EXPLAINING ADOLESCENT OFFENDING VARIETY IN SWEDEN BY PARENTAL COUNTRY OF BIRTH
A TEST OF SITUATIONAL ACTION THEORY

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Abstract
The main aim of this study is to explain adolescent offending variety by their parental country of birth. In doing so, the independent effect size and proportion of variance of two core elements of Situational Action Theory (SAT) – propensity and lifestyle risk – on offending variety are examined by immigrant background and gender. Although previous studies produced plenty of support to key assumption of SAT, no study so far measured offending variety as dependent variable. Analyses are based on self-reported data collected for Malmö Individual and Neighborhood Development Study (MINDS) during 2011-12, when the adolescent attained the age between 16 and 17. Ordinary least square (OLS) regression is run to examine the magnitude of effect and proportion of variance. Strong relation of offending variety separately with propensity and lifestyle risk was identified. Contrary to current scholarship on immigrant crime in Sweden, adolescent with immigrant parents are found at no more risk to engage in self-reported delinquency than the natives. Gender difference remains as a strong predictor of offending variety, especially for the immigrant group. This research reveals similarities in magnitude of effects of criminal propensity and lifestyle risks on offending variety, regardless of adolescents’ parental country of birth. Yet, propensity is a stronger predictor for delinquency variety than the lifestyle risks. This confirms applicability of the core elements of SAT, regardless of adolescents’ parental country of birth.

Keywords: Immigrant background, Situational Action Theory, Adolescent offending variety, propensity, lifestyle risk, MINDS
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INTRODUCTION

Individual difference by immigrant background in explaining crime is not new in criminology but a long-debated issue, beginning in the early twentieth century in the USA (Bennet, 1909; Hart, 1896). Since Europe welcomed post-war influx of immigrants to meet its demand for labor and on humanitarian ground, the issue of immigrant crime has become an important discourse both in public debate and academia. One of the common features about immigrants has been to get disproportionally overrepresented in crime statistics across Western Europe (Solivetti, 2010, 2012), even in the welfare contexts in Scandinavia such as Finland, Norway (Skardhamar, Aaltonen, & Lehti, 2014), and Sweden (Wikström, 1991; Hofer et al., 1997; Jansson, 2004; Beckley et al., 2015).

As lives are linked to generations, the children of immigrants (i.e. second-generation) continue to exhibit differential manifestations and to confront structural difference in a wide spectrum of life-aspects including delinquent behavior. Across the developed countries, the current scholarship on immigration and crime found second-generation immigrants to be accountable for more recorded crimes than the first-generations, indicating that criminal involvement increases in successive generations (Sampson, 2008; Wickes & Sydes, 2015). The concern over law violation among children of immigrants has obtained special momentum while conformist behavior is considered as a determinant of social integration for immigrants.

There have been competing theoretical perspectives to explain immigrant-crime connection. In response to different sets of questions regard crime among immigrants and their children, Wortley (2009, p. 352) summarized existing theories into four different explanatory models namely, (a) the importation model, (b) the strain model, (c) the cultural conflict models, and (d) the bias model. The first model refers to differential base rate of crime between the host country and the country of origin. To illustrate, it simply assumes that criminals come to a new country and continue to violate laws. Second model points out the difference between the cultural codes among the countries which makes cultural conflict inevitable, sometimes get realized through violating laws. Third model identifies increased level social disadvantages, stress and strain experienced by the immigrants in a host society which might get manifested by law violation. And the fourth model takes a more critical approach over structural discrimination and prejudice against the immigrants by the law enforcement agencies which lead immigrants to be subject of being suspected, arrested, and convicted at an increased level. These explanations mostly based on criminogenic risks which are not quite irrelevant to immigrants and their children as well.

But such explanations get challenged by the Swedish experience that reveals an exception where second generation immigrants are found to commit less crime than the first-generation (Ahlberg, 1996; Martens, 1997) – even the pattern is somewhat similar to the native Swedes (Erardi & Bucerius, 2014). This Swedish phenomenon is a far cry to the crime-situation of second-generation immigrants in many developed countries. Regardless of social disadvantages, the disparity of crime records on immigrants’ children between Sweden and other developed countries challenges existing theories and demands explanations which lead to core debate on individual difference in explaining crime by immigrant
background. This also implies that there are certain realities that the existing theories are not adequate to apprehend the main causes of individual difference in explaining delinquency among second-generation immigrants.

The major issue to be distinguished here is the question whether the existing theories concerning criminogenic risk factors or social disadvantages can explain offending by immigrant adolescents in the same way as the natives. There could be three basic answers to this question based on available literature: (1) second-generation immigrants in Sweden might experience no more social disadvantages than the natives; (2) they might not get exposed to criminogenic risks more than the natives; (3) there exist some core causes which reasonably influence delinquent behavior of second-generation immigrants which lead them follow a crime pattern consistent to the native Swedes.

Existing Swedish literature does neither claim that the risk factors espoused by the traditional theories are absent in Swedish societal structure, nor the second-generation immigrants in Sweden are get exempted from experiencing socio-economic disadvantages. Indeed, this implies spuriousness of traditional theories in explaining crimes among second-generation immigrants, and serious lack for a plausible framework to identify the main causes of crime and thereby fails to establish theoretical generalizability, at least in Swedish context.

Situational Action Theory (Wikström, Oberwittler, Treiber, & Hardie, 2012; Wikström & Treiber, 2016; Wikström, 2010b), a recent contribution to theoretical criminology, can better be conducive to identify the core causes of adolescent delinquency by immigrant background, rather than theories based on criminogenic risk factors. Situational Action Theory (SAT) offers ambitious promise to be a general theory of crime which defines crime as a moral action – brought about by situational mechanism through an interaction between the individual and the environment. SAT pinpoints a common pitfall to existing theories, that is to focus markers or risk factors of crime but ignore the situational interaction (main cause) between the individual and the environment in becoming a delinquent.

In pursuance of generalization, researchers attempted to examine SAT’s applicability against various thematic categories, but not the least, by crime types (Schils & Pauwels, 2014), by immigrant background (Pauwels & Svensson 2009) and gender (Weerman, Bernasco, Bruinsma, & Pauwels, 2015), and by cross-country comparisons (Svensson & Pauwels 2010; Wikstrom & Svensson 2008). The existing studies on SAT often examine delinquency calculated by total delinquency frequency or by dichotomous variable about involvement in offending. This is to mean that there are studies available on SAT which include adolescents with immigrant background in study population, but only a few explicitly attempted to analyze situational interaction of crime by immigrant background, and hardly any of these measured offending variety as dependent variable. Because adolescents tend to embark upon versatility in offending rather than specialization (Farrington, 2003, 2014), there is an acute research gap in understanding adolescent offending variety by immigrant background within the framework of SAT in pursuance of explaining Swedish exception of crimes among second-generation immigrants. To explain the pattern of offending variety by immigrant background within the framework of SAT, it requires applicability of SAT’s core assumptions to both groups – immigrants and natives.
To address this unexplored area, the current study is the first attempt to examine the role of immigrant background in explaining offending variety through examining core elements of SAT (i.e. propensity and lifestyle risks) regards situational mechanism. It intends to test core assumptions of SAT, specifically to what extent these variables are responsible for explaining adolescent offending variety by parents’ country of birth. Using a verity scale as a measure of delinquency does not only offer applicability of SAT for a variety of contexts, but also offers informed policy implication for crime prevention. Offending versatility, if exists, require different prevention strategy. By large, this study intends to contribute to the longstanding scientific debate about the association between immigrant background and adolescent offending.

