FROM JUVENILE DELINQUENCY TO ADULT CRIMINAL BEHAVIOR: EXPANDING THE STATE DEPENDENCE PERSPECTIVE ON PERSISTENT CRIMINAL BEHAVIOR

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ABSTRACT

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Criminological research has identified both stability and change in antisocial behavior across time. Two theoretical perspectives, the population heterogeneity and state dependence models, compete to explain why a small group of offenders persist in antisocial activities throughout the life course, while the vast majority of their contemporaries desist from such behavior. Although prior research has provided support for both perspectives, most of the previous studies are based on samples of “average” or “typical” offenders and thus fail to study serious offenders. In addition, few have examined the concurrent relationship between delinquency and various social domains, which is crucial for our understanding of the stability and change of criminal behavior over time. Meanwhile, we know very little about gender and race differences in the reciprocal relationship between adulthood delinquency and such critical social domains as social capital, self-identity, social networks, and opportunities for prosocial transitions. Further study of these social domains and their relationship with adult criminality is necessary to fill current gaps in understanding persistent antisocial behavior and to provide empirical grounding for the prevention and correction of persistent antisocial behavior.

Based on a longitudinal sample of previously institutionalized youth (T1, n=254; T2, n=210), this project expands the testing of the state dependence perspective on persistent criminal behavior by using LISREL 8.54 and structural equation models. Utilizing these techniques, this study examines the reciprocal effects between adult
criminal behavior and critical social domains; how prior delinquency influences protective and risk factors for adult delinquency; and whether there are gender and race differences in the pathways from juvenile delinquency to adult criminal involvement.

Results suggest that besides the effects of prior delinquency, various critical social domains affect adult criminal involvement of this sample of serious offenders. Differential association theory and life opportunity theory are shown to have more explanatory power in sketching the pathways from juvenile delinquency to adult criminal involvement. These findings indicate that the state dependence model can be applied in explaining the continuity of criminal behavior among serious offenders as well as more mundane general population offenders. Gender and race differences in the pathways to adult criminal involvement and the contemporaneous effects of adult crime on critical social domains are also highlighted in this research.
This dissertation is dedicated to people who have shared the meaning for life since my adolescence and to those who have encouraged and supported me in the pursuit of an upright life.
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CHAPTER I

INTRODUCTION

Statement of Purpose

Criminological research has identified both stability and change in criminal behavior over time. While most youth mature out of delinquency in their late teens and early adulthood, there is a small group of individuals whose criminal behavior persists into young adulthood and beyond, oftentimes increasing in both frequency and seriousness. Criminologists are confronted with the question of why some youth continue their criminal offending over time, when the majority of their peers have made the transition to conformity. This is a critical question not only because it leads to the discovery of protective factors, but also because it points to risk factors for recidivism and persistent offending.

Two major theoretical perspectives provide alternative explanations of these divergent offending patterns. One camp of researchers, those working from the “population heterogeneity” perspective, regard the continuity of criminal behavior to be the result of certain inherent latent traits that are conducive to criminal behavior; the other camp, known as the “state dependence” perspective, explains the stability and change of antisocial behavior in terms of the effects early involvement in antisocial behavior has on social relationships, opportunities and life chances, public labeling and the like, and the effects these have, in turn, on subsequent behavior. Although previous research has provided support for both perspectives, there are still gaps in our understanding of the stability and change of criminal behavior.
Although prior research has shown that prior delinquency is a stable predictor of future delinquency, the intervening mechanisms of this linkage have not been adequately studied. Sampson and Laub (1993) have identified some mediating factors, such as marriage and stable employment, which buffer against involvement in adult criminal behavior. Nevertheless, it is still not clear to what extent prior delinquency and various adolescent life situations, such as relationships with family and friends, and perceived social appraisals by others, are related to such adulthood life situations as relationship with significant others and opportunities for desistance (e.g., marriage and employment) and persistence (e.g., association with delinquent peers). In addition, since life situations involve both protective and risk factors for criminal behavior, we need to know whether these factors affect individuals the same way in adolescence and adulthood. Other researchers have found that the relationship between prior delinquency and future delinquency is mediated by association with delinquent peers in later life. However, support for differential association theory is usually derived from models exclusive of other critical social domains that may affect the variations of criminal behavior as well. Although social selection and social learning perspectives have provided cogent accounts of the delinquency-delinquent peer relationship, our understanding of these processes would be enhanced by a contemporaneous examination of the effects of other critical social domains that may influence the linkage between delinquency and delinquent peer over time.

Another gap in our understanding is that most of the previous longitudinal research is based on samples of “average” or “typical” offenders and thus fails to
study serious offenders who, arguably, may be more like to continue or even escalate their antisocial involvement as they enter adulthood. Consequently, previous research findings cannot be generalized to the small group of persistent and serious offenders who are known to be responsible for most crime in general, and most serious crime in particular. Some research (Moffitt, 1997, Hagan, 1993) from the life course perspective suggests that the pathways from juvenile delinquency to adult criminal involvement can be quite different for general population youths and a much smaller group of serious youthful offenders. As Moffitt (1997) has posited, life-course-persistent offenders suffer from both cumulative and concurrent deficits regarding their desistance from criminal behavior in early adulthood. For those who were serious delinquents during adolescence, their behavior could be consequential in their later lives, in terms of life opportunities, relationships with family and friends, and so forth, which can partly explain the continuity and persistence of their criminal behavior. Although some researchers have supported Moffitt’s hypothesis with findings of deficits of adulthood employment opportunities and economic attainment (Hagan, 1993; Pager, 2003), few studies have examined the impact of adult criminality on relationships within the family and among friends over time, and few have examined the reciprocal effects between adult criminal involvement and other critical social domains, such as social capital, reflected self-identity, friends networks and opportunities for positive life transitions. Meanwhile, we know very little about the gender and race differences in the pathways from juvenile delinquency to adult criminal involvement.
This project will expand the “state dependence” perspective on the continuity of criminal behavior and address some of the gaps in our understanding. First, most prior research which has found support for the population heterogeneity perspective is based on samples of serious offenders (e.g., Nagin and Farrington, 1992a, b; Paternoster, Dean, Piquero, Mazerolle and Brame, 1997), while most prior research providing support for the state dependence model has usually been based on samples of the general youth population which include few serious offenders (e.g., Nagin and Paternoster, 1992; Paternoster and Brame, 1997). In this project, I will evaluate the state dependence perspective based on a sample of serious offenders. Should I find support for the state dependence perspective based on this sample, the findings will add to the existing literature and research that explains persistent antisocial behavior with social factors insofar as the model will be shown to be applicable to serious offenders, just as it has already been shown to apply to less persistent and less serious offenders.

Second, as Nagin and Paternoster (2000) point out, additional work needs to be done to determine what factors lead persons in and out of crime. Although we have some evidence that marriage and stable employment can facilitate the desistance process, these factors might not be effective or even accessible to persons who have been institutionalized and who are more serious offenders (Cernkovich and Giordano, 2001). In this project, besides marriage and employment, I will explore a broader array of social factors that may influence adulthood criminality among a group of serious adolescent offenders, including relationships with parents and friends, reflected-appraisals in adulthood, association with delinquent peers and delinquent
Third, both theorists and researchers need to understand the explicit causal processes that affect the desistance process. Most research supporting the state dependence perspective emphasizes the cumulative effect of diminishing social capital, accumulation of deteriorated social relationships or negative labeling effects resulting from prior delinquency. Nevertheless, the state dependence perspective is not complete because it does not clarify the concurrent causal effect from adult criminal involvement to various social factors that may influence the life course opportunities for desistance from crime. Although Thornberry (1987) has proposed the interactional theory to study continuous involvement in criminal behavior, most research from the state dependence perspective has focused on the consequences of early delinquency on various social factors that influence later delinquency, while few studies have examined the contemporaneous effect of adult crime on various social factors that affect the desistance process. This causal effect is important to study because it will expand and complement various state dependence theories. More importantly, understanding this causal effect will complement the theoretical propositions of the state dependence perspective and make it applicable to that small group of serious offenders that is of such great interest to criminologists, policy makers, law enforcement, and the citizenry in general.

Fourth, few studies focusing on how prior delinquency affects various critical social factors have examined gender and race differences. In this study, I will explore gender and race differences in the causal relationship between delinquency and various social domains, with priority given to the analysis of gender differences. The critical social domains imbedded in the causal link include relationships with parents and friends, reflected-appraisals, association with delinquent peers and delinquent partners.
partners, and conventional life opportunities facilitating desistance from adult criminal involvement.

Fifth, I will test several important theories that fit in the state dependence perspective, including social capital theory, symbolic interactionism, differential association theory, and life course theory, and compare the explanatory power of each theoretical framework. There are few studies that have tested several domains of the state dependence perspective based on the same sample. In this sense, the present study will also add to the existing knowledge of the workings of social factors on the desistance process and suggest which one better explains the pathways from prior delinquency to adult criminal involvement.

Based on data from a sample of serious juvenile delinquents who were followed up through early adulthood, I will first examine the reciprocal effects between adult criminal involvement and four of the critical social domains. Following that, I will explore how early delinquency affects relationship with parents and friends, reflected self-identity, association with delinquent peers and delinquent partners, and opportunities for desistance, through the institutions of marriage and employment in adulthood. Specifically, this study will address the following research questions:

(a). To what extent are the critical social domains during adolescence related to the correspondent social domains in adulthood? That is, are there stability effects between the critical social domains from adolescence to early adulthood?

(b). What are the reciprocal relationships between adult criminal involvement and critical social domains? Specifically, does adult criminal involvement affect any of the critical social domains?

(c). Are there significant gender and race differences in the pathways from
juvenile delinquency to adult criminal involvement?

(d). In the master model of state dependence consisting of all the four social domains, which theory best explains the pathways from juvenile delinquency to adult criminal involvement?
2.1 Brief Review of Latent Traits and Continuity of Criminal Behavior

Previous criminological research has identified a consistent positive relationship between past and future offending, and has shown that early onset of criminal behavior is a strong predictor of future offending (McCord and Ensminger, 1997, Farrington, 1998). One explanation of the stability of antisocial behavior over time relies on the existence of the latent traits or criminal propensity which remains stable throughout the life course. For instance, social control theorists maintain that individuals who lack belief in conventional social values are prone to delinquency and crime in early childhood (Hirschi, 1969; Baumrind, 1985). The concept of self-control, a latent trait, is presented as the capacity to resist the temptation of immediate and easy gratification, and is regarded as the result of effective socialization within family. The early formative years are believed to be important for adolescents to develop high self-control and assimilate conventional values; poor parenting will result in children’s low self-control, which in turn, leads to delinquency and crime. Furthermore, lack of self-control developed in the early formative years is found to have a lasting effect on antisocial behavior throughout the life course (Gottfredson and Hirschi, 1990; Cernkovich and Giordano, 2001, 1992).

Ge and associates (2001) included family environment, cognitive ability, and early behavioral problems in their study and found that an adverse family environment was related to the timing and frequency of juvenile delinquency. In
The addition, cognitive ability, early involvement with alcohol, early age at first arrest, and the number of early arrests were all significant predictors of chronic offending, even after age 31. Low cognitive ability, used as a proxy for neuropsychological functioning, was significantly associated with frequencies of arrest after age 18. Most importantly, the timing of first arrest was found to be the most important predictors of chronic criminal activity, both for juvenile and adult offending. Moffitt (1993) provided similar explanations for the latent traits that contribute to persistent criminal behavior over time. She argued that poor self-control resulting from diminished cognitive ability was an important factor in the continuity of criminal behavior. A small group of life-course-persistent offenders were found to suffer from childhood neuropsychological deficits, characterized by high impulsivity, and various cognitive problems. These problematic traits are often exacerbated by a disrupted family background and poor parenting. Consequently, these latent traits will be carried over to adulthood and contribute to consistent offending throughout the life course.

Research from a combination of the biological and sociological perspective also has identified certain latent traits for criminal behavior that remain stable over time. Wilson and Herrnstein (1985) contend that a biological mechanism could well explain the initial distribution of criminal propensity within individuals. In their model, biological and constitutional factors produce difference in nervous system functioning. Persons with problematic functioning are more likely to be present-oriented rather than future-oriented and fail to develop a strong conscience that inhibits criminal behavior. They attributed these differences to biological and personality variations.
within the population, which were present early in life and remain stable thereafter.

Fishbien (2000) emphasized the notion of comorbidity and suggested that violence might share many of the same underlying mechanism as substance abuse and other deviant behavior. Neuropsychological dysfunctions such as impulsivity, poor decision-making ability, disinhibition, and inability to assess consequences can be precursors for drug abuse and violence. In particular, deficits in executing cognitive functioning by the prefrontal cortex are found in drug abusers who engage in violent behavior. Zhang and associates (2002) reported parallel findings. They found that psychopathic state was the powerful underlying common factor that significantly and simultaneously predicted different forms of adolescent problem behavior and the prediction power remained stable over time.

Collectively, these findings suggest that there is a small group of people who are different from other people in terms of criminal propensity, and that this propensity remains stable across their life course regardless of opportunities for desistance. In the present study, prior delinquency is used as a proxy measure of latent criminal traits, which has been justified by other researchers to be a meaningful index of latent criminal traits (Gottfredson and Hirschi, 1990; Matsueda and Anderson, 1998; Cernkovich and Giordano, 2001).

2.2 State Dependence Perspective on Persistent Criminal Behavior

An alternative explanation of the stability of antisocial behavior over time is known as the state dependence perspective (Nagin and Paternoster, 2000). This perspective examines the consistency of antisocial behavior over time by referring to
weakened social bonds, including family and employment, across various life situations. It emphasizes that initial antisocial behavior can be consequential in reducing life opportunities and weakening conventional social bonds. This perspective does not neglect the possible latent traits of offenders, but stresses that salient social events and characteristics can help explain their continuous criminal offending. For instance, labeling theorists maintain that initial offending in early childhood can significantly reduce these offenders’ life opportunities. Becker (1963) points out that individuals confronted with formal and informal reactions to deviance suffer from the undervalued status accompanied by marginal access to conventional roles and the normal routines of life. Lemert (1972) argues that factors related to one’s initial or primary involvement in crime cannot be used to distinguish people regarding their risk of crime. Rather, it is reactions from agents of formal or informal social control that substantially influence one’s risk of future criminal behavior. Besides the social reaction theories, there is a variety of other theories that can explain the continuity of antisocial behavior by referring to various social factors.

