to inform you that application HSR1617-10 has been approved.

If there are any changes to the project and/or its methodology, then please inform the Panel as soon as possible by contacting Health-ResearchEthics@salford.ac.uk

Yours sincerely,

Sue McAndrew
Chair of the Research Ethics Panel

10.13 Appendix 3: A Letter of Permission from the General Administration of Education in Riyadh (in Arabic)

المملكة العربية السعودية
وزارة التربية والتعليم
(٢٨٠)
الإدارة العامة للتربية والتعليم بمنطقة الرياض
Planning & Development
إدارة التخطيط والتطوير

وزارة التربية والتعليم
Ministry of Education

الادارة العامة للتربية والتعليم بمنطقة الرياض
General Administration of Education in Riyadh
وزارة التربية والتعليم
Ministry of Education
إدارة التخطيط والتطوير
الرقم : ٣٧١٧٥٤١٤٧
التاريخ : ١٤٣٧/١٢/٠٤
المرفقات :
جهة الاحالة :

" إفادة "

الموضوع : الموافقة على تطبيق أدوات الدراسة في مدارس تابعة لإدارة التعليم بمنطقة الرياض

اسم الباحث/ـة	نورة بنت مفلح عياط الرويلي
الكلية / الجامعة	جامعة Salford / تخصص علم اجتماع
الغرض من الدراسة	متطلب بحث علمي للحصول على درجة الدكتوراه
مجال الدراسة والعينة	مدارس المرحلة الثانوية التابعة لإدارة التعليم بمنطقة الرياض – عينة الدراسة طلاب وطالبات المرحلة الثانوية

سعادة الملحق الثقافي السعودي في / بريطانيا **حفظه الله**

السلام عليكم ورحمة الله وبركاته **وبعد ،،،**

بناءً على تعميم معالي وزير التعليم رقم 55/610 وتاريخ 1416/9/17هـ بشأن تفويض الإدارات العامة للتعليم بإصدار خطابات السماح للباحثين بإجراء البحوث والدراسات ، وبناءً على تفويض مدير عام التعليم إدارة التخطيط والتطوير في الخطاب ذي الرقم 11/33674823 والتاريخ 1433/4/14هـ بشأن تسهيل مهام الباحثين والباحثات ، وحيث تقدم إلينا الباحث/ـة (الموضحة بياناتها أعلاه) بطلب إجراء دراستها بداية من تاريخ 1438/5/15هـ ، عليه نفيدكم أنه لا مانع من تطبيق الدراسة خلال مدة زمنية محددة ب (90) يوم خلال العام الدراسي على نطاق مدارس منطقة الرياض مع ملاحظة أن الباحثة تتحمل كامل المسؤولية المتعلقة بمختلف جوانب البحث ،ولا يعني سماح الإدارة العامة للتعليم موافقتها بالضرورة على مشكلة البحث أو على الطرق والأساليب المستخدمة في دراستها ومعالجتها ، وبناءً على طلبها تم منحها الإفادة .

شاكرين طيب تعاونكم ،،،،،،،

نوف الصالح

مدير إدارة التخطيط والتطوير

وزارة التعليم
وزارة التعليم
إدارة التخطيط والتطوير
الإدارة العامة للتعليم بمنطقة الرياض

ص / للملحقية
ص / قسم الدراسات والبحوث
ن/ الصالح

ن9

صفحة 15 من 18 | تاريخ الإصدار : 1436/8/5هـ | الإصدار : 1.0 | رمز العملية ت ط .ع

10.14 Appendix 4: The Questionnaire –Arabic Version

University of Salford MANCHESTER

FB

(طلب موافقة)

السلام عليكم ورحمة الله وبركاته،

تقوم الباحثة بإجراء دراسة بعنوان عنوان الدراسة: نظرية الفعل الظرفي: إطار نظري جديد لتفسير أسباب انحراف الاحداث في المملكة العربية السعودية (في مدينة الرياض) وذلك لاستكمال متطلبات نيل درجة الدكتوراه في الفلسفة في علم الاجتماع، وهي دراسة تنبؤيه تهدف إلى تقييم ما إذا كانت نظرية الفعل الظرفي قادرة على تفسير سلوك الشباب في المملكة العربية السعودية (الانحراف)، كما تهدف الدراسة إلى تحليل واقع جنوح الأحداث في المملكة العربية السعودية.
تدور أسئلة الاستبانة حول تجاربك الشخصية وآرائك، ولكن لك الحرية في أن تجيب عليها أو تتركها. وبالطبع فإن آرائكم لها أهمية في التوصل لنتائج دقيقة تبنى على معلومات واقعية، فأنتم محل اهتمام للمشاركة في هذه الدراسة لذا آمل منك التكرم بالإجابة عن كافة الاستبانة وذلك بوضع علامة √ اما الاختيار الذي يناسب رأيك بوضوح مع العلم بأن ما تقدمونه من استجابات في هذه الاستبانة لن تستخدم الا لأغراض العلمية في هذه الدراسة.