**REVIEW OF RELEVANT LITERATURE**

**Immigrant background and crime**
Migration, either forced or decided, connotes obvious geographical displacement and contributes in the life of a relocated individual as a starting point for something new, something different. Migration works as a turning point of one’s life about the past and immediate present. From a criminological point of view, migration has the potential to be a turning point to crime – a statistical reflection that the immigrants are over-represented in crime statistics across Western European countries (Solivetti, 2010), but the number varies considerably from country to country (Solivetti, 2012). For example, overrepresentation of non-European prisoners in the prison system of EU countries (Melossi, 2013), even in less punitive Nordic countries (Lappi-Seppälä, 2012), has long been a characteristic feature. Likewise, immigrants in Sweden have been identified to be at higher risk of criminal convictions twice as much as compared to the natives (Bäckman, Estrada, Nilsson, & Shannon, 2014). On the contrary, a recent US study reveals a remarkable finding that the foreign-born individuals have low level of criminal engagement across the life-course (Bersani, 2014). Regardless of disparity of criminal engagement by first-generation immigrants between Europe and the USA, one thing is common in most countries that the crime involvement among immigrants increases over generation, indicating that second-generation (children of immigrants) are more likely to commit crimes than the first-generation immigrants.

Another common thing across the developed countries is to draw the issue of immigration and crime in the public and political debate, irrespective of differential magnitude of immigrant-crime connection. Public perceptions of majority population often do not represent the reality about association between immigrants and crime, but get inflated disproportionately than that of reality (Higgins, Gabbidon, & Martin, 2010; Sohoni & Sohoni, 2014; Wikström, 2009). For newspapers and public perceptions, it makes the difference who commits a crime in fomenting a sense of insecurity in multicultural neighborhoods (Müller & Fischer, 2015). Despite unclear relation between immigrant background and crime, there exists clear relation between exposure to news on immigrant crime and voting in favor of anti-immigrant parties across the Europe (Burscher, van Spanje, & de Vreese, 2015).
Crime among second-generation of immigrants in Sweden

Studies on immigration and crime in Sweden over last three decades produced analogous results that, unlike to many developed countries, second-generation accounts for less recorded crime than the first-generation immigrants in Sweden (Ahlberg, 1996; Kardell, 2011; Martens & Holmberg, 2005; Martens, 1997). However, there is crime-specific difference in ‘crime gap’ between the first- and second-generation immigrants. Analyses on different types of crime identified that first-generation immigrants regardless of gender is at high risk of violent crimes, whereas second-generation males tend to be at the highest risk of property crimes such as car thefts, burglary, vandalism, and the like (Kardell & Martens, 2013).

Drunk-driving and drug-related offences are also a characteristic feature which belongs to second-generation immigrant groups (Kardell & Martens, 2013). Though the second-generation immigrant groups differ from majority Swedish population in alcohol consumption (Hjern & Allebeck, 2004; Leão, Johansson, & Sundquist, 2006), however all those immigrant groups (both first- and second-generations) have been found at higher risk to abuse illicit drugs (Svensson & Hagquist, 2010). The risk for hospital admissions because of illicit drug abuse is even two- to three folds higher among second-generation immigrants compared to majority Swedish population (Hjern, 2004).

Yet, the second-generation immigrants tend to have higher risks of recorded crime than that of majority population with Swedish-born parents. Compared to children of Swedish-born parents, boys with immigrant parents are found to be about 40 percent higher risk of being suspected of offences. For girls with foreign-born parents, the risk to be suspected of offences even more than 40 percent (Hallsten, Szulkin, & Sarnecki, 2013). Such gap in recorded crimes was explained in connection to parental socio-economic condition and neighborhood segregation. After controlling parental and neighborhood conditions, researchers claimed that the gap is found to be reduced by three quarter for boys and by about entirely for girls.

Studies on second-generation immigrants often categorize participants by their parental country of birth, though such categorization is not often uniform. A common way to disaggregate data whether parents born in the host country or outside host country. Some studies further classified whether one parent born in the host country or both parents born in the host country. Such classification identified interesting findings such as adolescents with two immigrant parents had lower prevalence of offending compared to adolescents with one immigrant parent (Torgersen, 2001). However, Swedish context reveals otherwise, meaning that the risk of offending ameliorates with having at least one Swedish-born parent than that of having two foreign-born parents. More specifically, individuals with both parents born outside Sweden were found at risk twice (2 times) higher than the native Swedes, whereas individuals with at least one Swedish-born parent had the risk 1.4 times higher (Martens & Holmberg, 2005).

Sometimes a distinction is also made as labor force immigration and refugee immigration or humanitarian immigration. The latter largely represents better to characterize sporadic influxes of immigration to Sweden. Media reports about higher level crime among immigrants from war-affected countries are partly supported by research evidence in Sweden (Beckley, 2013). Overall findings showed significant relation between of war in the home country and violent
offending. In Norway and Finland, the humanitarian immigrant groups who often experienced wars or conflicts possessed the highest risk of both violent and property crime compared to natives (Skardhamar et al., 2014). This difference is usually explained by differences of base rate of crime between the host country and the country of origin. Since strong intergenerational effects of crime is found evident in the Swedish context (Hjalmarsso & Lindquist, 2012), this difference continues to sustain among the children of immigrants with high rate crimes (Martens, 1997). This implies that difference in base rate of crime between the host country and the country of origin is reflected in crime records of first-generation immigrants and their offspring.

A recent inclusion to the discourse around immigrant crime is one-and-a-half generation which refers to an immigrant who arrived in the host country before the age of 12 (Wortley, 2009), which is also studied in Sweden as childhood immigrants (Hallsten et al., 2013). Children who arrived Sweden before the school-age were found to gain some protective factors which refrain them from engaging in criminal activities (Martens & Holmberg, 2005).

Crime among children of immigrants in Sweden is often explained by the exposure to criminogenic risks such as social disadvantages and structural discrimination (Sarnecki, 2006). Such explanations are not quite irrelevant because such risk factors are found to exist in Swedish societal structure. On the one hand, compared to native Swedes, second-generation immigrants in Sweden face a wide spectra of problems including higher suicidal risk (Di Thiene et al., 2015), higher feeling of social alienation (Safipour et al., 2011), higher risk of unemployment (Arai & Vilhelmsson, 2004; Rooth & Ekberg, 2003), higher risk of falling in poverty (Obucina, 2014), and higher risk of residential as well as occupational segregation (Wiesbrock, 2011). On the other hand, individuals with immigrant background are discriminated to be reported (Arras, 2006; Dahlbäck, 2009, 2012), to be suspected (Hallsten et al., 2013), to be recorded for crime and prosecuted (Martens, Shannon, and Törnqvist 2008) and to be convicted for crimes (Bäckman et al., 2014).

Theoretical framework: Situational Action Theory (SAT)

Situational action theory (SAT) defines crime as a moral action and identifies a situational mechanism (perception-choice process) through which individual’s level of propensity (morality and ability to exercise self-control) and setting’s moral context (shared rules, and its enforcement – deterrence) interacts and determines the possibility of occurring crime in a given context. More specifically, this theoretical model identifies crime (C) as an ultimate outcome of a ‘perception–choice process’ (→) that is initiated and guided by the interaction (x) between person’s crime propensity (P) and criminogenic exposure (E); in brief:

\[ P \times E \rightarrow C. \]

Here crime propensity consists of person’s relevant morality (shame and guilt) and level of self-control; and criminogenic feature of a setting depends on the extent it encourages breach of moral rules. Notably, criminogenic exposure refers to the extent a person actively participates in situations (or settings) with criminogenic features. The interaction between crime propensity and the criminogenic features of a settings exposes certain individual to particular outcome (i.e. crime).
Within the framework of Situational Action Theory (SAT), immigrant background is not considered as a main cause of offending but a possible contributor to interaction (main cause) between the individual and the environment, and thereby crime. In other words, immigrant background needs to be analyzed as ‘causes of the causes’, but not as a primary cause of crime (Wikström 2007). In relation to causes of the causes, it refers “how a person comes to acquire a particular crime propensity” or how a person get exposed to a criminogenic environment or setting (Wikström 2012, p.69) which leads to the ultimate question “why certain kinds of people are exposed to certain kinds of settings” (Wikström 2010a, p.235). What kinds of people and what kinds of environments develop in a context is therefore partly the result of personal emergence and selection (Wikström 2014, p.84). Understanding these ‘causes of the causes’ bears significant prospect regards knowledge-based prevention to intervene into mechanisms, and by preventing the emergence of and/or breaking existing mechanism to acts of crime (Wikström 2010b). Thus, the fundamental nature of SAT implies its potential to help understanding the underlying mechanism between adolescent offending and immigrant background.