2.2.1 Social Capital and Persistent Criminal Behavior

One of important components of the state dependence theorem is the social capital theory (Coleman, 1990, 1988). Coleman defines social capital as “a variety of entities with two elements in common: They all consist of some aspects of social structures, and they facilitate certain action of actors—whether persons or corporate actors—within the structure” (Coleman, 1988: p. S98, 1990, p. 302). Coleman regards social capital as an important feature in interpersonal relations, which is productive in
that it is indispensable for the achievement of certain goals. Social capital can be quite valuable in facilitating certain actions but may be totally useless or even detrimental for others. Wright, Cullen and Miller (2001) found that family social capital produces the types of social and personal capital envisioned by Coleman, which reduces delinquency over time, moderates the effects of misbehavior, and is associated with general positive effects across the life course. Meanwhile, lack of social capital is also recognized as one of the major causes for persistent antisocial behavior.

Other research based on the social capital perspective focuses on the impact of criminal behavior on relationships with conventional others and the reciprocal relationship between offending and social capital. Thornberry (1987) emphasized the reciprocal relationship between offending and factors that may influence future offending in his interactional theory. He proposed that initial weakened social bonds lead to criminal behavior, which further weakens conventional social ties. These weakened social bonds result from negativity and rejection of the child by the parents (Cole and Zahn-Waxler, 1992; Brook, Whiteman, Gordon, Brook and Cohen, 1990), cold and unsupportive maternal behavior (Shedler and Block, 1990) and lack of involvement and time together (Kumpler and Demarsh, 1986), resulting in rejection of the parents by the child, and maladaptive parent/child relationships. In addition, research has also shown that excessive family conflict and marital discord (Katz and Gottman, 1993), family isolation, lack of supportive extended family networks (Dilworth-Anderson, 1989), family social insularity (Dumas, 1986), and lack of community support resources are conducive to continuous involvement in criminal
behavior. Such a vicious circle makes it difficult for delinquent youths to reestablish conventional social ties and to desist from criminal behavior, which to some extent explains their persistent antisocial behavior through the life course.

Hagan (1993) pointed out that the process of “social or criminal embeddedness” deprives delinquent youths of the human and social capital crucial for future conventional roles. Other research by Hartwell (2000) found that teens’ involvement in delinquent behavior and drugs lessens their life opportunities. Still other research shows that teens involved in drug activities in poor social environments have less potential to accumulate social capital to mediate their interpersonal relations with conventional others, such as parents and friends, through the life course (Dembo et al., 1993; Hagan and McCarthy, 1997; Sampson and Laub, 1994).

Other research has also shown that there are race and gender differences in the availability of social capital and its function to constrain delinquent behavior. Structural differences produce imbalances in the social capital available to families and youths of different ethnic backgrounds, living in different communities (Morenoff et al., 2001; Sampson et al., 1999). On the one hand, parents living in structurally disadvantaged communities fail to provide adequate parenting and the accumulation of social capital, which is crucial for youths to stay away from antisocial behavior. On the other hand, high levels of community disadvantage attenuate conventional social networks that are indispensable for effective crime control (Coleman, 1990). Oftentimes, minorities become the majority of the population living in disadvantaged
communities; hence there is variability in the social capital available to individuals of different ethnic backgrounds (McNulty and Bellair, 2003).

Prior research has also shown variability in the social capital available to girls and boys, which account for the variations of the delinquency outcomes. Hagan’s (1990) power control theory points out that parents provide different kinds of parenting and support to girls and boys according to conventional gender-roles, which results in differential involvement in delinquency by girls and boys.

All of these findings suggest that we can explore the pathways to life-persistent antisocial behavior by examining weakened social bonds, the consequences of early offending on relationships with conventional others, and diminished support and opportunities for desistance.

Few prior studies on persistent antisocial behavior, however, have adequately addressed the variability in social capital available to serious offenders. The other important question that hasn’t been adequately studied is whether the variability in social capital across race and gender remains stable from adolescence to adulthood. Answers to these questions will provide valuable information to the existing literature on the stability and change of antisocial behavior over the life course.

The concept of social capital used in this study, however, is slightly different from the original notion of social capital proposed by Coleman (1990), which emphasizes the effects of community variables and the availability of social capital related to group, organizations and communities. In this study, the concept of social capital is limited in scope because it only includes the domain of social capital from...
parents and friends, which sometimes intertwines with domains of social support or social bonding.

2.2.2 Symbolic Interactionism and Persistent Criminal Behavior

Similar to the social capital theory, symbolic interactionism also posits that early antisocial behavior is consequential in weakening individuals’ relationships with formal control agents like the criminal justice system, and informal control agents such as parents and friends. Although there is not abundant research on the consequences of formal sanctions on antisocial behavior, some longitudinal studies have shown that contact with criminal justice system can substantially reduce economic opportunities (Nagin and Waldfogel, 1993, Western and Beckett, 1999), and that there is discrimination toward ex-offenders in the labor market (Sampson and Laub, 1997; Lam and Harcourt, 2003, Pager, 2003).

In contrast to the social capital theory which highlights the relatively objective world of social capital available to individuals, symbolic interactionism focuses on individuals’ subjective interpretation of available resources, people’s attitudes and their own identities. Symbolic interactionist researchers have highlighted the importance of informal control agents on delinquency and the mechanism through which informal control agents affect attitudes toward delinquency and actual delinquent outcomes. Matsueda’s (1992) test of the integrated theoretical framework of symbolic interactionist theory and labeling theory suggests that reflected appraisals, which are conceptualized as one’s self-identity shaped by the perceived reactions from significant others such as parents and friends, are significantly affected by actual
parental appraisals and prior delinquency; future delinquency, in turn, is substantially affected by reflected appraisals of self as a rule violator. Heimer and Matsueda (1994) found that adolescents’ early delinquency causes substantial informal reactions from their parents, which have more of an impact on future delinquency than do formal sanctions. Parents’ appraisal of adolescents’ early offending tends to incur reactions from adolescents and impact the parent-child relationship. A sense of alienation from parents in turn can further increase the likelihood of association with delinquent peers and put adolescents at greater risk for criminal offending. Thus, both studies highlight the role of informal social control agents and individuals’ reflected self-identity in affecting future delinquency.

Matsueda and Heimer (1997) provided a theoretical account of continuity in criminal behavior over the life course that centers on the role-taking process. They suggested that delinquent individuals select out of conventional social relationships and into delinquent relationships, through self-selection by delinquent individuals and other-selection by friends and family members. They summarize by offering the following sequence for the effects of informal social reactions: social-structural positions and prior delinquency shape adolescents’ relationship or attachment to primary groups; attachment to these groups, in turn, affects the formation of reflected appraisal as a rule violator. Finally, reflected appraisal as a rule violator influences changes in subsequent delinquency as adolescents behave in accordance with their self-images. That is, when individuals identify themselves with deviant identities, they become really deviant. That is the so-called “self-fulfilling prophecy”. From the
symbolic interactionist perspective, therefore, the continuity of antisocial behavior is a result of the interaction between prior delinquency and reactions from informal control agents, and how individuals interpret reactions from significant others and develop their pro-social or antisocial self-identities.

Notably, excessive negative informal social reactions not only lead to hardened antisocial attitudes and behavior, but also affect the opportunities for desistance over time. Heilbrun and associates (2000) examined the adjustment of postrelease juveniles in their respective communities and evaluated risk factors for criminal recidivism. They found that juveniles released to communities were at high risk of reoffending. Problems with family and school, followed by drug abuse, were identified as maladjustment symptoms and strong predictors of reoffending. They concluded that harsh social reactions from informal control agents increase the chance of further offending. Other research also suggests that relationships with informal social control agents are important predictors of recidivism. Cottle and associates (2001) conducted a meta-analysis of predictions of juvenile criminal recidivism. The results suggest that family problems are among the significant predictors of juvenile recidivism. Zamble and Quinsey (1997) studied the social-psychological processes affecting recidivism and desistance and found that interpersonal conflict with heterosexual partners is a common problem experienced by recidivists, second only to substance abuse problem.

All of these findings point to the possible pathways that relationships with informal control agents as a predictor follow in influencing variations of criminal behavior over time. Family understanding and support that are helpful for developing
a positive pro-social identity, however, can also produce suppressing effects on criminal behavior. Research has shown that family acceptance and encouragement, as well as perceived emotional support from family, are significantly related to postrelease adjustment and desistance from crime. Braithwaite (1989) argued that reintegrative shaming strategies oriented to bringing the delinquent back into the conventional fold, particularly those by informal social control agents such as family and community, are effective in reducing recidivism among former offenders. For instance, Nelson and associates (1999) found that released inmates who have succeeded in employment and abstinence from drugs both perceived and experienced strong support from their families. Other research has also shown that released inmates who assume conventional roles within families have great success in postrelease transition. Clark and Crum’s study (1985) showed that married men adjusted better than single men; and Curtis and Schulman (1984) found that men who live with their wives and children upon release have more successful adjustment and transitions than those living alone or with a parent. Visher and Travis (2003) studied individual pathways of transitions from prison to community. They point out that recidivism is directly affected by postrelease reintegration and adjustment, which in turn depends on factors such as the individual’s social environment of peers, family, community and state-level policies. All of these findings support the proposition that relationships with informal control agents affect variations in individuals’ self-identities and antisocial behavior over time.
Gender and race differences in the way self-reflected identity affects antisocial behavior are also revealed in prior research. Heimer (1995) suggests that structural inequality leads to gender and race differences in law violation because the positions of minorities and females restrict their communication networks to influence others. Heimer explains that:

“Hence, these forms of structural inequality influence definitions of situations because they partially determine the significant others and reference groups considered in the role-taking process. Through shaping definition of situations, gender and racial inequality contribute to the patterning of crime and delinquency” (Heimer, 1995: 146).

Other prior research on self-identity and delinquency also suggest that social cultural context influences the way youths develop self-identity, which influence their attitudes and behavior. Gould (1969) found that delinquent self-identity has more personal relevance for white than for black males. The personal relevance of being delinquent or having a delinquent self-identity varies from context to context. In certain contexts, it can be a reflection of positive self-identity (Hall, 1966). Similarly, other theorists treat delinquent self-identity as one means of gaining status (Cohen, 1955, Cloward and Ohlin, 1960). Matsueda and Heimer (1997) also point out that socio-structural locations affect parental appraisal of youths and the way in which youths are attached to significant others and develop self-reflected identities, which in turn, affect their attitudes and behavior.

Other studies have also suggested gender differences in the relationship between reflected appraisal and delinquency. The role-taking process (Heimer, 1995) suggests
that definition of gender role explains why girls are less involved in delinquency. In another study, Batush and Matsueda (1996) find significant gender differences in reflected appraisals and delinquency. Males are more likely to be falsely accused by parents, and reflected appraisals as delinquents for males are significantly greater for males than females, which in turn, leads males more than females to act on that delinquent self-identify and violate the law.

These findings, however, are mostly based on conventional data sets which do not include serious offenders. In contrast, in the present study I will test the symbolic interactionism model based on a longitudinal sample of serious offenders.

2.2.3 Differential Association Theory

Peer relationships are one of the most important relationships for adolescents’ development. Although most adolescents can benefit from interactions with peers, a number of criminologists have suggested that association with delinquent peers is a major cause of individual’s delinquent behavior (Sutherland, 1947, Akers, 1979).

Sutherland’s (1947) differential association theory posits that delinquency is the result of excessive exposure to definitions favorable to crime over ones unfavorable to crime, and this occurs in association with delinquent peers and isolation from conventional groups such as family, schools, and so forth. Akers (1979) extends the differential association theory to differential reinforcement, arguing that those peer groups holding the most important reinforcement for individuals’ behaviors will have important influences on their behavior. Delinquent peers influence group members by supporting delinquent behavior and punishing conformity to conventional values.
Research has shown that association with delinquent peers provides the environment for both learning and reinforcement of delinquent beliefs and behaviors (Elliot et al., 1985, Matsueda and Heimer, 1987, Warr, 2002, 1998).

A similar model developed from the differential association theory is the interactional model which contends that the relationship between peers and delinquency is reciprocal. On the one hand, delinquent behavior encourages delinquent associations; on the other hand, associations with delinquent peers reinforce delinquent beliefs and behavior (Thornberry, 1987, Thornberry et al. 1994). The interactional perspective maintains that attachments to parents, conventional beliefs, commitment to school, and delinquent beliefs are all reciprocally related. Thornberry (1987) argues that delinquent peers and delinquent behavior are closely related throughout adolescence, but the relationships between other social domains and delinquent peers and behavior vary across adolescence due to developmental processes. For instance, delinquency and delinquent peers can be driven by attachment to parents and school commitment in early adolescence, and by delinquent values and commitment to other conventional goals such as marriage and employment in later adolescence.

Prior research testing differential association theory has produced mixed findings concerning the temporal order between delinquency and delinquent peers. Elliot and Menard’s (1992) finding supports the interactional perspective, but suggests that the onset of delinquent behavior tend to follow rather than precede the onset of delinquent peer association. Krohn et al. (1996) study drug use and also find a reciprocal
relationship, i.e. the effect of respondents’ drug use on drug-using peers is slightly stronger than the effect of drug-using peers on respondents’ drug use. Matsueda and Anderson (1998) design their research to correct the measurement error commonly associated with delinquent peers and delinquent behavior and retest the controversial relationship. Their finding suggests that delinquent peer associations and delinquent behavior are reciprocally related, but the effect of delinquency on peer association is larger than that of peer association on delinquency. Wright and colleagues (1999) found support for both social control theory and differential association theory. Nevertheless, they found that the effect of delinquent peers on delinquency remained significant after controlling for preexisting levels of self-control, but that the peer influence diminished. Despite the mixed findings regarding the differential association model, this perspective highlights the reciprocal relationship between delinquent peers and delinquency and points to the effects of delinquent peers on individuals’ continuous involvement in criminal behavior in the life course.