الرجاء وضع إشارة √ في المكان المخصص في حال موافقتك على المشاركة في الدراسة:

{.....} قد قمت بقراءة النموذج الذي يحتوي معلومات المشاركة كاملاً (V1.3, 30_11_2016) وبقيامي بمليء هذا الاستبيان وتسليمه للباحثة / مساعد الباحثة، فإنني أقر بموافقتي على المشاركة في هذه الدراسة.

شكراً لك على مشاركتك

الباحثة/ نورة الرويلي

وزارة التعليم
ادارة التخطيط والتطوير
الإدارة العامة للتعليم بمنطقة الرياض

1

بعض الأسئلة الخاصة بك:

قم باختيار الإجابة المناسبة لو سمحت.

1) ما جنسك؟

1. ذكر [_____]
2. أنثى [_____]

2) كم عمرك؟

1. [_____] (اكتب العمر)

3) ما هي جنسيتك؟

1. سعودي [_____]
2. غير ذلك (اكتب الجنسية) [_____]

4) في أي بلد ولدت؟

(اختر إجابة واحدة فقط!)

1. في السعودية [_____]
2. في دولة أخرى (اكتبها) [_____]

5) في أي بلد ولدت أمك؟

(اختر إجابة واحدة فقط)

1. في السعودية [_____]
2. لا أعلم [_____]
3. في دولة أخرى (اكتبها) [_____]

6) في أي بلد ولد أبوك؟

(اختر إجابة واحدة فقط!)

1. في السعودية [_____]
2. في دولة أخرى (اكتبها) [_____]
3. لا أعلم [_____]

7) من هم الأشخاص الذين شاركوا في تربيتك؟

1. الأب والأم (أو زوج الأم وزوجة الأب) [_____]
2. أحد الوالدين فقط (أب أو أم) [_____]
3. وضع آخر (الرجاء ذكره) [_____]

8) من هو المسؤول الرئيسي عن تربيتك؟

1. [_____]

[انتقل للصفحة التالية]

9) ما هو أعلى مستوى تعليمي حصل عليه والدك؟

1. أمي/ غير متعلم [_____]
2. أقل من الثانوية العامة [_____]
3. الثانوية العامة [_____]
4. الشهادة الجامعية (بكالوريوس) [_____]
5. دراسات عليا/ ماجستير [_____]
6. دراسات عليا/ دكتوراه [_____]

10) ما هو أعلى مستوى تعليمي حصلت عليه والدتك؟

1. أمي/ غير متعلم [_____]
2. أقل من الثانوية العامة [_____]
3. الثانوية العامة [_____]
4. الشهادة الجامعية (بكالوريوس) [_____]
5. دراسات عليا/ ماجستير [_____]
6. دراسات عليا/ دكتوراه [_____]

11) هل والدك (أو ولي أمرك) عاطل عن العمل؟

اختر إجابة واحدة فقط.

1. نعم، لا يعمل [_____]
2. لا، إنه يعمل [_____]
3. غير ذلك (متقاعد، عنده مرض مزمن، يعتني بالبيت، طالب....) [_____]

12) هل والدتك (أو المرأة التي تتولى أمرك) عاطلة عن العمل؟

اختر إجابة واحدة فقط.

1. نعم، لا تعمل [_____]
2. لا، إنها تعمل [_____]
3. غير ذلك (متقاعدة، عندها مرض مزمن، تعتني بالبيت، طالبة..) [_____]

13) ما هو مصدر دخل أسرتك؟

اختر كل الإجابات الممكنة.