The role of causes of the causes (e.g. immigrant background) on individual’s moral development (personal emergence) and their selection towards criminogenic contexts (i.e. lifestyle risk) remained largely unanswered (Wikström 2010b, 2010c). There are not many studies performed so far concerning the role of causes of the causes to situational mechanism of crime as delineated by SAT. In a conference of European Society of Criminology, Lau & Treiber (2015) presented a meta-analysis where social disadvantage was considered as ‘causes of the causes’ to crime which is quite compatible to the theoretical framework of this study. Another similar study indicated the potential of heterogeneity characteristics like social inequality in shaping personal emergence (e.g. propensity) as well as exposure (e.g. lifestyle risks), and revealed that the relationship of heterogeneous features and crime is found partly mediated by the theoretical assumptions of SAT (Schepers, 2014).

**Previous research on SAT and immigrant background**

Attempts have been made in different countries within the framework of situational action theory (SAT) to test the applicability of the theory on groups and sub-groups. Along with individual researchers, designs of several research projects across the Europe were inspired by SAT such as, but not the least, Malmö Individual and Neighborhood Development Study (MINDS) in Sweden, Peterborough Adolescent and Young Adult Study (PADS+) in the United Kingdom, the Study of Peers, Activities and Neighborhoods (SPAN) in the Netherlands, and the Study of Parental Monitoring and Adolescent Delinquency (SPMAD) in Slovenia. Data from these research projects have produced substantial amount of literature in connection to empirical examination and application of SAT.

To explain situational mechanism of crime, the major components of SAT so far investigated encompass emergence and exposure which include criminogenic exposure (e.g. lifestyle risks, peer association, time spent, informal control, etc.), criminal propensity (and its attributes – self-control and morality), and deterrence. Despite most of these studies collected data on the participants’ parental country of birth, only a few studies attempted to test theoretical assumptions derived from
SAT by immigrant background. Here, research literature which are found in connection to individuals’ immigrant background have been explored.

Studies on independent samples across different countries provide strong supports to the assumption that the effects of self-control depends on individual’s level of morality (Svensson, Pauwels, & Weerman, 2010). This implies that self-control has less important effects on individuals with high level of morality than that of with low level of morality. While disaggregating the results by immigrant background, this assumption of SAT that the self-control has relatively weak effects on offending for individuals with high levels of morality is found valid for both Belgian immigrants and non-immigrant boys (Pauwels, 2010). The study also found significantly strong correlation between overall offending, and self-control and morality for both Belgian immigrant and non-immigrant boys. A cross-country study in three countries (Belgium, the Netherlands and Sweden) revealed innate results and strongly supported this assumption (Svensson et al., 2010). Like self-control, deterrence is also found dependent on individual’s level of morality, meaning that deterrence affects more strongly in preventing offending by individuals with low level of morality than for individuals with high level of morality (Svensson, 2015). While tested for propensity (combined construct of morality and self-control), deterrence is found dependent on individual’s level of criminal propensity (Wikström, Tseloni, & Karlis, 2011). Similarly, low level of informal control (e.g., weak bonds to family and school) was found related to expose higher levels of the propensity regardless of immigrant background (Pauwels & Svensson, 2010).

In a comparative study on Sweden and Belgium, lifestyle risk is found to be conditioned to the level of propensity, which means that people with high offending propensity get influenced more strongly by risky lifestyle, regardless of ethnic background (Svensson & Pauwels, 2010). The assumption is equally validated by a cross-country study on youths between Sweden and England (Wikstrom & Svensson, 2008). Similar causal mechanism is found applicable in explaining violent extremism by parental country of birth. Findings showed that increased susceptibility to exposure to violent extremist moral settings was found evident for individuals with high violent extremist propensity (Schils & Pauwels, 2014). This mechanism was found equally applicable to native and immigrants in Belgium, which implies that, exposure to violent extremist settings (or lifestyle) depends on the level of propensity of violent extremism regardless of individual’s parental country of birth. Moreover, association to delinquent peer (an attribute of lifestyle risk) is found to have weaker effects for individuals with high ability to exercise low self-control (Hirtenlehner, Pauwels, & Meško, 2015).

AIMS OF THE STUDY

The current study considers two main implication of Situational Action Theory (SAT) regarding adolescents’ parental country of birth for testing. It intends to examine to what extent core elements of the theory (propensity and lifestyle risk) vary by parental country of birth, and whether these elements similarly exert independent effect in predicting adolescent offending variety by their parental country of birth. This study can be considered as a partial test to SAT since it does not examine the interaction effects as espoused by the theory.
More specifically, the study aims at investigating

- to what extent adolescent offending variety varies by parental country of birth;
- to what extent crime propensity and lifestyle risk are related to adolescent offending variety by parental country of birth;
- to what extent the effect of crime propensity and lifestyle risk can predict adolescent offending variety by parental country of birth.

METHODS

About the study

The current study draws data from a broader research project namely Malmö Individual and Neighborhood Development Study (MINDS), in short – Malmö Children. A study on adolescent offending by parental country of birth gets special relevance while being conducted in Malmö, because the city of Malmö is explicitly characterized by diversity (over 32% foreign-born population from over hundred countries) as well as high youth concentration. More importantly, Malmö accounts for relatively larger share in official crime statistics of Sweden. Thus, as one of the most multi-cultural cities in the Europe, Malmö offered suitable context to study adolescent offending variety by immigrant background.

For this study, data is collected as part of MINDS project which aimed at examining the interaction of social environment with individual characteristics and its impact on developing risks of problem such as mental illness, insecurity, abuse and crime. Because the MINDS project was explicitly designed by incorporating the key variables of SAT, the data is well-fitted to test the theory regards its applicability to groups by parental country of birth. Such a method is found evident to be very useful in studying situational mechanism of crime as it offers opportunity to measure theoretical concepts like lifestyle risks and criminal propensity in interaction with social environment (Hoeben et al., 2014).

MINDS includes one fourth of all children born in 1995 and lived in Malmö on the 1st of September 2007. The sample was representative by gender and area-based residential distribution. Since 2008, five waves of data have been collected including the first wave on the parents followed by four waves on adolescents. Data used in this study was collected as part of interview-led questionnaire where the participants had to answer questions on schools, housing, family, alcohol and drug habits, offending, etc.

Participants

The present study is based on cross-sectional data drawn from the fourth wave of data collected in 2011-12, when the participants (N=517) attained the age between 16 and 17. This implies that the participants were at their late adolescence – an age when the prevalence of offending peaks and the pattern follows diversification in offending rather than specialization in offending types (Farrington, 2003, 2005, 2014).