Subcultural theorists (Cohen, 1955, Cloward and Ohlin, 1960) suggest that a delinquent subculture unique to lower class adolescents living in inner cities promotes violence and other types of criminal behaviors. Arguably, subcultural theories explain why a small group of individuals are regularly involved in criminal behavior from adolescence to adulthood. Cohen’s (1955) study of the delinquent subculture among lower-class adolescent males found that the lower-class youths deprived of conventional success suffer from status frustration. Consequently involvement in delinquent gangs appears to be a remedial adaptation, as young boys tend to look for
status gains in delinquent peer networks. Cloward and Ohlin (1960) developed the theory of differential opportunity and focused on the cultural transmission of delinquent values in lower-class urban areas. Delinquent peer association promotes delinquency in that it provides opportunities for youth not available through conventional means.

Anderson (1999) provides a vivid ethnographic presentation of the lives of inner-city residents based on the field study in the ghetto areas of Philadelphia. The “code of the street” is presented as a product of a profound sense of alienation from the mainstream society and distrust in its institutions by the poor inner-city residents, most of whom are black youths. Within this context, the relationship of delinquency and peer association is more complicated. Confronted with a truncated life expectancy, for most inner city youths respect is more important than life, because no respect from others means trouble not only for the individuals, but also prolonged trouble for their families. The hard reality of the street requires the youths to be violent or at least to be capable of acting out violence in order to stay away from violence. For many minority youths living in poor neighborhoods, there are high risks of being influenced by delinquent peers and resorting to delinquency and criminal behavior to deal with life problems.

Research based on the differential association theory has also revealed gender differences. Mears and colleagues (1998) concluded that girls are both differentially exposed to delinquent peers and differentially affected by such exposure. Strict parental control and internalization of the meaning of gender effectively prevents girls
from exposure to delinquent peers. Even when girls are exposed to delinquency and delinquent peers, the meaning of gender can effectively neutralize the influence of delinquent peers. Heimer (1996) suggested that gender definitions and beliefs about femininity and masculinity can affect girls’ delinquent beliefs and influence by delinquent peers through internalizing the gender role.

Despite all that has been learned about the relationship between delinquent peers and delinquent behavior, most of prior findings are based on adolescent samples of less serious delinquents and few have examined the reciprocal relationship between adult criminal behavior and adult criminal friends and partners. Clearly, peer effect in the life course is an important factor to be included in the study of persistent criminal behavior. As adolescents move toward adulthood, they can have different peer groups and different forms of peer interactions. Warr (2002) points out that although peer influence reaches its zenith during adolescence, peer relationships are still important in understanding antisocial behavior in adulthood, though peers may not be the most important relationships compared to other relationships, such as those associated with marriage and employment.

In order to better understand life-course-persistent criminal behavior, it is necessary to examine the relationship between delinquency and delinquent peers during both adolescence and adulthood.

2.2.4 The Life-Course Perspective

Research on stable criminal behavior from the life course perspective emphasizes both the effect of prior delinquency on future criminal behavior and the effect of
important life course transitions on the changeability of criminal behavior.

Cernkovich and Giordano (2001) found that prior delinquency is a stable predictor among both the general youth sample and the institutional respondents in their study. However, levels of social bonding and antisocial behavior among serious offenders are more resistant to change than are those of more typical and less serious offenders. Thus prior delinquency is a strong predictor of adult criminal behavior for the sample of serious offenders. In this study, however, social bonding variables do not significantly affect adult criminal behavior for the sample of serious offenders.

Moffitt (1997, 1993) distinguished between adolescence-limited and life-course-persistent offenders and pointed out that life-course-persistent offenders suffer from both contemporary and cumulative continuity of their early antisocial behavior. That is, they bring into adulthood their early cognitive deficits and at the same time are impacted by the consequences of their prior criminal behavior, such as official labeling, disabling injuries, and school drop-out. These findings suggest that continuous involvement in criminal behavior can be caused by both latent criminal traits and interactions with social environments.

More recently, Moffitt and associates (2002) found that many adolescence-limited offenders at age of 26 still suffered from many problems, such as substance abuse, and these problems delayed their desistance from crime. In Moffitt’s (2002) sample, although many adolescence-limited offenders’ official records were less extensive than those of life-course-persistent offenders’, many believed that their criminal record harmed their employment opportunities. For the life-course-persistent
offenders at the age of 26 years, their chances for desistance was further overshadowed by transactions between their deviant behavior and negative reactions from courts, employers, friends, and informants who know them well. These findings suggest that differential accumulation of the consequences of crime can explain why some people desist from crime while others continue their criminal behavior over time.

Other researchers, however, have suggested that important life course transitions affect the changeability of adult criminal behavior. Sampson and Laub (1993) pointed out that social ties and adulthood informal control, such as family and employment, can mediate the relationship between juvenile delinquency and adulthood crime. They emphasized that the quality and strength of adulthood social ties are essential to understanding the continuity and change of antisocial behavior throughout the life course. Their study suggested that quality marriage and stable employment help individuals with a delinquency history to avoid or minimize adult criminal behavior.

In another study, however, Giordano, Cernkovich, and Rudolph (2002) combining quantitative and the qualitative analyses, found that neither marital attachment nor job stability was strongly related to females’ or males’ desistance from crime. Qualitative analysis showed that a cognitive transformation was necessary for desistance from crime, though the determinants of change for serious offenders were quite different from those for minor offenders. Their finding also suggests the possibility that those who acquired good jobs and good marriage may overrepresent people who had already decided to shift away from criminal behavior. Good
employment and good marriage thus can be a result rather than precursors of this cognitive shift from crime.

Although salient life events such as marriage, stable employment or even military services can sometimes help to reduce criminal involvement, these factors are not equally available to individuals of different backgrounds. Prior research suggests that minorities and women with a criminal record are less likely to have a stable employment and less likely to get married (Pager, 2003; Giordano, Cernkovich, and Rudolph, 2002). In this case, limited access to conventional social ties throughout the life course diminishes the chance of desistance from criminal behavior and partially explains the development of persistent criminal behavior.

All of these findings suggest that if we only concentrate on the criminal predispositions of chronic offenders we are unlikely to uncover the extent to which social factors contribute to their persistent involvement in criminal behavior. Rather than take a deterministic view of persistent criminal behavior, it is helpful to explore various social domains interacting with individuals’ criminal propensity and thus provide a sociological explanation of persistent criminal behavior.
The core proposition of the state dependence perspective is that while criminal behavior can create new opportunities for further criminal behavior, noncriminal behavior can, at the same time, provide opportunities for ceasing criminal involvement. Hence the state dependence perspective conceptualizes the continuity of criminal behavior as resulting from the dynamic interactions between early delinquency and subsequent social contexts and life events, rather than the periodic demonstration of the intrinsic properties of the individual. This study, while fully recognizing the applicability of the population heterogeneity perspective in explaining persistent antisocial behavior and the effects of latent criminal traits on the continuity of criminal behavior, is based on the state dependence theorem. Thus I will primarily examine how various social domains are affected by prior delinquency and how these, in turn, affect adult criminal involvement.

There are several reasons to further test the state dependence theorem. First, prior research has identified a small group of serious offenders that account for the majority of all offenses committed in general and most serious offenses in particular (Wolfgang, 1972, Moffitt, 1993). Propensity for criminality alone, however, cannot explain the persistent antisocial attitudes and behavior of serious offenders across all life stages. After all, not all of them suffer the biological, psychological or neuropsychological deficits that are conducive to persistent criminality. In addition, relying solely on intrinsic latent criminal traits defies a sociological and
developmental perspective on criminal behavior, and fails to recognize the interactions of social contexts with individual characteristics over time. An overemphasis on stable latent criminal traits also results in limited implications for field practices of correction institutions, community rehabilitation programs, and the prevention of persistent criminal behavior. Criminological research on persistent antisocial behavior, therefore, must entail an integrated approach to untangle the problem of persistent criminal behavior.

Although prior research based on the state dependence theorem, such as social capital theory, labeling theory, symbolic interactionist theory and life course theory has highlighted the importance of these critical social domains, there are still gaps in our understanding of persistent antisocial behavior. Although prior research suggest that delinquency can reduce conventional life opportunities (Hagan, 1993; Moffitt, 1997; Pager, 2003), few studies have examined how adult criminal involvement may affect critical social factors, and few have explored the reciprocal effects between delinquency and critical social domains based on a longitudinal data set of serious offenders. In addition, gender and race differences in the effects of social domains on continued criminal involvement are not adequately studied in prior research. We do not know for certain whether the effects of various social domains apply equally to different demographic groups in explaining the pathways to persistent criminal behavior.

In this study, I will test four sociological theories pertinent to the state dependence theorem of persistent criminal behavior. The main purpose of the study is
to examine whether and to what extent the critical social domains explain the continuity of criminal behavior of this group of serious offenders. Social capital theory, symbolic interactionism, differential association theory and life course theory are the theories I will rely on in testing the veracity of the state dependence model.

While I focus primarily on the critical social domains, I will also incorporate theories of criminal propensities in the analyses by including a variable representing criminal propensity together with other social variables, and examine their effects on adult criminal behavior collectively. In doing so, I expect to find the total effect of social variables on adult criminal involvement, net of the effect of latent criminal propensities, so that I can evaluate the theoretical propositions of the population heterogeneity and state dependence models, respectively. In addition, by testing variables from various social domains within a master model altogether, I expect to find which social domain better explains adult criminal behavior in this sample of serious offenders.

Hypotheses

The primary objective of this study is to examine how various social domains affect the pathways from juvenile delinquency to adult criminal involvement. To achieve this objective, I will first examine the relationship between the critical social domains from respondents’ adolescence to early adulthood. Following this, I will test whether critical social domains affect adult criminality among the respondents in this sample of serious juvenile offenders, controlling for the effect of prior delinquency. Testing these reciprocal relationships is a necessary step before proceeding to further
analyses because prior research on the state dependence model has not adequately examined how adult criminality affects the critical social domains in adulthood, which, in turn, may affect future adult criminal involvement. Thus testing of the state dependence model is not complete without considering the contemporaneous effect of adult criminality on various social domains in adulthood. Finally, after examining the reciprocal effects, I will look at which critical social domain, besides prior delinquency, better accounts for the pathways to adult criminal behavior.

In order to answer the above research questions, I will test the following research hypotheses:

(a). There are significant stability effects between critical social domains in adolescence and in early adulthood insofar as prior delinquency will affect the critical social domains during both adolescence and adulthood. As Moffitt (1997) suggested, the impact of prior delinquency on critical social domains will be carried on from adolescence to adulthood. This means that impacted social domains during adolescence will continue to affect the corresponding social domains in adulthood. From a state dependence perspective, stability in these social domains is essential for understanding pathways from juvenile delinquency to adult criminal behavior.

(b). While prior delinquency explains a great portion of adult criminal behavior, the critical social domains also significantly affect pathways to adult criminal behavior. I assume that even for this sample of serious offenders, who began their involvement in serious offenses in their early years, social factors still significantly affect their adult criminal behavior. This means that controlling for whatever criminal
propensities they might possess, various social factors also explain their persistent antisocial behavior.

(c). Critical social domains have stronger effects in explaining the adult criminal behavior of females than of males. I assume that females are more affected by the impact of their prior delinquency on the critical social domains because delinquency is not consistent with their expected gender role. Thus females with prior delinquency are more likely to suffer the consequences of their delinquency, which greatly impact the critical social domains, which oftentimes serve as buffers for future criminal involvement.
CHAPTER IV
RESEARCH METHODS

4.1 Sample

The data for this study were derived from two waves of the Ohio Lifecourse Study. The sample is composed of 254 institutionalized respondents who were interviewed initially in 1982 when they were adolescents and then in 1995 as young adults (Cernkovich and Giordano, 2001). In 1982, respondents were drawn from the populations of three male juvenile institutions in the state of Ohio, and the entire population of the only female juvenile institution in the state. Fifty percent of the sample were female. Sixty-five percent of the institutionalized respondents were white; the remaining nonwhites were predominantly black (32% of the sample). The respondents ranged in age from 12 to 21, with a mean of 16.3 years. In 1995, 210 of the previously institutionalized respondents were relocated and reinterviewed. This represents an 83% reinterview rate (85% when the sample is adjusted for deceased respondents). The second wave of data was collected via face-to-face interviews as well as through a mailed version of the interview schedule. Forty-eight percent of the reinterviewed respondents were male, and 63% were white. African-Americans represent 84% of the nonwhite respondents. The respondents ranged in age from 25 to 34 at the time of reinterview, with a mean of 29.30 years.

This data set is ideal for the present study because it has several advantages compared with other data sets used in prior research. Most of the self-report data used in prior research are based on samples of respondents located in schools and
households, and thus fail to include the most serious delinquents who are more likely to develop persistent antisocial behavior patterns through the life course. Focusing on respondents who started serious offending early in their lives permits an examination of the effects of various social factors on adult criminal behavior of serious offenders who, arguably, possess the latent traits proposed by the population heterogeneity theorem. If I can find support for the state dependence theorem based on this sample of serious offenders, it suggests that the state dependence theorem has broader implications than heretofore deduced. That is, the state dependence model need not lie limited to minor or transitory offenders from the general youth population if the data analyzed herein show that the social processes underlying this model apply to persistent and serious offenders as well.

The other advantage of this data set is that it includes females and blacks, which are often neglected by traditional all-male or all-white samples. Given males’ and blacks’ disproportionate involvement in delinquency and crime, it is necessary and instructive to study and compare the specific pathways to persistent criminal behavior for blacks and whites, and for males and females. This data set enables a longitudinal comparative study of race and gender differences in persistent criminal behavior, which is one of the major objectives of the present study.

It is important to note that this data set is not a national probability sample. Nevertheless, the population of serious juvenile offenders and life-course persistent offenders are themselves disproportionately distributed nationwide. Even with its limitations, this data set is ideal for the study of serious criminal behavior from
adolescence to adulthood.