1. أرباح، رواتب، أملاك الوالدين [_____]
2. يحصلون على دعم للعاطلين عن العمل من الحكومة [_____]
3. غير ذلك، (اكتبه) [_____]

14) ما هو دخل أسرتك الشهري؟

1. أقل من ٣٠٠٠ ريال سعودي [_____]
2. من ٣٠٠٠ – أقل من ٦٠٠٠ ريال سعودي [_____]
3. من ٦٠٠٠ – أقل من ١٠٠٠٠ ريال سعودي [_____]
4. ١٠٠٠٠ ريال سعودي أو أكثر [_____]

[انتقل للصفحة التالية]

15) كم زوجة لوالدك؟

1. والدي متزوج من زوجة واحدة فقط. [_____]
2. والدي متزوج من اثنين. [_____]
3. والدي متزوج من ثلاث زوجات [_____]
4. والدي متزوج من أربع زوجات [_____]

16) ما هو نوع مدرستك؟

1. مدرسة حكومية [_____]
2. مدرسة خاصة/ أهلية [_____]
3. تحفيظ قران [_____]

17) ما هو اسم الحي الذي فيه مدرستك؟

1. [_____]

بعض الأسئلة عن أنشطتك وآرائك:

18) ما هي نسبة حدوث الأشياء التالية؟

		أبداً 0	مرة أو مرتين أسبوعياً 1	معظم أيام الأسبوع (3-5 أيام في الأسبوع) 2	كل أيام الأسبوع (6-7 أيام في الأسبوع) 3
18,1	كم من الوقت تقضون أنت وأصدقاؤك في بيتكم؟				
18,2	كم من الوقت تقضون أنت وأصدقاؤك في بيت أحد أصدقائكم؟				
18.3	كم من الوقت تقضون أنت وأصدقاؤك خارج البيت، في الشارع، المتنزه، الحديقة، الملعب دون أن تفعلون شيئاً سوى تقضية لوقت الفراغ معاً (كالثرثرة مع بعض على سبيل المثال)؟				
18.4	كم من الوقت تقضون أنت وأصدقاؤك في نوادي الشباب؟				
18.5	كم من الوقت تقضون أنت وأصدقاؤك في مراكز التسوق أو المجمعات التجارية؟				
18.6	كم من الوقت تقضون أنت وأصدقاؤك في المساء في خارج المنزل أو (الشوارع)؟				

19) ما هي نسبة حدوث الأشياء التالية؟

		لا، أبداً 0	نعم، أحياناً 1	نعم، غالباً (كل شهر) 2	نعم، كثيراً (كل أسبوع) 3
19,1	هل يغيب بعض أصدقائك عن المدرسة (أو العمل ان وجد) بدون عذر؟				
19.2	هل يقيم اصدقائك علاقة عاطفية؟				
19.3	هل يقوم بعض أصدقائك باستنشاق الغراء، أو الغاز، أو يستخدم المخدرات (أو حبوب مخدرة)؟				
19.4	هل يقوم بعض أصدقائك بسرقة الأخرين أو سرقة المحلات/ البقالات؟				
19.5	هل يقوم بعض أصدقائك بتحطيم أو تخريب ممتلكات الأخرين (كتحطيم أنوار الشوارع، الرسم على الجدران، تحطيم الشبابيك، خدش دهان السيارات المتوقفة)؟				
19.6	هل يقوم بعض أصدقائك بضرب الأخرين أو العراك معهم؟				
19.7	هل تعرض بعض أصدقائك للإيقاف أو الاستجواب من الجهات الامنية؟				
19.8	هل يشرب بعض أصدقائك المسكرات؟				

[انتقل للصفحة التالية]

20) هل تعتقد بأن هنالك خطورة كبيرة عليك لو تم ضبطك وأنت:

		لا خطر مطلقاً 0	خطر قليل 1	خطر كبير 2	خطر كبير جداً 3
20,1	تسرق؟				
20.2	كسرت عمود إنارة بالشارع؟				
20.3	تضرب شخص غريب؟				
20.4	تفتح سيارة لسرقة شيء منها؟				
20,5	تقيم علاقة عاطفية.				

21) هل تعتقد بأن هنالك مشكلة كبيرة عليك لو تم ضبطك وأنت:

		لا، لن يحدث شيء مطلقاً 0	لا، ليست مشكلة كبيرة 1	نعم، بعض المشاكل 2	نعم، الكثير من المشاكل 3
21,1	تسرق شيء من محل؟				
21.2	تحطم عمود إنارة في الشارع؟				
21.3	تضرب شخصاً غريباً؟				
21,4	تقيم علاقة عاطفية.				