A total of 483 adolescents found valid in the current study of which 50.3 percent were boys and 49.7 percent were girls. The majority had at least one (or both)
parents born in Sweden that accounted for 76.4 percent, whereas 23.6 percent ($n=114$) participants had both parents born outside Sweden i.e., foreign-born parents. Among this group of participants having foreign-born parents, 43 participants had parents born outside Sweden but within Europe (i.e. European parents), while 71 participants had parents born outside Europe. Among all participants 41.1 percent ($n=174$) responded that they got engaged at least one of the twelve types delinquent behavior (listed in the questionnaire, see Appendix A) over last one year, which means 58.9 percent participants denied any engagement in self-reported delinquencies.

In defense of self-reports
Self-report is a widely known data collection technique in social science researches, but sometimes draw negative attitudes towards it especially while studying criminal behavior. Along with common phenomenon of non-response, self-reports in studying crime suffer additional two-fold interrelated implications. First, respondents may not be willing to respond sensitive or threatening questions about delinquency which they might consider as self-confession. Even for the participants with full consent to participate, there remains possibility of mendacious or exaggerated responses as well as item non-response. Second, since delinquency is often studied as dependent variable, non-response or item non-response regards dependent variable could yield problematic conclusion in aetiological research, especially in measuring theoretical concepts. Because self-report studies commonly owe such implications, it has become customary in self-report studies to attempt for mitigating such inherent problems. No different, justifications are explored in connection to the current study.

To respond the first problem, other available sources of data in criminological researches, specifically official records, suffer in reporting and recording of criminal incidents. The problem of official crime records become more serious in studying immigrant background because reporting discrimination and biasness of law enforcement against individuals with immigrant background found evident. Respondents of a study in Sweden revealed that victims are more inclined to report crimes to the police when the crime is believed to be committed by an immigrant than by a native, regardless of seriousness of harm engendered by that crime (Dahlbäck, 2012). Like reporting discrimination against immigrants, discrimination by law enforcement agencies against immigrants is not quite uncommon even in the welfare contexts of Scandinavia. For example, discriminatory treatments by the Danish criminal justice system against individuals with immigrant background were found evident (Holmberg & Kyvsgaard, 2003). Such structural discrimination by criminal justice system against immigrants found present also in Sweden. Studies in Sweden found that individuals with immigrant background are more likely to be suspected (Hallsten et al., 2013) and more likely to be convicted for crimes (Bäckman et al., 2014), which implies bias of official record against immigrants. Because individuals with immigrant background are discriminated against reporting, recording and conviction of crimes, the self-report survey better appears to have competitive advantage over using official record in the context of the current study.

The second problem is much crucial in connection to the current research which is to test theoretical concepts empirically. However, the problem could be justifiably ignored in Swedish context as evidence reveals hardly any difference in study findings between self-report and official records. For example, no difference is
identified in the study of adolescent offending and social class while results were compared against self-report and recorded crimes in Sweden (Ring & Svensson, 2007). This implies that Swedish adolescents who were willing to participate in the study would veracious in their response. Likewise, no serious implication of item non-response in aetiological researches in criminology was reported. The use of traditional regression imputation method revealed no real changes in the reliability scores, and correlations between aetiological variables and delinquency in Sweden did not suffer substantive change (Pauwels & Svensson, 2008). This implies that the consequence of item nonresponse should not be a matter of worry about, but sometimes the results should be interpreted with caution if the item non-response is seriously biased towards correlates of delinquency. The data of the current study does not suffer such serious bias to worry about.

**Measurement of constructs**

Situational action theory acknowledged the contributions of opportunity theories in partly problematizing situational process in crime commission, but concomitantly identified the lack of conceptual clarity to test the existing opportunity theories empirically. To address such shortcomings of existing theories, SAT offers clear definition and detailed operationalization of key constructs to be tested empirically.

The current study follows same theoretical conceptualization for ‘propensity’ as devised by SAT’s proponents (Wikström, Oberwittler, et al., 2012). Lifestyle risk is derived from three key aspects of criminogenic exposure as espoused by SAT. Like many studies in this research area, immigrant background is constructed as a dichotomous variable by parental country of birth such as at least one parent born in Sweden, and both parents born outside Sweden. Delinquency is measured by a variety scale, which has hardly been applied in previous researches within the framework of SAT.

**Dependent variable**

**Offending variety.** Age is one of the important determinants in studying criminal behavior. Whilst generalizability of criminological theories has long been a disputed discourse, one of the persistent findings in criminology regardless of geographical boundaries is the association between age and crime. So, it is crucial to put the age of the participants in study context to understand and construct an index for delinquency. The respondents are in between 16 and 17 years old – a cohort at their late adolescence who tops in delinquency in age-crime curve (Farrington, 2005; Moffitt, 1993). This is an age which is also characterized by offending versatility rather than specialization in delinquency – one of the most consistent findings in developmental and life-course criminology (Farrington, 2003, 2014).

Using a variety scale is imperative for the current study not only because of versatility of offending pattern during adolescence but also the subject-matter of the study (i.e., immigrant background) and statistical credibility. In studying patterns of delinquency among children of immigrants in Norway, the importance of including different categories of delinquency has been clearly demonstrated.
(Torgersen, 2001). More important, from a statistical point of view, Sweeten (2012, p. 539) mentioned several studies where variety scales exhibited high reliability and concluded that the “variety scales have a higher correlation with official reports of delinquency than other measures formed from self-reports.”

The use of variety scale in studying delinquency is nothing new. There are a few instances where a variety scale of delinquency was used in studying SAT, though no such study is found which aimed at explaining variation of adolescent delinquency by immigrant background. Commonly used construct for measuring delinquency in studying SAT has been found to base on either dichotomous or total frequency scale. This study is the first to use variety scale in analyzing SAT by individual’s immigrant background. Notably, offending variety, frequency and seriousness are interdependent; meaning that an increase of versatility is often associated with an increase of frequency and seriousness of offending (Farrington, 1973).

On this backdrop, the current study takes a wide variety of delinquent behavior of adolescents into consideration in constructing the measure for delinquency which ranges from minor crimes to violent crimes. A total of 9 items were included in measuring delinquency which the respondents were asked whether and how often they engaged in such behaviors. The items include (1) theft, (2) shop-lifting, (3) car-theft, (4) residential burglary (broken into someone’s house), (5) non-residential burglary (broken into non-residential building), (6) robbery, (7) assault, (8) vandalism, and (9) arson/ fire-setting. These items to construct a measure of delinquency have been recognized and used in researches within the framework of situational action theory (Wikström, Oberwittler, et al., 2012, p. 111).

Each item is transformed with dichotomous coding to identify whether the participants committed that specific type of delinquency at least once or not. Such dichotomous coding of each delinquency item was made as: No (value 0)/ Yes (value 1). The dependent variable is then constructed as an additive index of total delinquency variety comprised of 9-items which yields the delinquency versatility scores for this study which is found to have Cronbach’s α 0.58.

Independent variables

Propensity. Individual propensity to offend consists of two attributes combined – morality and self-control. This implies propensity is the outcome of interaction between morality and self-control. SAT acknowledges the interaction effects between morality and self-control, and constitutes a combined scale for propensity from scores of morality and self-control. Detailed information about the wording of the items included in combined propensity scale is described in Appendix B.

Self-control. The influence of individual’s lack of self-control in crime commission is one of the most discussed topics in criminology, especially since a
The general theory of crime imbedded into the only concept ‘self-control has been presented by Gottfredson & Hirschi (1990), widely known as self-control theory of crime. This theory considers self-control as a personality trait or temperament, which is shaped in childhood and remain largely stable in the later development. Despite the predictive validity of the very concept ‘self-control’ has been widely tested, the self-control theory fails to distinguish self-control from propensity, rather often used these two concepts interchangeably. Put another way, the mechanism how lack of self-control influences propensity and brings about crime is not clear. Moreover, it ignores the contextual influence on individuals where they become part of.