4.2 Measures

Dependent Variables

Adult Criminal Involvement (Cronbach’s alpha=0.92) was measured as the dependent variable in 1995. This scale was created as a modified version of Elliott and Ageton’s (1980) self-report delinquency scale. This scale was constructed by asking respondents the following questions: In the past 12 months how often did you: Damage or destroy property? Steal (or try to steal a motor vehicle, such as a car or motorcycle? Steal (or try to steal) something worth more than $50? Carry a hidden weapon other than a plain pocket knife? Steal (or try to steal) things worth $5 or less? Attack someone with the idea of seriously hurting him/her? Get involved in a gang fight? Sell marijuana or hashish ("pot", "grass", or "hash")? Hit (or threaten to hit) somebody? Sell hard drugs such as heroin, cocaine, or LSD? Have (or try to have) sexual relations with someone against their will? Get drunk in a public place? Break into a building or vehicle (or try to break into) to steal something or just to look around? Use drugs to get high (not because you were sick)? Cheat on your income tax? Take little things from work? Take things from work worth more than $50? Drive more than 20 miles over the speed limit? Used or tried to use credit cards without owner’s permission or passed a bad check (intentionally overdrafting)? Embezzle; that is used money or funds entrusted in your care for purposes other than intended? Frequency and severity of crime are considered to reflect the overall criminal involvement. Responses were coded from 1 (Never) to 9 (More than once a day).
Each offense item was assigned a ratio-score seriousness weight derived from the National Survey of Crime Severity (Wolfgang et al, 1985: 46-50; also see Cernkovich and Giordano, 1992), ranging from 1.42 for drug use to 25.85 for rape.

**Latent Independent Variables**

In order to measure the theoretical concepts of critical social domains, I constructed several latent independent variables with LISREL 8.54. Exploratory factor analyses were performed to determine the best combinations of indicators for these latent variables.

I created two pairs of latent variables to capture the concepts of social capital theory. *Parents’ Support* during adolescence and adulthood were measured by using indicator questions from the 1982 data and 1995 data, respectively. *Friends’ Support* during adolescence and adulthood were also measured by using indicator questions from the 1982 and 1995 data. Responses to indicator questions of both latent variables in 1982 were coded from 1 (strongly disagree) to 5 (strongly agree). Responses to indicator questions of both latent variables in 1995 were coded from 1 (strongly agree) to 5 (strongly disagree). Responses were recoded so that high scores indicate high levels of support from parents and friends. Indicators and results of the measurement model of parents’ support and friends’ support are shown in Figure 1 and Table 1. The fit statistics indicates that the measurement model does a good job in measuring these four latent variables (\(^{1}\text{RMSEA}=0.05, \chi^2 \text{ ratio } = 1.66\). All loadings are significant at \(\alpha=0.05\) level).

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\(^{1}\) Root Mean Square Error Approximation. RMSEA less than 0.05 indicates a good fit of the model. RMSEA larger
I measured one pair of latent variables to capture the concepts of symbolic interactionism. *Reflected Self-Identity* in adolescence and adulthood were measured in 1995. Respondents were asked how they identified themselves with several types of problem identities in 1995, and retrospectively, in 1982. Responses to the indicators were coded from 1 (strongly agree) to 5 (strongly disagree) so that higher values on the latent variables indicate lower levels of problem identity. Indicators and results of the measurement model are shown in Figure 2 and Table 2. The fit statistics indicates that the measurement model provides reasonable measurement of the latent variables (RMSEA=0.06, $\chi^2$ ratio = 2.43. All loadings are significant at $\alpha=0.05$ level).

In order to measure the concepts of differential association theory, I created four latent variables. *Friends’ Acceptance of Delinquency* and *Parents’ Disapproval of Delinquency* were measured by indicators from the 1982 data. Responses to questions measuring friends’ acceptance of delinquency were coded from 1 (would actively discourage) to 5 (would actively encourage) so that high scores indicate high levels of friend’s acceptance of delinquency. Responses to questions measuring parents’ disapproval of delinquency were coded from 1 (they would not be upset at all) to 9 (they would be very upset) so that high scores indicate high levels of parental disapproval of delinquency. *Having Criminal Friends* and *Having Delinquent Partners* were measured by indicators from the 1995 data. Responses to questions measuring having criminal friends were coded from 1 (none of them) to 5 (all of them) so that high values indicate high levels of association with criminal friends. *Having*
Delinquent Partners was measured by a modified 26-item self-reported criminality scale\(^2\) (Eliot and Ageton, 1980). The following questions were used to index this variable: How often would you say your husband/wife/partner has done the following things in the past year: Damage or destroy property on purpose; Steal (or tried to steal) a motor vehicle, such as a car or motorcycle; Steal (or tried to steal) something worth more than $50; Carry a hidden weapon other than a plain pocket knife; Steal (or tried to steal) things worth $5 or less; Attack someone with the idea of seriously hurting him/her; Get involved in gang fights; Use force or threat of force to get money or other things; Sell marijuana or hashish ("pot", "grass", or "hash"); Hit (or threaten to hit) someone; Been paid for having sex with someone; Sell hard drugs such as heroin, cocaine, or LSD; Have (or tried to have) sexual relations with someone against their will; Get drunk in a public place; Break into a building or vehicle (or tried to break into) to steal something or just to look around; Use drugs to get high (not because you were sick); Cheat on his/her income tax; Take little things from work; Take things from work worth more than $50; Drive more than 20 miles over the speed limit; Use (or tried to use) credit cards without the owner's permission or pass a bad check (intentionally overdrafting); Embezzle; that is, use money or funds entrusted in his/her care for purposes. Responses to questions measuring having delinquent partners were coded from 1 (Never) to 9 (More than once a day). Different loadings of the indicators reflect the importance of each indicator for this latent variable.

\(^2\) The indicators of partner’s criminal behavior were adopted from a global scale of crime same as the one used in measuring adult criminality. The reliability of this criminality scale is 0.92.
Indicators and results of the measurement models are shown in Figure 3 and Table 3, Table 4 and Table 5. The fit statistics indicates that all the measurement models of differential association theory provide reliable measurement of the latent independent variables.

In order to measure the key concepts of the life course theory, I created one multi-indicator latent variable. Attachment to School was measured by using indicators of the 1982 data. Responses to the questions indexing attachment to school were coded from 1 (strongly disagree) to 5 (strongly agree) so that high scores indicate higher levels of attachment to school. The other 3 single-indicator latent variables were measured by using variables of the 1995 data. These included Employment Status (1=currently employed, 0=currently not employed), Occupational Status (1 through 7, lowest=7) and Having Been Married (1=having been married, 0=never married). Prior research (Agnew, 2001) has suggested that not only is employment status an important condition that influences individual’s criminal involvement, but also that positions in the occupational hierarchy can influence the degree of criminal involvement. Harsh working condition and less reputable positions can create strain, which is conducive to delinquency and crime. Therefore, I included occupational status as an independent variable together with employment status and marital status. One of the ways of measuring marriage was to ask respondents whether they had ever been married. The other option of measuring marriage was to use respondents’ current marriage status. I chose the first option to measure marriage because it would better capture the effects of marriage on criminal behavior. Arguably
marriage is an index of prosocial orientation which involves certain attitudinal changes before individuals actually get married (Giordano, Cernkovich, and Rudolph, 2002). Therefore, measuring marriage by asking respondents whether they have ever been married, to some extent, considers their attitudinal changes prior to marriage.

Indicators and results of the measurement models are shown in Figure 4. The fit statistics indicates that the measurement model provide reliable measurement of the latent independent variables.

In sum, all the measurement models of latent variables provide acceptable fit statistics, which indicates reliable measurement of these latent variables by those indicators.

Other Independent Variables

Other independent variables in the analyses include Race (1=black, 0=non-black, which includes whites and others), Gender (1=female, 0=male), Age in 1995 (25-34), and Prior Delinquency. Prior research has shown that on the aggregate level, age is inversely related to criminal involvement (Gottfredson and Hirschi, 1983, 1990; Hirschi, 1969). Research has also shown that compared with males, fewer females commit crime and there are fewer serious female offenders (Cernkovich and Giordano, 1979; McCord, 1993; Steffensmeier and Streifel, 1993; Broidy and Agnew, 1997). In addition, prior research has shown that African Americans are disproportionately involved in criminal behavior, which is related to concentrated structural disadvantages and inequality (Blau and Blau, 1982: Wilson, 1987; Sampson and Raudenbush, 1999).
In order to include the effect of latent criminal traits in the analysis, I used prior delinquency measured in 1982 as a proxy measure. Prior research has shown that early onset of crime is a stable predictor of future offense (Gottfredson and Hirschi, 1983; Piquero, Paternoster, Mazerolle, Brame, and Dean 1999; Cernkovich and Giordano, 2001). By including prior delinquency in the model, I will be able to compare the effects of criminal propensity and various social factors on adult criminal involvement, and evaluate the propositions of population heterogeneity and state dependence on the continuity of criminal behavior. *Prior Delinquency* (Cronbach’s alpha=0.92) was measured in 1982 by a modified version of Elliott and Ageton’s (1980) self-report delinquency scale. This scale was constructed by asking the following questions: In the past 12 months, how often have you: Damaged or destroyed property on purpose? Stolen (or tried to steal) a motor vehicle, such as a car or motorcycle? Stolen (or tried to steal) something worth more than $50? Knowingly bought, sold, or held stolen goods (or tried to do any of these things)? Thrown objects (such as rocks, snowballs, or bottles) at cars or people? Run away from home? Lied about your age to gain entrance or to buy something, for example, lying about your age to buy liquor or get into a movie? Carried a hidden weapon other than a plain pocket knife? Stolen (or tried to steal) things worth $5 or less? Attacked someone with the idea of seriously hurting him/her? Been paid for having sex with someone? Had sexual intercourse with someone of the opposite sex (other than your wife/husband)? Been involved in gang fights? Sold marijuana or hashish ("pot", "grass", or "hash")? Cheated on school tests? Hit (or threatened to hit) somebody?
Been loud, rowdy, or unruly in a public place (disorderly conduct)? Sold hard drugs such as heroin, cocaine, or LSD? Taken a car or motorcycle for a ride (driven without the owner's permission)? Had (or tried to have) sexual relations with someone against their will? Used force (strong-arm methods) to get money or other things? Been drunk in a public place? Stolen (or tried to steal) things worth between $5 and $50? Broken into a building or vehicle (or tried to break in) to steal something or just to look around? Skipped classes without an excuse? Used drugs to get high (not because you were sick)? Drunk alcohol? As with the measure of adult criminal involvement, frequency and severity of offending were used to construct an overall delinquency measure.

4.3 Analytic Strategies

I use LISREL 8.54 as the analysis tool because it better serves the research objectives of this study compared with other statistical tools. First of all, it enables the measurement of the latent variables that represents the theoretical concepts of each of the four state dependence models. By doing exploratory factor analysis, I will be able to find the best set of indicators for each latent variable. Secondly, it allows the test of contemporaneous reciprocal relationships between adult crime and critical social domains of interest. Thirdly, it allows for the comparison of the effects of each critical social domain on adult criminality in a master model and enables convenient interpretation of the results. Few prior studies have tested various domains of the state dependence theorem under a single model. LISREL not only enables this test but also
presents standardized effect of each latent independent variable on the dependent variable, which is straightforward for making comparisons.

The theoretical models I will test in this study are shown in Figure 5, which presents the four critical social domains under the state dependence theorem that I will examine in the analysis. Before running the analyses, I refined the measurement models of all latent variables and ensured that all measurement models were both theoretically and statistically fit for the current analyses. Unstandardized factor loadings and the error variance of factors from the initial measurement models were used to fix the parameters in the path analysis models.

The first part of my analysis is testing the reciprocal relationships between adult criminal involvement and the critical social domains in all of the four models. As shown in Figure 5, the arrows from adult criminality to critical social domains are the less studied effects of adult criminality that may affect the future criminal behavior. I will use LISREL 8.54 to analyze 4 pairs of non-recursive structural equation models, and compare the significance and magnitude of the reciprocal effects.

Since the analyses will be based on two waves of data and one of my primary foci is the reciprocal effects in adulthood, I will use the techniques suggested by Kohn and Schooler (1982), which is typically used in testing the reciprocal effects based on two waves of longitudinal data. I will use prior delinquency and the critical social variables measured by the 1982 data as instruments in the contemporaneous analysis. For instance, in the first model, support from parents and friends during adolescence will be used as instruments in testing the reciprocal effects in adulthood. This means
that in the first model, I only allow social capital variables during adolescence to have direct effect on social capital variables in adulthood, and do not allow them to have direct effect on adult delinquency. Similarly, I only allow prior delinquency to have direct effect on adult delinquency, and do not allow it to have direct effect on social capital variables in adulthood. The direct effect of latent variables on each other across time is referred to as the stability effect and this type of model is referred to as the stability model by Kohn and Schooler (1982).

As indicated in Figure 5, I do not simultaneously test the path from prior delinquency to adult delinquency (solid arrow) and the path from prior delinquency to adult relationships (dotted arrow). This is because it is reasonable to suppose that prior delinquency during adolescence will not have a significantly direct effect on social capital variables in adulthood 13 years later, and that social capital variables during adolescence will not have a significantly direct effect on delinquency in adulthood. Using instrument variables will solve the problem of lack of information in contemporaneous-effect models, and ensure the validity of the results (Kohn and Schooler, 1982).

Nevertheless, the omitted paths designated by the dotted arrows may be significant as well. Therefore, in the case that the stability effects are not significant, I will use the cross-lagged model indicated by the dotted arrow to test the reciprocal effects between adult criminal involvement and critical social domains.

In sum, in the first part of the analysis, I will follow a two-step procedure to test the reciprocal effects between adult delinquency and the critical social domains, with
priority given to the first step. In the first step, I will use the stability model to test the reciprocal effects. If the stability effects are not significant, I will proceed to the second step and use the cross-lagged model.

After I have examined the possible reciprocal relationships between adult criminal involvement and the critical social domains, I will move on to the traditional way of testing the state dependence model; i.e., I will examine the effect of prior delinquency on the critical social domains in adolescence and adulthood, which in turn influence adult criminal involvement.

In the second part of analysis, I will integrate all of the four critical social domains under a master model (Figure 15) to examine how prior delinquency affects various critical social domains, which in turn, affect adult criminal involvement. The effect of prior delinquency on adult criminal involvement is also considered in the master model. From the results of the master model, I will be able to compare the complete standardized effects of the critical social domains on adult criminal involvement, and ascertain which one better explains the paths to adult criminal involvement.