[انتقل للصفحة التالية]

22) هل تعتقد أن القيام بالسلوكيات التالية يعتبر:

		ليس خطأ على الإطلاق 0	خطأ صغيراً 1	خطأ 2	خطأ فادحاً 3
22.1	عدم حل الواجبات المدرسية.				
22.2	التغيب عن المدرسة أو العمل بدون عذر.				
22.3	ممارسة الكذب، عدم الطاعة، أو الرد بقلة أدب على المعلمين.				
22.4	استفزاز زميل دراسة أو عمل بسبب طريقة لبسه.				
22.5	التدخين.				
22.6	تعاطي المسكرات مع الأصدقاء.				
22.7	ضرب الآخرين بسبب تعليقاتهم غير اللائقة.				
22.8	سرقة قلم من زميل.				
22,9	تخريب سور منزل.				
22,10	تحطيم عمود إنارة شارع فقط من أجل التسلية.				
22,11	تدخين نوع من انواع المخدرات.				
22.12	سرقة المحلات/ البقالات.				
22,13	اقتحام أو محاولة اقتحام بناية لسرقة شيء ما.				
22,14	اقامة علاقة عاطفية.				

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22.15	استخدام السلاح أو الأدوات الحادة أو القوة للحصول على المال أو أشياء أخرى من شخص أصغر منك.				
22.16	تعاطي حبوب مخدرة.				

23) هل تعتقد أنك ستشعر بالخجل لو حدث أي من الأمور التالية:

		لا، على الإطلاق 0	نعم، قليلاً 1	نعم، كثيراً 2
23,1	تم ضبطك تسرق من محل واكتشف أصدقاؤك ذلك			
23.2	تم ضبطك تسرق من محل واكتشف معلموك ذلك			
23.3	تم ضبطك تسرق من محل واكتشف والداك ذلك			
23.4	تم ضبطك تتعاطى حبوب مخدرة واكتشف أصدقاؤك ذلك			
23.5	تم ضبطك تتعاطى حبوب مخدرة واكتشف معلموك ذلك			
23.6	تم ضبطك تتعاطى حبوب مخدرة واكتشف والداك ذلك			
23.7	تم ضبطك تدخن نوع من انواع المخدرات واكتشف أصدقاؤك ذلك			
23.8	تم ضبطك تدخن نوع من انواع المخدرات واكتشف معلموك ذلك			
23,9	تم ضبطك تدخن نوع من انواع المخدرات واكتشف والداك ذلك			
23,10	تم ضبطك تسرق من سيارة واكتشف أصدقاؤك ذلك			
23,11	تم ضبطك تسرق من سيارة واكتشف معلموك ذلك			
23.12	تم ضبطك تسرق من سيارة واكتشف والداك ذلك			

[انتقل للصفحة التالية]

24) هل تعتقد أنك ستشعر بالذنب لو قمت بأي من الأمور التالية:

		لا على الإطلاق 0	نعم، قليلاً 1	نعم، كثيراً 2
24,1	مخالفة توجيهات (زوج أمك أو زوجة أبيك).			
24.2	قمت بالغش في امتحانات المدرسة.			
24.3	قمت باستفزاز طالبة مما أدى إلى بكائها.			
24.4	سرقت شيئاً من محل.			
24.5	قمت بضرب طالبة آخر بسبب تعليقه الساخر عليك.			
24.6	تناولت حبوب مخدرة.			
24.7	دخنت نوع من انواع المخدرات.			
24.8	اقمت علاقة عاطفية سرية			

25) ما مدى الرغبة لديك للقيام بالآتي:

		أبداً 0	أحياناً 1	غالباً (كل شهر) 2	دائماً (كل أسبوع) 3
25,1	تسرق شيئاً من محل.				
25.2	تحطم أو تخرب شيئاً ليس لك.				
25.3	تضرب شخصاً يزعجك أو يغضبك.				
25.4	تقيم علاقة عاطفية.				

[انتقل للصفحة التالية]

26) متى كانت آخر مرة تم فيها إغراؤك كي تقوم بالسلوكيات التالية:

		ابدا	منذ أكثر من سنة	السنة الماضية	الشهر الماضي	الاسبوع الماضي
		0	1	2	3	4
26,1	تسرق شيئاً من محل.					
26.2	تحطم أو تخرب شيئاً ليس لك.					
26.3	تضرب شخصاً يزعجك أو يغضبك.					
26.4	تقيم علاقة عاطفية.					