SAT does not consider self-control as a mere individual trait but an executive capability better be understood is a situational concept. The concept ‘self-control’ is expanded and conceptualized as an executive ‘ability to exercise self-control. Thus, SAT intends to capture both attitudinal as well as behavioral dimensions of self-control in its measurement, and aims not to measure a person’s self-control but a person’s ability to exercise self-control. The environmental influence to an individual’s ability to exercise self-control is acknowledged, which interacts to individual’s morality in deciding whether or not to engage in acts of crime (Wikström & Treiber, 2007).

This study constructs a measure of self-control based on 8 items in full conformity to SAT (Wikström, Oberwittler, et al., 2012, p. 136). To assess individual’s level of self-control, 8 context-driven options were offered to the participants and asked to what extent they agree with those statements: Disagree (value 0); Somewhat Disagree (1); Somewhat agree (2); Agree (3). The low score in the scale refers to higher level of self-control. Cronbach’s α for self-control scale is found to be 0.70.

Morality. The importance of morality to crime prediction has long been recognized and a general agreement among the scholars is identified that morality does play a vital role in the prediction of delinquency. With more emphasis, Bottoms (2002, p. 24) claimed that ‘if they are to be true to their calling, all criminologists have to be interested in morality’. However, considering morality as a key concept in defining and analyzing crime is something recent in criminology (apparently first articulated by SAT), as compared to other innate disciplines like law, philosophy and anthropology. SAT defines crime as ‘acts that breach moral rules of conduct stated in law’ where law is conceptualized as a ‘set of moral rules of conduct’ (Wikström et al. 2012, p. 12).

Morality is measured by a generalized morality index based on 16-items as recommended by the proponents of SAT (Wikström, et al., 2012, p. 134). Detailed information about the wording of the items is described in Appendix B. A set of 16-items on varying actions were presented before the participants and asked to respond to what extent those actions are wrongful: Very wrong (value 0); Wrong (1); Little wrong (2); and Not wrong at all (3). Higher score in morality scale measuring construct of Grasmick scale (Walters, 2016). Whilst self-control itself is a multi-dimensional concept, Grasmick scale, in conformity of self-control theory, considers self-control as a unidimensional concept and intends to measure its attitudinal dimension. Based on the available literature, Marcus (2004) came to conclude that self-control is manifested behavior, which is not adequately addressed in measuring self-control under the purview of testing self-control theory.
represents lower level of morality. An additive scale is constructed depending on the response obtained. Morality scale in this study has a Cronbach’s α of 0.84.

**Propensity scale.** An additive scale is constructed combining attributes of both self-control and morality where higher score refers to higher level of propensity. All items of self-control and morality combined, i.e. 24-items, constitute generalized propensity index which is found to have Cronbach’s α of 0.84.

**Independent variable: Lifestyle risk**
Lifestyle risk is part of a measure for criminogenic exposure as espoused by SAT. The measure for lifestyle risk under this study is derived from Wikström and Butterworth (2006). The construct encapsulates three dimensions of lifestyle including where adolescents spend their leisure time, who they are spending their time with and what kind of risky activities they engage. For measuring lifestyle risk, these dimensions are specifically translated to the attributes like (a) time spent unsupervised or city centers, (b) delinquent peer association, and (c) alcohol consumption. Detailed wording of the items included in scale of lifestyle risk is described in Appendix A.

Similar dimensions were included in constructing lifestyle measure in previous studies where lifestyle risk was studied as dependent variable (Pauwels & Svensson, 2009) as well as predictor variable (Pauwels & Svensson, 2013; Svensson & Pauwels, 2010; Wikström & Svensson, 2008), within the framework of SAT. Some studies extended to include parental monitoring in constructing lifestyle risk. However, the current study does not take parental control/monitoring into consideration because the level of parental control of adolescents is significantly diminished with age during the transition of adulthood (Bertok, Wikström, Hardie, & Meško, 2012).

The participants were asked how often they spend time with their friends in the city center in evening, with options: Never (value 0); Once or twice a week (1); Several days (3 – 7 days) a week (2). This question is to measure to what extent they get exposed to criminogenic settings. To measure association with delinquent peers, participants were asked how often their friends got involved to six distinct types of delinquency (i.e. truancy, being drunk, drug abuse, theft, vandalism, assault), with options: Never (value 0); Yes, sometimes (1); Yes, often (in every moth) (2). And finally, participants were asked separate questions on alcohol consumption including how often they drunk alcohol, and how often they drunk so much alcohol that they felt full, with options: Never (value 0); 1 – 5 times (1); 5 or more times (2). Thus a total of 9-items were included in the construct for lifestyle risks with values 0 – 2 for each item. An additive index of lifestyle risk is thus constructed and have Cronbach’s alpha 0.78.

**Independent variable (control): Immigrant background**
Studies of delinquency by immigrant background in the USA and the Europe can be distinguished by its differential conceptualization of study population. Whilst scholarships around immigration-related discourses in the USA interpret results by race/ethnicity, the European scholars prefer studying it by generations. On studying immigration and crime in Swedish context, comparing “the patterns of offending for the groups of first-generation immigrants, second-generation, and the rest of the population” is identified as the best option (Wikström, 1991, p. 20).
The current study measures immigrant background by parental country of birth keeping Sweden as reference point. Information about adolescents’ parental country of birth were collected in the first wave of data collection when the parents were the main respondents. Respondents (parents) were asked whether they were born in Sweden, inside Europe or outside Europe. For this study, based on the responses obtained, a dichotomous measure is constructed in connection to the adolescents: one or both parent born in Sweden (value 0); and both parents born outside Sweden (1). About 24 percent adolescents were found to have both parents born outside Sweden.

**Independent variable (control): Gender**
One of the most persistent generalized findings in criminology is the gender difference in offending. Gender plays a significant role in predicting adolescent offending. Gender is measured as dichotomous variable either male (value 0) or female (value 1).

### Table 1: Description of the variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Items included</th>
<th>Cronbach’s alpha</th>
<th>Range</th>
<th>High score on the measure implies</th>
<th>Mean</th>
<th>S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delinquency variety</td>
<td>9</td>
<td>0.58</td>
<td>0 – 5</td>
<td>More versatility in offending</td>
<td>.73</td>
<td>1.1</td>
</tr>
<tr>
<td>Gender</td>
<td>2</td>
<td>1 – 2</td>
<td>Girl</td>
<td></td>
<td>1.5</td>
<td>.50</td>
</tr>
<tr>
<td>Immigrant background</td>
<td>2</td>
<td>0 – 1</td>
<td>Two parents born outside Sweden</td>
<td>.24</td>
<td>.42</td>
<td></td>
</tr>
<tr>
<td>Morality</td>
<td>16</td>
<td>0.84</td>
<td>2 – 48</td>
<td>Low level of morality</td>
<td>22.9</td>
<td>7.0</td>
</tr>
<tr>
<td>Self-control</td>
<td>8</td>
<td>0.70</td>
<td>2 – 24</td>
<td>Low level of self-control</td>
<td>10.7</td>
<td>4.2</td>
</tr>
<tr>
<td>Propensity</td>
<td>24</td>
<td>0.84</td>
<td>9 – 66</td>
<td>High level of propensity</td>
<td>33.7</td>
<td>9.5</td>
</tr>
<tr>
<td>Life-style risk</td>
<td>9</td>
<td>0.78</td>
<td>1 – 23</td>
<td>Higher life-style risk</td>
<td>8.8</td>
<td>4.2</td>
</tr>
</tbody>
</table>

**Analytical approach**

**Univariate analysis**
Univariate analyses such as frequency distribution, mean, standard deviation, etc. were explored to understand the data. It was important to look into group size and distribution of data in order to decide and perform further statistical analyses. Identifying significant outliers (if any, which could influence statistical modeling) was another purpose for exploring univariate analysis. Table 1 presents part of univariate analysis which describes important aspects of the variables.