I will divide the analytic part of this study into two chapters. In Chapter V, I will conduct the analysis based on the whole sample. Next, in Chapter VI, I will split the sample into male and female subsamples and repeat the analytic procedure from Chapter V in order to examine gender difference. Due to the limitations of sample size and missing value problems, it is not appropriate to split the sample by race to test for race differences in separate samples. Pilot analysis of the measurement model
of subsamples of blacks and non-blacks did not provide reliable measurement of the latent social variables. Therefore, race was included mainly as a control variable in all of the models.
5.1 Results from the Social Capital Model.

In the first step of the analysis, I use the stability model to test the reciprocal effect between adult criminal involvement and support from parents and friends. Figure 6 presents the results of the stability model.

The results indicate that there are significant stability effects in support from parents and friends from adolescence to early adulthood. Parents’ support in 1982 significantly predict parents’ support in 1995 ($\beta=0.268$, $p<0.001$). Friends’ support in 1982 also significantly lead to friends’ support in 1995 ($\beta=0.434$, $p<0.001$). Meanwhile, prior delinquency significantly predicts adult criminal involvement ($\beta=0.341$, $p<0.001$). These results show that there are strong stability effects among the domains of social support and criminal involvement.

Results from the structural equation model indicate that parents’ support in early adulthood does not significantly affect adult criminal involvement, nor does adult criminal involvement has significant effect on parents’ support in early adulthood. Nevertheless, the results show that there are significant reciprocal relationships between friends’ support in early adulthood and adult criminal involvement. Friends’ support in 1995 significantly reduces adult criminal involvement ($\beta=-0.301$, $p<0.05$), while at the same time, adult criminal involvement significantly increase support from friends ($\beta=0.305$, $p<0.01$). This result supports the hypothesis that while critical social domains affect adult criminal involvement, adult criminal involvement also has
contemporaneous effect on the critical social domains. The positive effect of adult crime on friends’ support in adulthood suggests that adult criminal involvement can increase friends’ support, which makes sense considering that serious adult offenders are more likely to have criminal friends as their support group. In addition, support from these friends, whether delinquent or not, can significantly reduce adult criminal involvement, much as Hirschi’s (1969) social control theory argues.

Age, gender and race are included as demographic controls in this model. The results indicate that females have less parental support ($\beta = -0.286, p<0.001$) in adulthood compared with males, but have more support ($\beta = 0.201, p<0.01$) from friends than males. Since delinquency is aberrant from the perspective of the conventional female gender role, females who were juvenile delinquents have less parental support in adulthood than males who were also involved in juvenile delinquency. With limited parental support in adulthood, females tend to receive more support from friends instead. Compared with non-blacks, blacks have less friends’ support in adulthood ($\beta = -0.255, p<0.01$), but have more criminal involvement ($\beta = 0.286, p<0.001$). Age does not significantly affect support from parents and friends in adulthood, or adult criminal involvement.

In sum, analysis of the reciprocal model suggests that there are significant stability effects between support from parents and friends in adolescence and adulthood, and between prior delinquency and adult criminal involvement. Consistent with findings from prior research on adolescent relationships and peer networks (Youniss and Smollar, 1985; War, 2002), support from friends still affects criminal
involvement in adulthood while support from parents does not significantly influence adult criminal involvement for this sample of respondents. For this sample of serious offenders, adult criminal involvement tends to increase support from friends, although at the same time, support from friends can also reduce criminal involvement. Separate analysis shows that the majority of the respondents report having friends involved in various types of delinquency and crime in adulthood, and this partly explains why adult criminal involvement tends to increase friends’ support in adulthood. Meanwhile, support from friends, even if they are delinquent, might reduce criminal involvement. Arguably, certain types of support from delinquent friends, such as emergency financial support and emotional support, may also sometimes reduce the individual’s criminal involvement.

The next step in the analysis is to examine the pathways from prior delinquency to adult criminal involvement and identify the effects of latent social capital variables on adult criminal involvement. Figure 7 presents the results of the path analysis. The results show that there are significantly positive relationship between support from parents and friends over time. Prior delinquency has significant direct effect on adult criminal involvement (β= 0.301, p<0.001). However, the results do not show significant effect of prior delinquency on the latent social capital variables. Parents’ support and friends’ support do not affect adult criminal involvement either. Results based on the complete sample suggest that latent social capital variables are not affected by prior delinquency and do not significantly affect adult criminal

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3 A scale of criminal friends is created using the same indicators indexing the latent variable of having criminal friends. Results show that 86% of the respondents reports having criminal friends.
involvement. One of the reasons for this could be that adult criminal involvement has contemporaneous effects on the latent social capital variables. As shown in the analysis of reciprocal relationships (Figure 6), adult criminal involvement significantly affects friends’ support in adulthood.

Age, gender and race are used as demographic controls in the model and significant paths are shown in Figure 7. The results indicate that females have lower level of parental support in adolescence ($\beta = -0.137, p<0.05$) and adulthood ($\beta = -0.237, p<0.001$) than males. In addition, since most female juveniles in this sample of serious offenders are more delinquent than their contemporaries, they were more likely to break from traditional gender roles and more likely to weaken their ties with parents. Meanwhile, compared with males, females instead report higher level of friends’ support in adolescence ($\beta = 0.249, p<0.001$) and adulthood ($\beta = 0.201, p<0.05$). Blacks have higher level of parents’ support in adolescence ($\beta = 0.165, p<0.01$) but lower level of friends’ support in adulthood ($\beta = -0.159, p<0.05$).

Overall, results from the reciprocal model show significant reciprocal effects between adult criminality and the domains of social capital. Specifically, the results suggest that support from friends in adulthood and adult criminality have significant reciprocal relationships. In the traditional model of state dependence, in which one-way paths from the latent social capital variables to adult criminality are examined, supports from parents and friends in adulthood do not influence adult criminality. This is partly related to the contemporaneous effect of adult criminality on the latent social capital variables in adulthood.
5.2 Results from the Symbolic Interactionism Model.

Following the same procedure I first use the stability model to test the reciprocal effect between adult criminal involvement and the latent variable of reflected self-identity. Figure 8 presents the results of the stability model.

The results indicate that there is a significant stability effect among reflected self-identity from adolescence to early adulthood. Reflected self-identity in 1982 significantly predicts reflected self-identity in 1995 ($\beta=0.397$, $p<0.001$). In this model, prior delinquency also significantly predicts adult criminal involvement ($\beta=0.298$, $p<0.001$). These results suggest that there are consistent stability effects among both reflected self-identity and criminal behavior over time.

Results from the structural equation model, however, do not indicate that there is a significant reciprocal relationship between adult criminal involvement and reflected self-identity. Although the path from adult criminal involvement to reflected self-identity is much stronger than vice versa ($\beta=-0.175$), this coefficient is not statistically significant (at $\alpha=0.05$ level).

Since I did not find a significant reciprocal relationship between adult criminal involvement and reflected self-identity, and because one of my primary research objectives is the effects of critical social domains on adult criminal involvement, it is appropriate now to examine the effect of prior delinquency on reflected self-identity over time, which in turn may affect adult criminal involvement. Figure 9 presents results of this analysis.
The results from the path analysis indicate that prior delinquency significantly affects reflected self-identity and leads to problem self-identity in adolescence ($\beta= -0.209$, $p<0.001$), which in turn, significantly affects reflected self-identity in adulthood ($\beta=0.370$, $p<0.001$). Prior delinquency also has significant time-lagged effect on reflected self-identity in adulthood ($\beta= -0.144$, $p<0.05$). Meanwhile, lower levels of problem identity in adulthood significantly predicts lower levels of adult criminal involvement ($\beta= -0.175$, $p<0.01$). This result is consistent with prior research findings (Matsueda, 1992) that prior delinquency will lower positive reflected self-identity, while positive reflected self-identity helps to reduce criminal involvement. For this sample of respondents, the experiences of incarceration arguably lead to problem self-identity in adolescence and adulthood. Lower levels of problem identity in adulthood, however, predicts lower levels of adult crime. In this model, although prior delinquency has significant direct effect ($\beta=0.266$, $p<0.001$) on adult criminal involvement, its indirect effect through reflected self-identity in adolescence and adulthood on adult criminal involvement is also significant. Calculation of the path coefficients suggests that the indirect effect of prior delinquency on adult criminal involvement through reflected self-identity equals 0.16. These results provide support for the hypothesis that prior delinquency significantly affects latent symbolic interactionism variables, which in turn, affect adult criminal involvement.

Age, gender and race are also used as demographic controls in this model. The results indicate that females have less criminal involvement ($\beta= -0.146$, $p<0.01$) in
adulthood than males, and that blacks have higher levels of adult criminal involvement ($\beta=0.313$, $p<0.001$) than non-blacks. Compared with non-blacks, blacks have lower levels of problem self-identity ($\beta=0.225$, $p<0.001$) in adolescence, but higher problem self-identity in early adulthood ($\beta=-0.169$, $p<0.05$). Age does not significantly affect reflected self-identity or adult criminal involvement.

In sum, results from the symbolic interactionism model indicate significant stability effects of reflected self-identity from adolescence to adulthood. Prior delinquency also has a consistent stability effect on adult criminal involvement. Nevertheless, the results do not show any significant reciprocal relationship between reflected self-identity in adulthood and adult criminal involvement. Further tests of the effect of reflected self-identity on adult criminal involvement suggest that although prior delinquency significantly leads to adult criminality, it also has significant indirect effect on criminal involvement through reflected self-identity. Besides the direct effect of prior delinquency on adult criminal involvement, lower levels of problem self-identity significantly predicts lower levels of adult criminal involvement. Blacks have lower levels of problem self-identity in adolescence but higher problem self-identity in adulthood, which partially explains their higher levels of adult criminal involvement compared with non-blacks. These findings support my hypothesis that although prior delinquency leads to adult crime, the social domain of symbolic interactionism still affects adult criminal involvement, even for this sample of serious offenders.

5.3 Results from the Differential Association Model.
In order to test the reciprocal relationships between adult criminal involvement and latent variables of differential association, I begin with the model of stability effect. Although the two pairs of latent variables do not have identical measures, they represent important theoretical concepts of differential association theory in adolescence and adulthood. Therefore, I still treat their relationship over time as the stability effects of differential association variables. Figure 10 presents results from the stability model. Although the results indicate significant stability effects from prior delinquency to adult criminal involvement, the model does not identify significant stability effect of the latent variables over time. Since the stability effects are not significant in this model, it is not appropriate to interpret the results of other paths. Therefore, I move to the second step and try to examine the reciprocal relationships using the cross-lagged model. Figure 11 presents the results from the cross-lagged model.

The cross-lagged model shows that prior delinquency has significant time-lagged effect on having criminal friends in early adulthood ($\beta = 0.249$, $p<0.001$). Prior delinquency does not have significant effect on having delinquent partners in this model. Friends’ acceptance of deviance in adolescence has significant time-lagged effect on adult criminal involvement ($\beta = 0.167$, $p<0.001$), which indicates that higher level of friends’ acceptance of deviance leads to higher level of adult criminal involvement. Meanwhile, parents’ disapproval of deviance in 1982 significantly reduces criminal involvement in early adulthood ($\beta = -0.238$, $p<0.001$), which indicates that parental disapproval of deviance in adolescence has prolonged effects
on reducing criminal involvement in early adulthood. This finding suggests that what affects adult criminal involvement are not only factors in adulthood, but can be important factors from the adolescence period as well.

Next, I identify the reciprocal relationships between adult criminal involvement and criminal friends and partners. Having criminal friends in 1995 significantly leads to adult criminal involvement ($\beta = 0.544$, $p<0.001$). The path from adult criminal behavior to having criminal friends, however, is not statistically significant. Meanwhile, the results indicate that adult criminal involvement significantly leads to having delinquent partners ($\beta = 0.310$, $p<0.01$), while the path from delinquent partners to adult criminal involvement is not significant.

Age, gender and race are also used as demographic controls in this model. The results indicate that females have less criminal friends in adulthood ($\beta = -0.147$, $p<0.001$) than males, and that blacks’ partners have higher level of criminal involvement ($\beta = 0.327$, $p<0.05$) than non-blacks’ partners. Age does not significantly affect the latent differential association variables or adult criminal involvement.

In sum, results from the differential association model do not show significant stability effects from adolescence to early adulthood. The cross-lagged effect model suggest that friends acceptance of deviance in adolescence significantly leads to high levels of criminal involvement in adulthood, while parents’ disapproval of deviance in adolescence has a prolonged effect on reducing adult criminal involvement. Having criminal friends in adulthood significantly leads to high levels of criminal involvement, while adult criminal involvement results in having partners with high
levels of criminal involvement. These results, however, do not support Warr’s (1998) finding that marriage reduces the individual’s criminal involvement by reducing the time spent with delinquent peers. Results from this sample of serious offenders suggest that even though married or having a partner, these respondents do not reduce contact with delinquent peers, and that delinquent peers still affect individual’s criminal involvement. This may be because that the spouse or partner is also criminal rather than conventional.

After examining the reciprocal relationship, I focus on the pathways from prior delinquency to adult criminal involvement and identify the effects of latent variables on adult criminal involvement. Figure 12 presents the results of the path analysis. The results from the path analysis indicate that prior delinquency has significant direct effect ($\beta = 0.187, p<0.001$) on adult criminal involvement in this model. Meanwhile, prior delinquency also has significant indirect effect through latent variables of differential association. Prior delinquency significantly leads to high levels of friends’ acceptance of deviance in adolescence ($\beta = 0.350, p<0.001$) and association with criminal friends in adulthood ($\beta = 0.193, p<0.01$), but lower levels of perceived parents’ disapproval of deviance in adolescence ($\beta = -0.154, p<0.01$). Parents’ disapproval of deviance ($\beta = -0.181, p<0.001$) significantly reduces adult criminal involvement, while having criminal friends ($\beta = 0.351, p<0.001$) and delinquent partners ($\beta = 0.136, p<0.001$) significantly increase the level of adult criminal involvement. Therefore, while prior delinquency has a significant direct effect on adult criminal involvement, there are also significant indirect effects of prior
delinquency through reducing perceived parental disapproval of deviance and increasing association with delinquent peers in adulthood. These findings suggest that prior delinquency leads to weakened prosocial attitudes and values, i.e., perceived parental disapproval of deviance, and increases the risk of further offending, i.e., having delinquent peers. The results also indicate that older respondents have lower levels of perceived parents’ disapproval of deviance ($\beta=0.308$, $p<0.01$) and lower levels of friends’ acceptance of deviance ($\beta=0.139$, $p<0.05$). These findings indicate that younger respondents may be more likely to be influenced by attitudes and values of significant other than older respondents, which suggests that prosocial socialization at a younger age is very important in reducing risk factors of criminal behavior. In addition, females report lower levels of association with criminal friends in adulthood ($\beta=-0.162$, $p<0.05$) than do males. Blacks reports higher levels of partner’s criminality than do non-blacks ($\beta=0.138$, $p<0.05$).