27) هل قمت بسرقة أي شيء من شخص آخر خلال ال ١٢ شهراً الماضية؟

1- نعم [_____] 2- لا [_____]

27أ) لو كانت الإجابة "بنعم"، كم مرة قمت بسرقة أشياء من أشخاص آخرين خلال ال ١٢ شهراً الماضية؟

---

28) هل قمت بسرقة أي شيء من محل خلال ال ١٢ شهراً الماضية؟

1- نعم [_____] 2- لا [_____]

28أ) لو كانت الإجابة "بنعم"، كم مرة قمت بسرقة أشياء من محل خلال ال 12 شهراً الماضية؟

---

29) هل قمت بتحطيم أو تخريب أشياء للآخرين خلال ال ١٢ شهر الماضية، فقط من أجل التسلية أو بسبب الملل أو الغضب (على سبيل المثال، تحطيم شبابيك أو أعمدة إنارة الشوارع، خدش دهان السيارات، رش دهان ورسم على الجدران، أو تحطيم دراجة هوائية)؟

1- نعم [_____] 2- لا [_____]

[انتقل للصفحة التالية]

29 أ) لو كانت الإجابة "بنعم"، كم مرة قمت بتحطيم أشياء تخص أشخاص آخرين خلال ال ١٢ شهراً الماضية؟

_____

30) هل قمت بإشعال النار في أشياء لم يكن من المفترض إشعال النيران فيها خلال ال ١٢ شهر الماضية (على سبيل المثال، إشعال النار في المدرسة، أو بناية فارغة، أو منزل، أو ملعب، أو حديقة)؟

1- نعم [ ] 2- لا [ ]

30 أ) لو كانت الإجابة "بنعم"، كم مرة قمت بإشعال النار في أشياء لم يكن من المفترض إشعال النيران فيها خلال ال ١٢ شهراً الماضية؟

_____

31) هل قمت باستخدام السلاح، أو الضرب، أو التهديد بإيذاء شخصٍ ما للحصول على مال أو أشياء أخرى منه خلال ال ١٢ شهراً الماضية؟

1- نعم [ ] 2- لا [ ]

31 أ) لو كانت الإجابة "بنعم"، كم مرة قمت باستخدام السلاح، ضرب، أو التهديد بإيذاء شخصٍ ما للحصول على مال أو أشياء أخرى منه خلال ال ١٢ شهراً الماضية؟

_____

32أ) بدون تعداد حوادث أخذ أموال أو أشياء لأشخاص آخرين، هل قمت بالاعتداء على اشخاص اخرين بالضرب وغيره خلال ال ١٢ شهراً الماضية (لا تحسب ما يحصل بينك وبين إخوتك وأخواتك)؟

1- نعم [ ] 2- لا [ ]

32أ) لو كانت الإجابة "بنعم"، كم مرة قمت بضرب اشخاص آخرين خلال ال ١٢ شهراً الماضية؟

_____

33) هل قمت باقتحام منزل أو شقة شخص ما من أجل السرقة خلال ال ١٢ شهراً الماضية؟

1- نعم [ ] 2- لا [ ]

[انتقل للصفحة التالية]

33 أ) لو كانت الإجابة "بنعم"، كم مرة قمت باقتحام منزل أو شقة شخص ما من أجل السرقة خلال ال ١٢ شهراً الماضية؟

_____

34) هل قمت باقتحام بناية غير سكنية لسرقة شيء ما خلال ال ١٢ شهراً الماضية (على سبيل المثال، اقتحام محل، مدرسة، مخزن، مكتب)؟

1- نعم [_____] 2- لا [_____]

34 أ) لو كانت الإجابة "بنعم"، كم مرة قمت باقتحام بناية غير سكنية لسرقة شيء ما خلال ال ١٢ شهراً الماضية؟

_____

35أ) هل قمت باقتحام سيارة من أجل سرقة شيء ما خلال ال ١٢ شهراً الماضية؟

1- نعم [_____] 2- لا [_____]

35 أ) لو كانت الإجابة "بنعم"، كم مرة قمت باقتحام سيارة من أجل سرقة شيء ما خلال ال ١٢ شهراً الماضية؟

_____

36) هل قمت بسرقة سيارة خلال ال ١٢ شهراً الماضية؟

1- نعم [_____] 2- لا [_____]