**Bivariate analysis**
First, differences between groups by their parental country of birth in the sample were explored by calculating mean score obtained for all measurement variables. Independent t-test was performed to compare the mean scores by parental country of birth and gender (Table 2). Second, another bivariate analysis was performed to explore the extent of association among the variables used. The result of such association was presented in cross-tabulation (Table 3).

**Multivariate analysis**
To examine the independent effect of propensity and lifestyle risk by parental country of birth, ordinary least square (OLS) regression analysis was run in the SPSS software. Despite the analytical framework of this study resembles typical analytical process in studies on SAT, it differs significantly in its construction of dependent variable (i.e. variety scale), along with its attempt to explain
delinquency exclusively by immigrant background. To illustrate, it considers delinquency versatility as an outcome, propensity and lifestyle risk as predictors, and immigrant background as control variable. Therefore, there is no such claim by this study to be a replication to the previous researches, but it conforms to theoretical as well as analytical strategy widely utilized by researchers in studying SAT.

Before performing the regression model, reliability analyses were performed to measure the Cronbach’s alpha of each variable. In addition, the correlation coefficients were examined between each variable to check the problems with linearity (e.g. multicollinearity) and unusual cases (with a matrix scatterplot). The attributes of propensity (i.e. morality and self-control) were not separate entered into the regression model because the correlation coefficient between propensity and its attributes appears to be more than .70, which means those attributes suffer the problem of multicollinearity and are measuring the same thing. As the pearson’s correlation coefficient among the other variables are found in between 0.20 and 0.70, no such problems with collinearity is identified with other variables to be used. A hierarchical method (block-wise entry) is chosen to ‘force enter’ the data (with the option Enter as it is known in SPSS). The theoretical assumption behind such hierarchical entry can be explained the postulates by the situational action theory, which means propensity was entered in the model followed by lifestyle risk. SAT proposes that individuals with high level of propensity are more susceptible to be affected by the lifestyle risks. Three models were obtained through performing the regression analysis (Table 4).

**ETHICAL CONSIDERATIONS**

**Ethics of research on immigrants and crime**

There has been a long-standing debate on ethics of researching immigrants. There are two opposing approaches regarding ethics on researching immigrants and crime (Beckley, 2014). One approach discourages doing research on crime by participants’ immigrant background (Tamas, 2004). This approach fears that findings of such research might fuel stereotyping, prejudice, hate crime and discrimination. Even just bringing up the issue could bolster sentiment of ideologically rooted groups against diversity. The second approach denotes that the immigrants become integral parts of the society who might be characteristically different but not dangerous to research. Such differential behavioral manifestations among immigrants are found evident from a wide array of their lives as compared to majority of Swedish population. By acknowledging this fact, studying immigrants is of utmost importance to inform evidence-based policy development to help immigrants’ integrating. This approach justifies that it is imperative to be informed rather than misinformed and prejudice (Ahlberg and Lööw, 2002). Both approaches agree on the issue that the subject-matter and findings of this study must be presented and interpreted with sensitivity and caution, and focus strictly on scientific or research questions to avoid any probable negative consequences (Goodey, 2000). The current study is on “information is better” side. Special cautions were taken from every stage of research from data collection to interpretation of results.
**Ethics specific to this study**

The Malmö Individual and Neighborhood Development Study (MINDS) project followed standard procedure and obtained approval from the Regional Ethics Board at Lund University (reference number 201/2007 and reference number 2014/826). At project implementation level, informed consents were obtained from the participants with information about the purpose of the study. Participants were informed that the participation was voluntary with the right to withdraw at any point of the interview (in accordance with the Ethical Review of Research Involving Humans, SFS 2003:460). Written consents were obtained with the parents and the children. To ensure anonymity and confidentiality, information gathered was decoded before using. While drawing data from MINDS project, only the information (few variables) necessary for the current study were provided after thorough scrutiny with new codes. This makes the data impossible to identify individual participants. Moreover, group-based results are produced and conclusions are drawn. Such group-level analysis assured an important ethical requirement that the participants could not be identified by themselves or by others.

**RESULTS**

**Offending by parental country of birth: descriptive statistics**

Majority of participants had Swedish born parents (76.4 percent, n=369), and 8.9 percent (n=43) adolescents had European parents, while 14.7 percent (n=71) respondents had non-European parents. As per comparison within groups by percentage, on the extent whether the participants committed at least one delinquency, adolescents with Swedish-born parents were the most likely to engage in delinquent acts (42.8 percent) followed by adolescents with European parents (38.9 percent), and adolescents with non-European parents were found least likely to commit delinquent activities (33.9 percent). While assessed against delinquency variety scale, no major differences are found among the adolescent by their parental country of birth.

Due to a very small number of adolescents with European parents (and smaller number of delinquents), the categories of adolescents with non-Swedish parents were combined and analyzed as a common group ‘adolescents with immigrant parents’. Gender gap in crime sustains in both native and immigrant groups, however the gap is much higher among immigrant group than that of the native. This indicates that girls with immigrant parents are least likely to engage in delinquency.

**Mean-score comparison**

Table 2 delineates mean-score comparison (independent t-test) between adolescents between Swedish-born parents and of foreign-born parents in connection to delinquency variety and proposed ‘causes’ into situational mechanism. These groups are further categorized into sub-groups by gender to compare gender difference in mean scores among native and immigrant groups.

The first row of the table confirms no significant difference in mean score of delinquency variety by adolescents’ parental country of birth. Further categorization by gender supports existing scholarship on ‘gander-gap’ of crime
Table 2: Comparison of means (t-test) by parental country of birth.

<table>
<thead>
<tr>
<th></th>
<th>Adolescents with Swedish-born parents</th>
<th>Adolescents with foreign-born parents</th>
<th>Adolescents with Swedish-born parents</th>
<th>Adolescents with foreign-born parents</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>S.D.</td>
<td>Mean</td>
<td>S.D.</td>
</tr>
<tr>
<td>Delinquency variety</td>
<td>.74</td>
<td>1.07</td>
<td>.70</td>
<td>1.18</td>
</tr>
<tr>
<td>Morality</td>
<td>22.98</td>
<td>7.0</td>
<td>22.68</td>
<td>7.44</td>
</tr>
<tr>
<td>Self-control</td>
<td>10.71</td>
<td>4.16</td>
<td>10.72</td>
<td>4.44</td>
</tr>
<tr>
<td>Propensity</td>
<td>33.80</td>
<td>9.32</td>
<td>33.20</td>
<td>9.97</td>
</tr>
</tbody>
</table>

* p < .05; ** p < .01; *** p < .001
between genders by their parental country of birth. One thing significant to note here is the mean score difference significantly on gender within groups. Though both groups by parental country of birth exhibit gender-gap in delinquency variety, but with varying extent. Immigrant girls are least likely to exhibit delinquency variety (.26) among all sub-groups by gender, while immigrant boys are scored the highest regards delinquency variety (1.12). This finding of no difference in overall delinquency variety by immigrant background can be understood in a way that lowest mean score of immigrant girls compensated in leveling the higher mean score of immigrant boys in overall delinquency variety.

The following 4 rows on table 2 does not confirm any significant difference on the core elements of SAT, i.e. propensity (morality and self-control) and propensity between groups by their parental country of birth. Not surprisingly, girls from both groups seemingly tend to have significant higher mean difference in propensity as compared to boys. This explains why girls are less likely to engage delinquency – because they possess less criminal propensity and less risky lifestyle in comparison to boys. Within group comparison by gender shows immigrant group exhibits significant difference of mean score on propensity, indicating that immigrant girls scored least in propensity.