All of these results provide support for the hypothesis that the social domain of differential association significantly affects the adult criminal involvement of this sample of serious offenders. Furthermore, critical domains identified in adolescence have significant time-lagged effect on adult criminal involvement, which indicates that critical social domains in adolescence and adulthood are equally important to consider in explaining adulthood criminal involvement. Consistent with finding from prior research on differential association, females tend to have less criminal friends in adulthood and thus have less adult criminal involvement. Blacks report higher levels
of delinquency of their partner, although in the reciprocal model, it suggests that having delinquent partner is a result rather than cause of adult criminal involvement.

5.4 Results from the Life Course Model.

In the life course transition model, I examine how life opportunities influence adult criminal involvement, and whether adult criminal involvement affects those important life opportunities.

I begin with the stability model to examine the relationship between attachment to school in adolescence and adulthood life opportunities, i.e., employment status, occupational status, and marriage. Although the variables of life opportunities do not have identical measures, they capture important concepts of the life course theories from adolescence to adulthood. Therefore, I treat their relationships over time as the stability effects and use attachment to school in adolescence as an instrument in testing the reciprocal relationships. Figure 13 presents the results of this model. The results indicate that attachment to school during adolescence is significantly related to employment status in adulthood ($\beta=0.194$, $p<0.001$). Attachment to school does not influence marriage and occupational categories in this model. Meanwhile, I did not find significant reciprocal relationships between adult criminal involvement and the latent variables of life opportunities. Since the model does not indicate any significant reciprocal effects, in the next step, I only examine how prior delinquency influences life opportunities in adolescence and adulthood, which in turn, may affect adult criminal involvement.
Figure 14 presents the results from the path analysis. Consistent with results from other models, prior delinquency has significant direct effect ($\beta = 0.293$, $p<0.001$) on adult criminal involvement. Meanwhile, prior delinquency significantly reduces ($\beta = -0.192$, $p<0.001$) attachment to school in adolescence which is positively related to employment status in early adulthood ($\beta = 0.193$, $p<0.001$). However, the results do not indicate significant effect of prior delinquency on employment status, marriage and occupational status.

Among the latent variables of life opportunities in adulthood, only marriage appears to reduce adult criminal involvement ($\beta = -0.175$, $p<0.001$). Employment status and occupational status, however, do not seem to significantly influence adult criminal involvement.

Age, gender and race are also used as demographic controls in this model. The results indicate that more females than males have been married ($\beta = 0.180$, $p<0.001$), but fewer females are employed in early adulthood ($\beta = -0.192$, $p<0.001$). Blacks have higher levels of attachment to school ($\beta = 0.172$, $p<0.001$) than non-blacks in adolescence, however, fewer blacks than non-blacks have been married ($\beta = -0.345$, $p<0.001$) and fewer blacks are employed ($\beta = -0.280$, $p<0.001$) in early adulthood. Age does not significantly affect latent variables of life opportunities in this model.

In sum, analysis based on the complete sample does not indicate significant reciprocal relationships between adult criminal involvement and the latent variables of life opportunities. The results show significant stability effects between prior delinquency and adult criminal involvement, and between attachment to school and
employment status in early adulthood. Marriage appears to significantly reduce adult
criminal involvement for this sample of serious offenders, which is consistent with
Sampson and Laub’s (1993) proposition that conventional social ties such as marriage
and employment provide opportunities for desistance from criminal behavior in
adulthood. Although employment status does not seem to significantly affect adult
criminal involvement based on the complete sample, the results indicate that fewer
females and blacks are employed in adulthood. In addition, fewer blacks have been
married than non-blacks. Thus the results suggest that blacks have fewer opportunities
for desistance from criminal behavior than non-blacks in adulthood.

5.5 Results from the Master Model of State Dependence.

In the first four sections of this chapter, I have analyzed results from each of the
state dependent models separately. The purpose of analyzing the reciprocal
relationships between adult criminal involvement and the latent variables of the
various critical social domains is to detect possible contemporaneous effects of adult
crime on various social domains. After identifying those effects, I will continue to
address the main research question of this study, i.e., which critical social domains
better explain adult criminal involvement among respondents in this sample of serious
offenders?

Most of the prior research testing the state dependence model only includes one
of the possible theoretical models in the analysis, and few of them have tested various
domains of state dependence under the same model. In this section, I will incorporate
all four of the theoretical models in a master model of state dependence and will
compare the strength of each theory in explaining pathways from prior delinquency to adult criminal involvement. In the master model I include all of the four models shown in Figure 15. I remove the paths from adult criminal involvement to the critical social domains in adulthood and test only paths leading to adult criminal involvement. Table 6 presents the total effects of each latent variable on adult criminal involvement.

First of all, I examine the total effect of prior delinquency on the latent variables of critical social domains. The results show that prior delinquency significantly reduces parents’ support in adolescence (β = -0.129, p<0.05), however, prior delinquency does not affect friends’ support in adolescence or friends’ and parents’ support in adulthood. The results also show that prior delinquency significantly leads to higher levels of problem self-identity in both adolescence (β = -0.207 p<0.001) and adulthood (β = -0.222, p<0.001). In addition, prior delinquency significantly leads to higher levels of friends’ acceptance of deviance in adolescence (β = 0.344, p<0.001) and more criminal friends in adulthood (β = 0.153, p<0.05). Prior delinquency also results in lower levels of perceived parents’ disapproval of deviance (β = -0.157, p<0.01), which suggests that prior delinquency has negative impact on conventional values which normally serve to buffer one’s criminal involvement. Prior delinquency does not affect having delinquent partners in adulthood. As for the latent variables of life opportunities, prior delinquency only significantly reduces attachment to school in adolescence, but does not has significant effects on employment status, marriage, and occupational status in adulthood. Noticeably, together with all of the latent variables
of the critical social domains, prior delinquency has a significant total effect on adult
criminal involvement ($\beta= 0.303, p<0.001$); the direct effect from prior delinquent to
adult criminal involvement is also significant ($\beta= 0.156, p<0.001$). Thus the direct and
indirect effects of prior delinquency on adult criminal involvement are about of the
same magnitude and significance.

Next, I examine how various latent variables will influence adult criminal
involvement in the master model. Together with other latent variables of critical
social domains, none of the four latent variables of social capital affects adult criminal
involvement in the master model. The latent variables of symbolic interactionism also
do not affect adult criminal involvement in the master model. Nevertheless, three of
the differential association variables significantly affect adult criminal involvement.
Parents’ disapproval of deviance in adolescence significantly reduce adult criminal
involvement ($\beta= -0.187, p<0.001$), while having criminal friends in adulthood
significantly increases adult criminal involvement ($\beta= 0.339, p<0.001$). In addition,
having delinquent partners also significantly increases level of adult criminal
involvement ($\beta= -0.152, p<0.001$). Among the latent variables of life opportunities,
marrige significantly reduces adult criminal involvement ($\beta= -0.142, p<0.001$), while
attachment to school in adolescence, employment status and occupational status do
not affect adult criminal involvement in the master model.

In sum, the results from master model suggest that prior delinquency has
significant attenuating effects on various critical social domains. Prior delinquency
significantly reduces support from parents in adolescence, leads to problem
self-identity in adolescence and adulthood, results in higher level of friends’ acceptance of deviance, lower levels of perceived parental disapproval of deviance, more criminal friends in adulthood and lower level of school attachment in adolescence. Meanwhile, together with other critical social domains in the master model, the latent variables of differential association significantly influence adult criminal involvement. In addition, the results also show that marriage is an important point of life course transition that significantly reduces adult criminal involvement. These results are consistent with the propositions of the state dependence theorem that prior delinquency significantly affects various critical social domains, which in turn, affect future criminal involvement. Based on this sample of serious offenders, I find support for the state dependence theorem that critical social domains impacted by prior delinquency partially explains the paths from prior delinquency to future delinquency.

Meanwhile, besides the significant effects of various social variables, I still find significant direct effect of prior delinquency on adult criminal involvement, and this direct effect is about of the same magnitude and significance as the indirect effect of prior delinquency on adult criminal involvement through its effects on various social domains. Thus, these results provide support for my hypothesis that besides the direct effect of prior delinquency, critical social domains significantly affect adult criminal involvement. For this sample of serious offenders, prior delinquency, as a proxy for latent criminal traits, exerts influence on adult criminal involvement both directly and indirectly. The results suggest that although population heterogeneity explains the
path from prior delinquency to adult criminal behavior, critical social domains are equally important in understanding various indirect pathways. In short, the results show that the critical social domains examined herein significantly influence the behavior of serious offenders, who are assumed to have higher levels of criminal propensity than those youths in the general youth population who are typically the focus of criminological research.
CHAPTER VI

RESULTS FROM ANALYSIS OF SUBSAMPLES

6.1 Gender Differences In the Social Capital Model

In order to better detect possible gender differences in the analysis, I split the complete sample into male and female subsamples, and ran the measurement models again based on these subsamples. Table 7 and Table 8 present the measurement results of the latent variables of social capital. Fit statistics of the measurement models suggest that both measurement models provide reliable measurement of the latent variables of social capital based on the female and male sample respectively. Due to the limitation of sample size, this analysis does not have enough power for a statistical test of the gender differences between coefficients for each path. Nevertheless, the significance and magnitude of path coefficients from each sample can still provide a general sense of the gender differences in pathways to adult criminal involvement.

In the first step of the analysis, I examine the reciprocal relationships between adult criminal involvement and the latent variables of social capital. Figure 16 presents the results of the stability model (coefficients for males are in parentheses; those without parentheses are for females). Standardized path coefficients are given in the path diagrams, while unstandardized path coefficients (not shown in the path diagrams) from each subsample are used wherever comparisons are made.

The results indicate that there are significant stability effects of support from parents and friends from adolescence to early adulthood for both males and females.
Results from the female sample suggest that parents’ support in 1982 significantly predicts parents’ support in 1995 ($\beta=0.234$, $p<0.05$). For the male sample, the effect of parents’ support in 1982 on parents’ support in 1995 is also significant ($\beta=0.267$, $p<0.05$). For the female sample, friends’ support in 1982 significantly leads to friends’ support in 1995 ($\beta=0.537$, $p<0.001$). For the male sample, however, the stability effect among friends’ support over time is much weaker ($\beta=0.289$, $p<0.05$) than that of the female sample. These results indicate that for females, support from friends has much stronger stability effects over time. For the female sample, prior delinquency significantly predicts adult criminal involvement ($\beta=0.301$, $p<0.001$). For the male sample, however, the stability effect among delinquency over time is stronger ($\beta=0.389$, $p<0.001$). This result indicates that prior delinquency has stronger direct effect on adult criminal involvement for males.

Results from the structural equation model indicate that for the male sample support from parents and friends in adulthood do not significantly affect adult criminal involvement, nor does adult criminal involvement have a significant effect on support from parents and friends in early adulthood. Nevertheless, the results from the female sample show that there are significant reciprocal relationships between social support in early adulthood and adult criminal involvement. For females, adult criminal involvement has strong effect in reducing parents’ support in 1995 ($\beta=-0.475$, $p<0.001$). At the same time, parents’ support in 1995 significantly increase adult criminal involvement ($\beta=0.407$, $p<0.05$). This suggests that the respondents have deviant parents who provide support for antisocial behavior. In addition, for the
female sample, friends’ support in 1995 significantly reduce adult criminal involvement ($\beta = -0.438, p<0.01$), while adult criminal involvement increases support from friends ($\beta = 0.300, p<0.05$). These results indicate that for females, support from friends in adulthood, rather than support from parents in adulthood, significantly affects their adult criminality. These results also partially support the hypothesis that while critical social domains affect adult criminal involvement, adult criminal involvement also has contemporaneous effects on critical social domains, though only results from the female sample suggest these reciprocal relationships.

Age and race are included as demographic controls in this model and only the significant paths are presented in Figure 16. The results indicate that black females have less friends’ support ($\beta = -0.254, p<0.01$) in adulthood compared with other females. Although more black females than other females are involved in adult criminal behavior ($\beta = 0.296, p<0.001$), the results suggest that the race effect is strong for males ($\beta = 0.331, p<0.001$). For both subsamples, age does not significantly affect support from parents and friends in adulthood, or adult criminal involvement.

In sum, results from the reciprocal model suggest that for both males and females there are significant stability effects for support from parents and friends in adolescence and adulthood, and for prior delinquency and adult criminal involvement. The stability effects among parents’ support are stronger for males than females, while the stability effects for friends’ support are stronger for females than males. For females, there are significant reciprocal relationships between support from parents and friends and adult criminal involvement. The results show that female’s adult
criminal involvement has a significant impact in decreasing support from parents. For females, support from friends has a stronger effect in reducing adulthood criminal involvement than vice versa. These findings support the hypothesis that adult criminal involvement has significant contemporaneous effects on the domains of social capital. The results from the male sample, however, do not suggest significant reciprocal relationship between social support and adult criminal involvement.