36 أ) لو كانت الإجابة "بنعم"، كم مرة قمت بسرقة سيارة خلال ال ١٢ شهراً الماضية؟

_____

37) هل تناولت حبوب مخدرة خلال ال ١٢ شهراً الماضية؟

1- نعم [_____] 2- لا [_____]

[انتقل للصفحة التالية]

37 أ) لو كانت الإجابة "بنعم"، كم مرة تناولت حبوب مخدرة خلال ال ١٢ شهراً الماضية؟

_____

38) هل قمت بتدخين نوع من المخدرات خلال ال ١٢ شهراً الماضية؟

1- نعم [_____] 2- لا [_____]

38 أ) لو كانت الإجابة "نعم"، كم مرة قمت بتدخين نوع من أنواع المخدرات خلال ال ١٢ شهراً الماضية؟

_____

39) هل اقمت علاقة عاطفية خلال ال ١٢ شهراً الماضية؟

1- نعم [_____] 2- لا [_____]

39 أ) لو كانت الإجابة "بنعم"، كم مرة اقمت علاقة عاطفية خلال ال ١٢ شهراً الماضية؟

_____

40) بينما سارة تنتظر سيارتها عند بوابة مركز التسوق حاملة هاتفها الايفون، مرت بها فتاة ودفعتها حين سألتها سارة عن السبب تجاهلت الفتاة الرد، في هذه الاثناء كان المكان خالي من الناس.

لو كنت بمكان سارة، كم باعتقادك يكون احتمال قيامك بدفع او ضرب الفتاة التي دفعتك؟

1.) محتمل جدا. [_____]
2.) محتمل [_____]
3.) بعيد الاحتمال [_____]
4.) بعيد الاحتمال جدا [_____]

[انتقل للصفحة التالية]

41) هل تتفق أو تختلف مع العبارات التالية عن نفسك؟

		لا أوافق على الإطلاق 0	لا أوافق 1	أوافق 2	أوافق بشدة 2
41.1	عندما أغضب فعلاً، ينبغي على الآخرين الابتعاد عني.				
41.2	غالباً ما أتصرف بسرعة دون أن أفكر.				
41,3	دائماً أشعر بالذنب عندما أقوم بعمل خاطئ.				
41,4	دائماً ما يضايقني الآخرون.				
41,5	أحياناً أجد متعة في عمل أشياء قد تكون خطيرة.				
41,6	لا ابذل جهدا في التفكير والإعداد للمستقبل.				
41,7	أحياناً أقوم بمغامرات من أجل التسلية فقط.				
41.8	إذا تضايق الآخرون من تصرفاتي، فتلك هي مشكلتهم؛ وليست مشكلتي.				
41,9	غالباً ما أتجنب الأشياء الصعبة.				
41,10	لا أكترث كثيراً لكون الآخرون يعتقدون بأن ما أقوم به هو خطأ.				
41,11	لم أفكر أبداً بما سيحصل لي في المستقبل.				
41,12	دائماً ما أتجنب إغضاب الآخرين أو جرح مشاعرهم.				
41,13	اشعر بالملل بسرعة عند القيام بعمل ما.				
41,14	غالباً ما أنزعج عند القيام بعمل ما.				
41,15	من السهولة على أن أفقد أعصابي.				
41,16	دائماً ينتابني شعور سيء لو تأخرت في سداد دين لصديقي.				

41,17	من الصعب على التحكم بنفسي عند الغضب.				
41,18	يتعكر ويتغير مزاجي إذا أكرهت على عمل شيء رغماً عني، وبالتالي أنفذه دون إتقان أو مبالاة.				
41,19	إذا أكرهت على عمل شيء رغماً عني، يتغير مزاجي ولا أكترث فيما لو وضعني ذلك في مأزق.				
41,20	إذا غضبت، لا أفكر أبداً في نتائج ما أقوم به.				