**Bivariate correlation**

Propensity is significantly related to offending variety \( (r=.47) \) among the adolescents regardless of parental country of birth. But no significant relation was found between immigrant background and all other variables calculated. More importantly, immigrant background is not found related to delinquency variety. Morality and propensity is strongly related \( (r=.91) \). The relation between self-control and propensity is also found very high \( (r=.72) \). This indicates that both morality and self-control strongly contributed to the propensity index, and separately morality and self-control were measuring nearly similar thing. The matrix shows that both criminal propensity and lifestyle risk are independently correlated significantly to the higher level of offending variety.

**Table 3. Correlation Matrix, Pearson’s r.**

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Delinquency versatility</td>
<td>–</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Gender</td>
<td>-.253***</td>
<td>–</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Immigrant background</td>
<td>-.014</td>
<td>-.036</td>
<td>–</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Morality</td>
<td>.391***</td>
<td>-.203***</td>
<td>-.018</td>
<td>–</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Self-control</td>
<td>.407***</td>
<td>-.089</td>
<td>.001</td>
<td>.365***</td>
<td>–</td>
<td></td>
</tr>
<tr>
<td>6. Propensity</td>
<td>.469***</td>
<td>-.195***</td>
<td>-.027</td>
<td>.911***</td>
<td>.717***</td>
<td>–</td>
</tr>
<tr>
<td>7. Life-style risk</td>
<td>.383***</td>
<td>-.101</td>
<td>-.025</td>
<td>.451***</td>
<td>.215***</td>
<td>.437***</td>
</tr>
</tbody>
</table>

* p < .05; ** p < .01; *** p < .001

**Multivariate analysis: regression**

For the current study, ordinary least square (OLS) was run where delinquency variety was put as dependent variable while gender, criminal propensity and lifestyle risks were used as predictors/ independent variables. In table 4, three different models are presented which revealed influence of the predictors on predicting delinquency variety among adolescents by their parental country of birth. The table can be read for the standardized regression coefficient (Beta) and the standard error (S.E.). Because this study intends to compare the effects of independent variables, the standardized coefficients (beta) of the main effects are taken into consideration. To note, all the models are found highly significant.
Table 4: OLS regression coefficient (standardized, beta) representing the effects of predictors on predicting adolescents’ offending variety; Swedish (n=189), Immigrant (n=48)

<table>
<thead>
<tr>
<th>Dependent variable: Offending variety</th>
<th>Model I</th>
<th>Model II</th>
<th>Model III</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Swedish</td>
<td>Immigrant</td>
<td>Swedish</td>
</tr>
<tr>
<td>Gender</td>
<td>beta</td>
<td>(S.E.)</td>
<td>beta</td>
</tr>
<tr>
<td></td>
<td>-.259***</td>
<td>(.16)</td>
<td>-.228***</td>
</tr>
<tr>
<td></td>
<td>.511***</td>
<td>(.34)</td>
<td>-.360***</td>
</tr>
<tr>
<td>Propensity</td>
<td>.414***</td>
<td>(.01)</td>
<td>.320***</td>
</tr>
<tr>
<td></td>
<td>.428***</td>
<td>(.02)</td>
<td>.303*</td>
</tr>
<tr>
<td>Lifestyle risk</td>
<td></td>
<td></td>
<td>.243***</td>
</tr>
</tbody>
</table>

| R²                                    | .067    | .261      | .237    | .422      | .287    | .470      |
| Adjusted R²                           | .062    | .245      | .229    | .396      | .276    | .434      |

* p < .05; ** p < .01; *** p < .001

The value for beta indicates the relationship between adolescent delinquency and each variable. This value also tells that “to what degree each predictor affects the outcome if the effects of all other predictors are held constant” (Field, 2013: 338). R² is a measure of the variability in the outcome is accounted for by the predictors.

The first model uses gender dimension to predict differential delinquency variety among groups by their parental country of birth. It is clear from model I that gender plays a significant role in predicting variance in adolescent offending variety. Gender exhibits more effects for adolescents with foreign-born parents, indicating that boys with immigrant parents are most likely than the girls to follow delinquency variety. For the immigrant group in model I, the value of adjusted R² shows that gender difference alone explains high proportion of variance (24.5 percent) in predicting delinquency variety among second-generation immigrants, which is much higher compared to adolescent with Swedish-born parents.

In model II, criminal propensity is entered in the model to measure its independent influence on predicting adolescent offending variety. The values of standardized coefficient of both groups in model II shows that propensity influences offending variety for both groups nearly similar extent and the influence is highly significant for both groups. The influence of gender difference remains significantly high in the second model. After entering propensity as predictor in model II, the value of adjusted R² appears to be much higher. This model can explain variance of delinquency variety of 22.9 percent for adolescents with Swedish-born parents and of 39.6 percent for adolescent with foreign-born parents.

Another predictor, lifestyle risk is entered in model III in the regression analysis. In this model, the effect propensity is decreased but remains significantly higher in predicting offending variety compared to lifestyle risk. The influence of lifestyle risk is more significant for Swedish adolescents than that for immigrant adolescent, despite similar effect size for both groups. This model explains quite higher proportion of variance in offending variety for both groups.

The regression analysis reveals that, after controlling for gender difference, immigrant adolescents are no more susceptible to get affected by criminal
propensity and lifestyle risks differentially. Put differently, propensity and lifestyle risk exert similar effect on offending variety regardless of parental country of birth. Yet, propensity can predict higher extent of offending variety compared to lifestyle risk.

DISCUSSION AND CONCLUSION

The key objective of the study was to test the effects of core elements of situational action theory on adolescent offending variety by parental country of birth. In doing so, the relation among the variables and significant effect size of the predictors were compared between groups by parental country of birth. To date, within the framework of SAT, propensity and lifestyle risks have not been studied in connection to offending variety – a characteristic feature in adolescent offending. Studying offending variety is of special importance since high offending variety predicts higher level of prevalence and seriousness in offending, and a possibility of chronic offending in the future. Along with the theoretical exploration, this study is to contribute in the current scholarship on immigrant crimes. The findings are discussed in relation to previous research findings found available.

Existing studies in Sweden reiterates that the second-generation immigrants commit less recorded crimes than their first generation, but still at higher risk of offending than their native counterparts (Martens & Holmberg, 2005; Kardell, 2011). The current study somewhat contradicts the existing scholarship which finds that the second-generation immigrants are at no more risk of offending variety. Immigrant background in the studies on Swedish population has often been identified as a risk factor to delinquent engagement (Kardell & Martens, 2013). The persistent phenomenon of higher level of criminal involvement among second-generation immigrants than the native Swedes is usually explained by social disadvantages (Hallsten et al., 2013) and structural discrimination (Sarnecki, 2006). One explanation from such risk-factor perspective could be that the population composition of Malmö offers multi-ethnic societal milieu where second-generation immigrants might perceive comparatively less, or even no, social disadvantages and discrimination. But diversity in Malmö does not come without societal problems. Therefore, the risk-factor perspective cannot fully explain the invariance of offending variety by immigrant background.

The overall invariance of offending variety, in some extent, can be explained by looking at gender differences of offending variety among second-generation immigrants. Mean-score comparison indicates that boys of immigrant parents are at the highest risk to engage in delinquency whilst girls of immigrant parents exhibits the least risk of offending. As per expectation of SAT, expectedly girls of immigrant parents exhibit low propensity and low level of lifestyle risks. Thus, the finding supports existing studies in connection to second-generation immigrant boys but contradicts when linked to girls of the similar group. Girls of immigrant parents are even at lower risk of engage in offending than the girls of Swedish-born parents.