After I examined the reciprocal relationships, I continue to identify the effects of the latent social capital variables on adult criminal involvement based on the subsamples for females and males. Figure 17 presents the results from both samples. The results of the path analysis show that for both females ($\beta = 0.233$, $p<0.001$) and males ($\beta = 0.389$, $p<0.001$), prior delinquency has significant direct effect on adult criminal involvement, though the magnitude of the effect is higher for males. For females, prior delinquency also significantly reduces parents’ support in adolescence ($\beta = -0.251$, $p<0.001$). For both samples, parents support and friends’ support in adolescence significantly predicts their counterparts in adulthood. Parents’ and friends’ support in adulthood, however, do not affect adult criminal involvement in either sample. The results also indicate that blacks have higher level of adult criminal involvement than non-blacks. Black males report higher levels of adult criminal involvement ($\beta = 0.389$, $p<0.001$) than non-black males and black females also report higher levels of adult crime than non-black females ($\beta = 0.274$, $p<0.001$). In addition, black males report higher levels of parents’ support ($\beta = 0.328$, $p<0.001$) in adolescence than non-black males, while black females have lower levels of parents’
support in adulthood ($\beta = -0.198, p<0.05$). This result supports findings from the reciprocal model that females’ criminal involvement tends to reduce parents’ support in adulthood. Overall the results suggest that prior delinquency and adult criminal involvement negatively affect females’ social capital more than males.

6.2 Gender Differences In the Symbolic Interactionism Model

As I did in the social capital model, I split the complete sample into male and female subsamples, and ran the measurement models again based on subsample of females and males to measure the latent variables. Table 9 and Table 10 present the measurement results of the latent variables of symbolic interactionism. Fit statistics of the measurement models suggest that both measurement models provide reliable measurement of the latent variables of symbolic interactionism based on the female and male samples.

Following the same procedure I use the stability model to test the reciprocal effect between adult criminal involvement and the latent variable of reflected self-identity. Figure 17 presents the results of the stability model.

The results indicate that for both males ($\beta=0.453, p<0.001$) and females ($\beta=0.369, p<0.001$) there are significant stability effects among reflected self-identity from adolescence to early adulthood. For females, prior delinquency significantly predicts adult criminal involvement ($\beta=0.247, p<0.001$), and for males, the effect of prior delinquency on adult criminal involvement is also significant ($\beta=0.314, p<0.001$). These results suggest that for males and females there are consistent stability effects among both reflected self-identity and criminal behavior over time.
Results from the two subsamples, however, do not indicate that there are significant reciprocal relationships between adult criminal involvement and reflected self-identity. Since I did not find significant reciprocal relationships between adult criminal involvement and reflected self-identity based on both subsamples, in the next step, I examine the effect of prior delinquency on reflected self-identity over time, which in turn may affect adult criminal involvement. Figure 18 presents results based on both subsamples.

Results from the female sample indicate that prior delinquency significantly leads to problem self-identity in adolescence ($\beta = -0.248, p<0.001$), which in turn, significantly affects reflected self-identity in adulthood ($\beta = 0.367, p<0.001$). For females, however, reflected self-identity does not significantly affect adult criminal involvement. Results from the male sample indicate that prior delinquency leads to problem self-identity in adulthood ($\beta = -0.256, p<0.01$). For males ($\beta = 0.438, p<0.001$) and females ($\beta = 0.365, p<0.001$), there are significant stability effects between reflected self-identity over time. For males, lower levels of problem identity in adulthood significantly predicts lower levels of adult criminal involvement ($\beta = -0.346, p<0.001$). For both females and males, prior delinquency has a significant direct effect on adult criminal involvement.

Age and race are used as demographic controls in this model. The results indicate that older females have lower levels of problem self-identity ($\beta = 0.232, p<0.01$) in adolescence than younger females. Compared with non-black males, black males report lower levels of problem self-identity in adolescence ($\beta = 0.353, p<0.001$). Black
females, on the other hand, report higher levels of problem self-identity in adulthood ($\beta = -0.272, p<0.001$) than non-black females.

In sum, results based on the female and male subsamples indicate significant stability effects for reflected self-identity from adolescence to adulthood. Prior delinquency also has consistent stability effects on adult criminal involvement. Nevertheless, for both the male and female samples, there are no significant reciprocal relationships between reflected self-identity in adulthood and adult criminal involvement. Further tests of the effects of reflected self-identity on adult criminal involvement reveal significant gender difference in pathways to adult criminal involvement. Prior delinquency leads to females’ problem self-identity in adolescence and males’ problem self-identity in adulthood. For males, reflected self-identity in adolescence has strong effects on reflected-identity in adulthood, which in turn, significantly affects criminal involvement. For females, however, reflected self-identity in adulthood does not significantly affect adult criminal involvement. In addition, results indicate that older females have lower levels of problem self-identity in adolescence than do younger females. Black males have lower levels of problem self-identities than non-black males in adolescence, while black females report higher levels of problem self-identity in adulthood than non-black females. The overall results indicate that lower levels of problem self-identity significantly predicts lower levels of males’ adult criminal involvement but does not affect females’ adult criminal involvement. Consistent with findings from the previous models, prior delinquency has stronger effect on males’ adult criminal involvement than females’ criminality.
These findings also support my hypothesis that although prior delinquency leads to adult crime, latent symbolic interactionism variables still significantly affect adult criminal involvement, even for this sample of serous offenders. In this case, it significantly affects adult criminal involvement of the male sample.

6.3 Gender Differences In the Differential Association Model

I ran the measurement models again based on the subsamples of females and males to measure the latent variables of differential association. Table 11 and Table 12 present the measurement results of the latent variables. Fit statistics of the measurement models suggest that both measurement models provide reliable measurement of the latent variables of differential association for the female and male samples.

I begin with the model of stability effect based on the male and female samples, respectively. The results indicate significant stability effects from prior delinquency to adult criminal involvement for both subsamples. The results, however, do not identify significant stability effects of the latent differential association variables over time. As I did with the analysis of the model using the complete sample, I move to the second step and examine the reciprocal relationships using the cross-lagged model. Figure 19 presents the results from the cross-lagged model based on both subsamples.

The cross-lagged model shows that for females’ prior delinquency has a significant time-lagged effect on having criminal friends in early adulthood ($\beta=0.263$, $p<0.01$). Prior delinquency does not have a significant effect on having criminal friends for the male sample. For both males and females, the paths from prior
delinquency to having delinquent partners are not significant. For males, friends’ acceptance of deviance in adolescence has a significant time-lagged effect on adult criminal involvement ($\beta = 0.249, p<0.001$), which indicates that for males, higher levels of friends’ acceptance of deviance leads to higher levels of adult criminal involvement. Meanwhile, results from the male sample show that parents’ disapproval of deviance in 1982 significantly reduces criminal involvement in early adulthood ($\beta = -0.352, p<0.001$), which indicates that parental disapproval of deviance in adolescence has prolonged effect on reducing males’ criminal involvement in early adulthood. Results from the female sample do not indicate friends’ acceptance of deviance and parents’ disapproval of deviance in adolescence have time-lagged effect on adult criminal involvement.

The results from the female sample indicate that there are significant reciprocal relationships between adult criminal involvement and criminal friends and partners. For females, having criminal friends in 1995 significantly leads to adult criminal involvement ($\beta = 0.560, p<0.001$). The path from adult criminal behavior to having criminal friends, however, is not statistically significant. In addition, the results indicate that for females, adult criminal involvement significantly leads to having delinquent partners ($\beta = 0.594, p<0.001$), even when considering the contemporaneous effect of having delinquent partners on adult criminal involvement. The results from the male sample, however, only indicate having criminal friends in adulthood ($\beta = 0.594, p<0.001$) significantly increase the levels of males’ criminal involvement in
adulthood. The effect of having criminal friends on adult criminal involvement is slightly stronger for males than for females.

Age and race are used as demographic controls in this model. The results indicate that in both subsamples, blacks have higher levels of adult criminal involvement than do non-blacks. Age does not significantly affect the latent differential association variables or adult criminal involvement.

After examining the reciprocal relationship, I continue the path analysis to identify gender differences in the pathways from prior delinquency to adult criminal involvement. Figure 20 presents the results from the path analysis. For males, prior delinquency has significant direct effect ($\beta = 0.266$, $p<0.001$) on adult criminal involvement, while for females, this effect is not significant. For females, prior delinquency significantly leads to friends’ acceptance of deviance in adolescence ($\beta = 0.435$, $p<0.001$) and having criminal friends ($\beta = 0.186$, $p<0.05$) in adulthood. Having criminal friends in adulthood significantly leads to high level of adult criminal involvement for both females ($\beta = 0.228$, $p<0.001$) and males ($\beta = 0.495$, $p<0.001$). The results also show that females’ prior delinquency significantly lower perceived parents’ disapproval of deviance ($\beta = -0.232$, $p<0.001$). However, perceived parents’ disapproval of deviance ($\beta = -0.311$, $p<0.001$) only significantly reduce males’ adult criminal involvement and does not affect females. In addition, having delinquent partners in adulthood only significantly increase females’ adult criminal involvement ($\beta = 0.189$, $p<0.001$).
Age and race are included as demographic controls in the model and significant effects are highlighted in Figure 20. The results show that younger males have higher level of friends’ acceptance of deviance than do older males. For both males and females perceived parental disapproval of deviance tends to diminish as they grew up. Older males have partners that are more delinquent than do younger males’. Black females have partners more delinquent than non-black females, which partially explains why black females are more involved in adult criminal involvement than are non-black females.

In sum, for both subsamples, results from the differential association model do not show significant stability effects between the latent variables of differential association from adolescence to early adulthood. The results from the cross-lagged effect model suggest that the latent variables of differential association significantly affect males’ adult criminal involvement. For males, friends’ acceptance of deviance in adolescence significantly leads to high level of criminal involvement in adulthood, while parents’ disapproval of deviance in adolescence has a prolonged effect on reducing adult criminal involvement. For females, prior delinquency leads to having criminal friends in adulthood, while adult criminal involvement significantly leads to having delinquent partners. For both males and females, having criminal friends in adulthood significantly leads to adult criminal involvement.

These results are consistent with findings from the complete sample and support the hypothesis that the latent variables of differential association affect adult criminal involvement for this sample of serious offenders. In addition, the result that the latent
variables of differential association in adolescence have significant time-lagged effect on adult criminal involvement indicates that those critical social domains in adolescence and adulthood are equally important in explaining adulthood criminal involvement. Considering results from both subsamples and the reciprocal relationships in the model, it appears that having criminal friends in adulthood is an important cause of adult criminal involvement for both females and males. For females, however, having delinquent partners is special factor that leads to high levels of adult criminal involvement.

6.4 Gender Differences In the Life Course Model

For the life course model based on subsamples of males and females, I begin with the stability model to examine the relationship between attachment to school in adolescence and adulthood life opportunities, i.e., employment status, occupational status, and marriage. Similar to the results from the complete model, for both males and females, attachment to school during adolescence is not significantly related to employment status, marriage or occupational status in adulthood, though for both subsamples, there are consistent stability effects from prior delinquency to adult criminal involvement. Results from the cross-lagged model do not find significant effects of prior delinquency on the latent variables of life opportunities either. As there are no significant stability effects or cross-lagged effects among the latent life opportunity variables, it is not statistically appropriate to interpret the results of the reciprocal relationships between adult criminal involvement and latent variables of life opportunities.
Next, I examine how prior delinquency influences life opportunities in adolescence and adulthood, which in turn, may affect adult criminal involvement.

Figure 21 presents the results from the path analysis for the male and female samples respectively. Consistent with results from the other models, for both males and females, prior delinquency has a significant direct effect on adult criminal involvement. This effect is slightly stronger for males ($\beta= 0.339, p<0.001$) than for females ($\beta= 0.246, p<0.001$). The results from the female sample indicate that prior delinquency significantly reduces ($\beta= -0.228, p<0.01$) females’ attachment to school in adolescence which is positively related to employment status in early adulthood ($\beta= 0.207, p<0.05$). These paths, however, are not significant for the male sample.

The results from the male sample indicate that prior delinquency negatively impacts marriage ($\beta= -0.180, p<0.05$), while marriage significantly reduce males’ adult criminal involvement ($\beta= -0.206, p<0.05$). These paths, however, are not significant based on the results from the female sample.

Age and race are also used as demographic controls in this model. The results show that older females have higher levels of school attachment than younger females. Both black males and black females have higher levels of adult criminal involvement than do non-blacks. For the female sample, fewer blacks have been married ($\beta= -0.325, p<0.001$) and fewer blacks are employed ($\beta= -0.320, p<0.001$). The results from the male sample, however, show that blacks have higher level of school attachment in adolescence than do non-blacks ($\beta= 0.209, p<0.05$), but fewer blacks have been married in early adulthood ($\beta= -0.389, p<0.001$).
In sum, analyses based on the subsamples of males and females do not show significant reciprocal relationships between adult criminal involvement and the latent variables of life opportunities. Meanwhile, significant gender differences in pathways to adult criminal involvement are revealed in the path analysis. The results indicate that prior delinquency significantly reduces females’ attachment to school in adolescence, which in turn, significantly impacts employment status in adulthood. The results also suggest that prior delinquency significantly affects males’ marriage outcome, which significantly reduce males’ adult criminal involvement. The results do not suggest that employment status and occupational status significantly affect adult criminal involvement in either subsample. Consistent with findings of the life course theory (Sampson and Laub, 1993), marriage significantly reduces adult criminal involvement, though the present study finds this is true only for the male respondents. The results also show that compared with non-blacks, fewer blacks have been married, and fewer black females are employed as compared to non-black females. This indicates that blacks in the sample have fewer conventional life opportunities, and with limited access to conventional life opportunities such as employment and marriage, black females are especially at high risk of criminal involvement.

6.5 Results from the master model of state dependence

In the first four sections of this chapter, I have analyzed gender differences in the stability effects between latent variables over time and reciprocal relationships between latent social variables and adult criminal involvement. After examining the
reciprocal relationships between adult criminal involvement and the latent variables of the four critical social domains, I examined possible gender differences in the pathways from prior delinquency to adult criminal involvement.

As I did in the analysis of the complete sample, in this section I incorporate all of the four theoretical models in a master model of state dependence. Based on subsamples of females and males, I will compare the strength of each theory in explaining pathways from prior delinquency to adult criminal involvement. The master model I will test includes all of the four models shown in Figure 13. I remove the paths from adult criminal involvement to the critical social domains in adulthood and test only paths leading to adult criminal involvement. Table 13a and 13b present the total effects of prior delinquency on the latent social variables as well as the total effects of each latent variable on adult criminal involvement for females and males.