42) لو لم يذهب أقرانك إلى المدرسة ورآهم احد سكان الحي في الأسواق التجارية أو الاماكن العامة بدلاً من ذلك، ما احتمال أن يقوم سكان الحي بعمل ما (مثلاً، الاتصال بالمدرسة أو إخبار الوالدين بأن أبنائهم لا يذهبون إلى المدرسة)؟

غير محتمل أبداً	غير محتمل	لا أعرف	محتمل	احتمال كبير
0	1	2	3	4

43) لو كان أقرانك يرشون الدهان على جدار بيت، فما احتمال أن يقوم سكان الحي بعمل ما (مثلاً، التحدث إليهم بخصوص الموضوع أو إخبار الوالدين بذلك)؟

غير محتمل أبداً	غير محتمل	لا اعرف	محتمل	احتمال كبير
0	1	2	3	4

44) لو كان أحد أقرانك يعامل شخصا بالغاً في الحي بعدم احترام، (على سبيل المثال، يتهجم عليه)، فما احتمال أن يقوم هذا البالغ بالتحدث إليه ونهيه عن ذلك الموضوع أو إخبار والديه بذلك؟

غير محتمل أبداً	غير محتمل	لا اعرف	محتمل	احتمال كبير
0	1	2	3	4

[انتقل للصفحة التالية]

45) لو كان مجموعة من أقرانك يتشاجرون أو يتقاتلون أو يضربون شخصاً في الحي، فما احتمال أن يقوم شخص بالغ بفض الاشتباك أو العراك ووقفه؟

غير محتمل أبداً	غير محتمل	لا اعرف	محتمل	احتمال كبير
0	1	2	3	4

46) ما هي درجة موافقتك أو عدم موافقتك مع العبارات التالية؟

		غير موافق بشدة 0	غير موافق 1	محايد 2	موافق 3	موافق بشدة 4
46,1	الفتيات اللاتي يسكنون في حينا منسجمون اجتماعيا مع بعضهم البعض.					
46.2	الفتيات الذين يسكنون في حينا موضع ثقة.					
46.3	الفتيات الذين يسكنون في حينا يساعدون بعضهم بعضاً.					
46.4	الفتيات الذين يسكنون في حينا لديهم نفس القيم (على سبيل المثال، بالنسبة لما هو الصح وما هو الخطا)					
46.5	الكبار البالغون في حينا متراحمين مع الصغار.					
46.6	الكبار البالغون في حينا موضع ثقة.					
46.7	الكبار البالغون في حينا يقدمون يد العون للفتيات الصغار عند الحاجة.					
46.8	الكبار البالغون في حينا عادة يعرفون سكان الحي.					

انتهت الاسئلة، شكرا لمشاركتك

وزارة التعليم
ادارة التخطيط والتطوير
الإدارة العامة للتعليم بمنطقة الرياض

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10.15 Appendix 5: General Description Table of SAT Studies

No.	Author	Year	Country	Sample /Method	Sample Size	Age Band/Average Age	Study Design
1	Antonaccio and Tittle	2008	Ukraine	Random household/ interviews	500	18-60+	Cross-Sectional (CS)
2	Wikström and Svensson	2008	England and Sweden	Adolescents from school population / self-report survey at school	1957 UK, 1833 Sweden	14-15	CS
3	Wikström	2009	England	Adolescents from general population/ self-report survey at school	716 (PADS+) and 6,600 PDS	11-17+	Longitudinal
4	Svensson, Pauwels and Weerman	2010	Belgium, Sweden and Netherlands	Adolescents from school population/ self-report survey at school	2,486 Belgium, 1,003 Sweden, 1,978 Netherlands	13-14 Belgium, 15 Sweden, 12 and 14 Netherlands	CS
5	Wikström and Svensson	2010	England	Adolescents from school population/ self-report survey at school	1,957	14-15	CS
6	Haar and Wikström	2010	England	Adolescents from school population/self-report survey at school	710	12-13	CS
7	Svensson and Pauwels	2010	Belgium and Sweden	Adolescents from school population/ self-report survey at school	Belgium (N = 2,486 Sweden (N = 1,003)	13 (average)	CS
8	Wikström et al	2010	England	Adolescents from school population/ self-report survey at school	716 (PADS+) and 6,615 PDS	13-17	Longitudinal
9	Svensson et al*	2010	Belgium, Sweden and the Netherlands	Adolescents from school population/ self-report survey at school	Belgium (N = 2,486); Sweden (N = 1,003); the Netherlands (N = 1,978)	13 (average)	CS
10	Pauwels et al	2011	Netherlands	Adolescents from school population/ self-report survey at school	843	12-16	CS
11	Wikström, Tseloni and Karlis	2011	England	Adolescents from school population/ self-report survey at school	703	14-15	CS
12	Wikström et al *	2012	England	Adolescents from school, Space time budget, community survey, paperand pencil survey and interviewer-led questionnaire/ self-report survey at school	716	13-17	Longitudinal
13	Bertok and Mesko	2013	Slovenia	Adolescents from school population/ self-report survey at school	2,000	13-17	CS