As the SAT assumes, this study confirms significant relation of propensity with offending variety regardless of parental country of birth. Likewise, lifestyle risk is
also found to have significant relation to offending variety irrespective of parental country of birth. Immigrant background fails to show variance in propensity and lifestyle risks in predicting offending variety. This means, unlike offending variety, immigrant background is unrelated to propensity and lifestyle risks.

And most important regards this study, neither effect of criminal propensity nor the effect of lifestyle risk on adolescent offending variety varies by parental country of birth. Still, both propensity and lifestyle risk have significant independent effect in predicting delinquency variety. Yet, propensity has stronger effect than the lifestyle risk in predicting offending variety. This implies SAT’s assumption that adolescents with high level of propensity are more susceptible to get affected by lifestyle risk than those with low level of propensity. This confirms applicability of core elements of SAT in predicting adolescent offending variety by their parental country of birth.

However, the statistically significant substantial gender gap in offending remained unexplained. This means that it cannot be fully understood under the purview of the current study why gender difference alone accounts for 24.5 percent of variance in offending variety for adolescents with immigrant parents, compared to 6.2 percent variance in similar context for adolescent with Swedish-born parents. If gender-specific socialization of girls of immigrant parents is a contributor to this huge gender-gap in offending variety among immigrant group, it might be possible that additional elements of the theory such as informal social control could answer this unexplained area.

To conclude, this research reveals similarities in magnitude of independent effects of criminal propensity and lifestyle risks on offending variety, regardless of adolescents’ parental country of birth. Similar effect size in all sub-groups indicates relative predictive strength of key elements of situational action theory. To meet SAT’s claim to be a general theory, it expects that the findings should be identical for both groups and should be applicable to different forms of crime. The current study meets both expectation. First, the effect size and standard error are found nearly identical across groups by parental country of birth. Since the groups do not vary in offending variety, this identical result for the groups would be expected. Second, offending variety is a scale that presents a pattern of versatility. Like other measures/scales of delinquency, core assumptions of SAT should be applicable to variety scale of offending. This confirms applicability of the core elements of SAT on adolescent offending variety, regardless of adolescents’ parental country of birth.

This study offers some policy implications. First, devising crime prevention policies become difficult when groups exhibit highly varied/diversified pattern of offending. The current study reveals that adolescents’ do not differ in offending variety by parental country of birth, indicating that they largely follow similar pattern. Second, high offending variety is an indicator of chronic offending in the future (Kardell & Martens, 2013). So, it is important to take the offender with high versatility into special consideration to prevent chronic offending in the future. Especially, immigrant boys with high offending variety should be of concern.
Limitations
The current study has three important limitations.

First, it is difficult to generalize immigrants as a single group. The association between immigration and crime is not quite straightforward and thereby difficult to generalize over different immigrant groups. A cross-country descriptive study in Norway and Finland identified 25 immigrant groups and found a wider heterogeneity in crime level which questioned the treatment of immigrants as a single group (Skardhamar et al., 2014). Swedish studies also reported ethnic heterogeneity in immigrant offending as well as co-offending (Pettersson, 2003). Because the sample of the current study has not enough number of adolescent with immigrant background, further categorization was not possible for statistical modelling.

Second, data is not fully representative to the current population composition of Malmö. This limitation was mentioned by other studies based on MINDS data as well (Chrysoulakis, 2013; Ivert & Levander, 2014). When the MINDS project was designed in 2007, it lacked focus on participants immigrant background. There was no way for this study to improve the ethnic representativeness of the sample.

Third, despite its merits, variety scale has few limitations. The main pitfalls of variety scale include its attempt to count all type of offences identically regardless seriousness and its inability to capture actual prevalence (Sweeten, 2012). However, offending versatility is a strong predictor of high prevalence and seriousness of delinquent behavior. Put differently, offending variety, frequency and seriousness are interdependent; meaning that an increase of versatility is often associated with an increase of frequency and seriousness of offending (Farrington, 1973).

Acknowledgement
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**APPENDICES**

_Appendix A._ Items of delinquency included in the offending variety scale  
[translated from Swedish]

1. Theft from a person – Have you stolen anything from a person during you were in grade 9
2. Shoplifting – Have you stolen anything from a shop during you were in grade 9
3. Theft a car or from a car – Have you stolen a car or broken into a car to steal something during you were in grade 9
4. Residential burglary – Have you broken into someone's house or flat to steal something during you were in grade 9
5. Non-residential burglary – Have you broken into a non-residential building to steal something (for example, broken into a shop, school, warehouse, office) during you were in grade 9
6. Robbery – Have you used a weapon, hit or threatened to hurt someone to take money to take money or other things from them during you were in grade 9
7. Assault: Have you beaten up or hit someone, for example punched, stabbed, kicked or head-butted someone, during you were in grade 9
8. Vandalism: Have you damaged or destroyed things not belonging to you for fun or because you were bored or angry during you were in grade 9
9. Arson/ fire-setting: Have you set fire to something you were not supposed to set fire to, during you were in grade 9
**Appendix B. Detailed wording of items of to measure key elements of Situational Action Theory (SAT)**

<table>
<thead>
<tr>
<th>Morality scale</th>
<th>Self-control scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Steal a pencil from a classmate</td>
<td>1. I never think about what will happen to me in the future</td>
</tr>
<tr>
<td>2. Skip doing homework for school</td>
<td>2. I don’t devote much thought and effort preparing for the future</td>
</tr>
<tr>
<td>3. Ride a bike through a red light</td>
<td>3. Sometimes I will take a risk just for the fun of it</td>
</tr>
<tr>
<td>4. Go skateboarding in a place where skateboarding is not allowed</td>
<td>4. I sometimes find it exciting to do things that may be dangerous</td>
</tr>
<tr>
<td>5. Hit another young person who makes a rude comment</td>
<td>5. When I am really angry, other people better stay away from me</td>
</tr>
<tr>
<td>6. Lie, disobey or talk back to teachers</td>
<td>6. I lose my temper pretty easily</td>
</tr>
<tr>
<td>7. Get drunk with friends on a Friday evening</td>
<td>7. I often act on the spur of the moment without stopping to think</td>
</tr>
<tr>
<td>8. Smoke cigarettes</td>
<td>8. I get bored easily with things</td>
</tr>
<tr>
<td>9. Skip school without an excuse</td>
<td></td>
</tr>
<tr>
<td>10. Tease a classmate because of the way he or she dresses</td>
<td></td>
</tr>
<tr>
<td>11. Smash a street light for fun</td>
<td></td>
</tr>
<tr>
<td>12. Paint graffiti on a house wall</td>
<td></td>
</tr>
<tr>
<td>13. Steal a cd from a shop</td>
<td></td>
</tr>
<tr>
<td>14. Smoke cannabis</td>
<td></td>
</tr>
<tr>
<td>15. Break into or try to break into a building to steal something</td>
<td></td>
</tr>
<tr>
<td>16. Use a weapon or force to get money or things from another young person</td>
<td></td>
</tr>
</tbody>
</table>

**Lifestyle risk scale**

| 1. It happens that one or some of my closest friends truant from school      |                                                                     |
| 2. It happens that one or some of my closest friends drink themselves full  |                                                                     |
| 3. It happens that one or some of my closest friends sniffing glue, gas or using drugs (e.g. hashish) | |
| 4. It happens that one or some of my closest friends shoplifting or stealing from other people or from shops | |
| 5. It happens that one or some of my closest friends destroy or damage things that do not belong to them (e.g. crushers windows, scribble or scratch the paint on cars) | |
| 6. It happens that one or some of my closest friends fight or get into fights |                                                                     |

| 7. Time spent time with friends in city center in the evenings               |                                                                     |
| 8. Frequency of getting drunk                                               |                                                                     |
| 9. How many times have you drunk so much alcohol that you felt full during  |                                                                     |
REFERENCES