(continued)

No.	Author	Year	Country	Sample	Sample Size	Age Band	Study Design
14	Gallupe and Baron	2014	Canada	Homeless adolescents / self-report survey	300 (analysed)	16-24	CS
15	Schils and Pauwels	2014	Belgium	Adolescents from school population and general population/ online survey	6,020	16-18 school, 16-24 non-school	CS
16	Cochran	2015	USA	University students/ self-report survey at universirty	448	18+	CS
17	Svensson	2015	Sweden	Adolescents from school population/ self-report survey at school	891	15	CS
18	Bruinsma et al	2015	Netherlands	Adolescents from school population/ self-report survey at school	843 2008/09 616 2010/11	12-13 and 15-16 1st wave 14-15 and 17-18 2nd wave	CS and Longitudinal
19	Willets	2012	USA	university students/ self-report survey at universirty	748	18+	CS
20	Cochran	2016	USA	University students/ self-report survey at universirty	448	18+	CS
21	Eifier	2016	East Germany	People from general population/ Questionnaire mailing	2,383	18-65	CS
22	Hirtenlehner and Hardie	2016	Austria	Adolescents from school population/online school survey	2,911	13-14	CS
23	Hirtenlehner, Pauwels and Mesko	2015	Germany	People from general population/ self-report survey at school	1,977	50-80	CS
24	Piquero et al	2016	USA	Convicted felons in prison population/ self-report survey	1,019	32	CS
25	Brauer and Tittle	2016	Bangladesh	People from general population / self-report survey and interviews	573	19+	CS

(continued)

No.	Author	Year	Country	Sample Group	Sample Size	Age Band	Study Design
26	Noppe	2016	Belgium	Serving police officers/online survey	197	39 (average)	CS
27	Van Damme	2016	Belgium	(Flemish) Adolescents from school and university populations/ online survey	1,201	13-19	CS
28	Wepsäläinen	2016	Sweden	Adolescents from school population/self-report survey	482	15-16 - wave 2 16-17 wave 3	Longitudinal
29	Wikström and Treiber	2016	England	Adolescents from school population/self-report survey	716	12-16	Longitudinal
30	Hirtenlehner and Kunz	2016	Germany	Households /Questionnaire mailing	1997	50 -80	CS
31	Pauwels and Svensson	2017	Belgium	Students in schools /(self-report survey); and young adults (students and school leavers)/ (in web survey)	6,020	16-18 schools 16 -24 (web survey)	CS
32	Hirtenlehner and Treiber	2017	Austria	Adolescents from school population /online survey	2911	13-14	CS
33	Miley	2017	USA	Students in universiy /self-report survey at university	1,474	18+	CS
34	Uddin	2017	Sweden	Adolescents /interview-led questionnaire	517	16-17	CS
35	Antonacio et al	2017	Russia and Ukraine	household survey/ interview and self –report survey	1,435	18+	CS
36	Craig	2017	USA	University students /self-report survey at university	298	18+	CS

(continued)

No.	Author	Year	Country	Sample Group	Sample Size	Age Band	Study Design
37	Wikström et al	2018	UK	STB, community survey, and interviewer-led questionnaire	716	13-17	Longitudinal
38	Kroneberg and Schulz	2018	Germany	Adolescents from school population /self-report survey	2074	13 (average)	Longitudinal
39	Schepers and Reinecke	2018	Germany	Adolescents from school population / self-report survey and interviews	3000	13 (average)	Longitudinal and CS
40	Ishoy and Blackwell	2018	USA	Adolescent offenders /self-report survey	1,354	14-18	Longitudinal
41	Maillo	2018	Colombia, Ecuador, and El Salvador	Adolescents from educational centres self-report survey	1304	14-18	CS
42	Hirtenlehner and Meško	2018	Austria	Adolescents from school population / school-administered online survey	2,911	13-14	CS
43	Pauwels	2018	Belgium	Adolescents from school population /web surveys	1050	13-18+	CS
44	Gerstner and Oberwittler	2018	Germany	Adolescents from school population /self-report survey and onlone survey	1045	13 (average)	CS