The results from the master model (Table 13a) show that prior delinquency significantly reduce females’ parents’ support in adolescence ($\beta = -0.255, p<0.001$), however, prior delinquency does not affect friends’ support in adolescence, friends’ and parents’ support in adulthood for both subsamples. The results also show that prior delinquency significantly leads to females’ problem self-identity in adolescence ($\beta = -0.251, p<0.001$). In contrast, prior delinquency only significantly leads to males’ problem self-identity in adulthood ($\beta = -0.328, p<0.001$). In addition, for both females ($\beta = 0.434, p<0.001$) and males ($\beta = 0.222, p<0.001$), prior delinquency significantly leads to higher level of friends’ acceptance of deviance in adolescence and more criminal friends in adulthood ($\beta = 0.153, p<0.05$). For females, prior delinquency also
results in lower level of perceived parents’ disapproval of deviance ($\beta = -0.243$, $p<0.001$). In addition, females’ prior delinquency significantly ($\beta = 0.208$, $p<0.05$) leads to association with delinquent peers in adulthood. Prior delinquency does not affect having delinquent partners in adulthood for either males or females. As for the latent variables of life opportunities, prior delinquency only significantly reduces females’ attachment to school in adolescence ($\beta = -0.234$, $p<0.001$), but does not have significant effect on employment status, marriage, and occupational status of both females and males.

Together with all of the latent variables of the four critical social domains, prior delinquency has significant total effects on the adult criminal involvement of both females and males. For females, the standardized total effect from prior delinquent to adult criminal involvement is 0.266 ($p<0.001$) and the standardized direct effect is 0.210 ($p<0.001$). The results indicate that for females, only a very small portion of the total effect is explained by factors other than prior delinquency. For males, the standardized total effect from prior delinquent to adult criminal involvement is 0.346 ($p<0.001$) and the standardized direct effect is 0.218 ($p<0.001$). Although the direct effect of prior delinquency on adult criminal involvement is about the same for males and females, the results indicate that for males, a greater portion of the total effect is explained by factors other than prior delinquency. In short, latent social variables affect males more than females.

Next, I examine (Table 13b) how various latent variables will influence adult criminal involvement of females and males in the master model. Similar to the results
from the complete sample, together with other latent variables of critical social
domains, none of the four latent variables of social capital affects adult criminal
involvement of males and females. The latent variables of symbolic interactionism do
not affect adult criminal involvement of males and females either. Nevertheless, four
of the latent variables of differential association significantly affect adult criminal
involvement. For males, parents’ disapproval of deviance in adolescence significantly
reduces adult criminal involvement ($\beta = -0.139, p<0.01$). Having criminal friends in
adulthood significantly increases males’ adult criminal involvement ($\beta = 0.391,$
$p<0.001$). For females, having criminal friends also significantly increases level of
adult criminal involvement ($\beta = 0.232, p<0.001$). In addition, having delinquent
partners significantly increases females’ adult criminal involvement ($\beta = 0.232,$
$p<0.01$). Among the latent variables of life opportunities, only marriage significantly
reduces males’ adult criminal involvement ($\beta = -0.166, p<0.05$), while attachment to
school in adolescence, employment status and occupational status do not affect the
adult criminal involvement of either females or males.

In sum, the results from master model suggest significant differences in both the
effect of prior delinquency on the latent variables of the four social domains and in
the effect of the various latent social variables on adult criminal involvement. Prior
delinquency significantly reduces females’ support from parents and leads to females’
problem self-identity in adolescence. In contrast, prior delinquency significantly
increases males’ problem self-identity in adulthood. Although prior delinquency
increase friends’ acceptance of deviance among both females and males, the effect is
stronger for females. Prior delinquency reduces perceived parents’ disapproval of deviance of females and leads to females’ association with criminal friends. In addition, the results show that prior delinquency significantly lowers female’s attachment to school in adolescence but not that of males. Meanwhile, together with other critical social domains in the master model, having criminal friends and delinquent partners significantly influence females’ adult criminal involvement. For males, parents’ disapproval of deviance and having criminal friends in adulthood significantly affect adult criminal involvement. In addition, the results also show that marriage significantly reduces males’ adult criminal involvement. Overall the results indicate that the latent social variables affect males’ adult criminal involvement more than females insofar as the effects of the latent social variables accounts for a greater portion of the total effect of prior delinquency on adult criminal involvement among males as compared to females.

These results not only reveal significant gender differences in the pathways from prior delinquency to adult criminal involvement, but also support the propositions of the state dependence theorem that prior delinquency significantly affects various critical social domains, which in turn, affect future criminal involvement. Results from subsamples of females and males provide support for the state dependence theorem that critical social domains impacted by prior delinquency partially explain the paths from prior delinquency to future criminal involvement. In addition to the significant effects of various social variables, I still find a significant direct effect of prior delinquency on adult criminal involvement. Thus, the results also provide
support for my hypothesis that besides the direct effect of prior delinquency, critical social domains significantly affect adult criminal involvement of the serious offenders.
CHAPTER VII
DISCUSSION AND CONCLUSIONS

7.1 Critical Social Domains and the Continuity of Criminal Behavior

The main research objective of the present study was to explore the applicability of the state dependence theorem in explaining the continuity of the criminal behavior of serious offenders who began their serious offending in adolescence. Four critical social domains were included in the structural equation models to test whether social factors affect the pathways from juvenile delinquency to adult criminal behavior. In order to better understand the pathways from juvenile delinquency to adult criminal involvement, it was necessary to examine the relationships between critical social domains over time. Initial results from the stability effect models indicate that for three of the critical social domains, including the social capital, symbolic interactionism and the life course models, there is a certain degree of stability between those critical social domains from adolescence to early adulthood. These results indicate that social factors in adolescence tend to have a cumulative effect on social factors in early adulthood. Considering the fact that all of the respondents in this study were first interviewed in juvenile detention facilities, their life situations in adolescence should be quite different from most of their contemporaries in the general youth population. Results from the path analysis show that in all of the structural equation models, juvenile delinquency significantly impacts various critical social domains. Although prior delinquency does not affect support from parents and friends in adolescence and early adulthood for these serious offenders, results from the
complete sample indicate that prior delinquency negatively impacts reflected self-identity in both adolescence and early adulthood. Although lower levels of problem self-identity in adulthood predicts lower levels of adult criminal involvement, this protective effect is negatively impacted by prior delinquency and the carryover effect of problem self-identity in adolescence. Results from the differential association model also indicate that juvenile delinquency increases the magnitude of risk factors and diminishes the protective factors by increasing association with criminal friends and reducing perceived parents’ disapproval of deviance. Results from the life course model also suggest that juvenile delinquency tend to negatively impact conventional life opportunities which are essential for desistance from crime. Juvenile delinquency significantly impacts attachment to school in adolescence, which in turn, affects employment status in adulthood. All these results provide support to the proposition of state dependence theorem that prior delinquency has a cumulative negative impact on later life opportunities, which, in turn, may affect future criminal behavior. Noticeably, all these findings are from models in which the direct effect from prior delinquency to adult criminal behavior is considered in the modeling. Although in each model, prior delinquency, as a proxy measure of latent criminal traits, has significant direct effects on adult criminal behavior, there are significant effects of the social factors as well. These results support the research hypotheses that there are significant stability effects between the critical social domains over time, and also, net of the direct effect of prior delinquency, various critical social domains significantly affect the pathways from prior delinquency to
adult criminal behavior. Therefore, even though the present study is based on a sample of serious offenders, among whom many criminologists assume latent trait factors to be predominant, there are still significant findings that support the influence of the state dependence factors.

In order to better understand the relationships between various social factors and adult criminal behavior in this sample of serious offenders, I also examined several reciprocal relationships prior to the examination of the one-way path analysis. The results from the social capital model indicate that adult criminal involvement has a significant contemporaneous effect on increasing support from friends. This result is not consistent with the proposition of social capital theory that criminal behavior will negatively impact significant social relationships which serve as important conventional social capital that buffers the individual from criminal involvement. Considering the particular characteristics of this sample and their experience as serious juvenile offenders, however, this result does make sense. Starting as serious juvenile delinquents, many of those respondents may suffer from isolation from conventional peer networks, which increase their opportunities to associate with delinquent peers. Within the delinquent friend network, being delinquent and committing crime confer gain status and garner support from delinquent friends. Warr (2002) elaborates the micro mechanisms in which delinquent peer pressure increases individual’s criminal behavior in order to gain support from delinquent peers. This result is also consistent with findings from research on gang membership and criminal behavior (Esbensen and Deschenes, 1998), which suggest that collective criminal
behavior tends to increase mutual support from gang members. This helps to explain why adult criminal behavior tends to increase friends’ support for these serious offenders. The findings from the reciprocal model suggest that although critical social domains affect adult criminal involvement, the latter exerts contemporaneous effects on the social factors as well. The contemporaneous effect of adult criminal behavior on various social factors, however, was less studied in prior research. Although this effect is identified only in the social capital model, this partially provides support for the research hypothesis that for this sample of serious offenders, adult criminal behavior also has significant effects on the critical social domains.

The model of differential association provides some different findings from the other three models of state dependence. First, the results do not show significant stability effects for association with delinquent friends over time. Association with deviant friends in adolescence does not predict having criminal friends or delinquent partners in adulthood. Nevertheless, the results show some significant time-lagged effects between social factors and delinquency. First, prior delinquency not only increases association with deviant friends in adolescence, but significantly increases association with criminal friends in adulthood. Second but more importantly, perceived parents’ disapproval of deviance in adolescence has a significant effect on reducing adult criminal involvement. This finding, however, does not support the propositions of the life course theory (Sampson and Laub, 1993) that stresses that what matters for adult crime are primarily informal social controls in adulthood such as marriage and stable employment. Informal social controls in adolescence, however,
are assumed to be less important in affecting adult criminal involvement. Nevertheless, results from this study show that perceived parents’ disapproval of deviance has a long-term effect on reducing adult criminal involvement. Later results from the master model confirm this finding and suggested that the magnitude and strength of the effect of perceived parents’ disapproval on adult criminal involvement is even stronger than that of marriage. This result indicates that social factors in adolescence, such as perceived parents’ disapproval of deviance, are at least as important as social factors in adulthood in terms of their effects on adult criminal involvement.

The master model incorporated all of the four critical social domains and tested their effects on adult criminal behavior simultaneously. This enabled the evaluation of the different theoretical perspectives on the continuity of criminal behavior. The overall results suggest that for the complete sample, the direct effect ($\beta = 0.156$) of juvenile delinquency on adult criminal involvement is the same as its indirect effect ($\beta = 0.156$) through influencing the critical social domains. This result provides further support for the hypothesis that in addition to the direct effect of prior delinquency, various social factors significantly influence adult criminal behavior of these serious offenders. Therefore, the overall results from the complete model provide support for both the population heterogeneity and the state dependence theorems on the continuity of criminal behavior. As opposed to most of the previous research, this study provides support for the state dependence theorem for a sample of serious offenders, whose persistent criminal involvement is most often explained by the population heterogeneity factors.
Among the four critical social domains, the differential association and the life course models best account for adult criminal involvement. Considering the effects of the other theoretical variables in the master model, perceived parents’ disapproval of deviance significantly reduces adult criminal involvement, while association with criminal friends and delinquent partners in adulthood lead to high levels of adult criminal involvement. Controlling for all the other theoretical variables, marriage significantly reduces adult criminal involvement. These results partially support Warr’s (1998) finding that marriage reduces adult criminal involvement by reducing the time individuals spent with delinquent peers, and thus reduces the negative influence from delinquent peers. Nevertheless, findings from the present study confirm the independent direct effect of marriage in reducing criminal involvement. Even together with the significant influence of criminal friends and delinquent partners in adulthood, marriage still has a significant direct effect on reducing adult criminal involvement. Again, since these social factors are strong predictors in a sample of serious offenders, it is reasonable to conclude that they are important factors in explaining the stability and change of criminal behavior of both serious offenders and less serious offenders from the general population.

7.2 Demographic Differences in the Pathways to Adult Criminal Involvement

The results based on the complete sample show that, in addition to the direct effect of prior delinquency, some critical social domains significantly affect adult criminal involvement. The results from the complete sample and the subsamples also
suggest significant gender and race differences in the effects of critical social domains on adult criminal involvement.

The results based on subsamples of males and females show that there are significant gender differences in the ways prior delinquency affects the critical social domains and in how the critical social domains affect adult criminal involvement. The results from the social capital model suggest that juvenile delinquency reduces parents’ support for females but not for males. Since delinquency is not congruent with the traditional female gender role, once girls are found to be involved in juvenile delinquency, they suffer more than boys the consequences of their delinquency, not only because of the delinquency per se, but also because of violation of the traditional gender roles. The social capital model also indicates that the stability effect between friends’ support over time was much stronger for females than males. This result is consistent with findings about the gender differences in peer networking and its effect on delinquency (Agnew, 2001). For females, quality relationships with significant others is a major factor in understanding their involvement in delinquency. Additional results suggest that friends’ support in adulthood significantly reduces females’ adult criminal involvement, even when considering the contemporaneous effect of adult crime on friends’ support. In addition, females’ adult criminal involvement significantly reduces support from parents, even when considering the contemporaneous effect of parents’ support on adult criminal involvement. The overall results from the social capital model suggest that parents’ support for females over time is affected by both prior delinquency and adult criminal involvement. For
females in this sample, it seems that friends’ support over time is far more important in affecting their adult criminal involvement than parents’ support. For males, however, social capital variables do not significantly affect their adult criminal involvement. These results indicate that for this sample of serious offenders, social capital theory is more relevant for females than for males in understanding pathways from prior delinquency to adult criminality.

Significant gender differences were also identified in the symbolic interactionism model. Juvenile delinquency leads to problem self-identity in adolescence for females, but not males. However, males’ reflected self-identity in adulthood is negatively impacted by their juvenile delinquency. Males’ lower levels of problem identity in adulthood significantly predicts lower levels of adult criminal involvement, but reflected self-identity in adulthood does not affect females’ adult criminal involvement. These results do not seem to support the propositions of subculture theory (Cohen, 1955; Cloward and Ohlin, 1960), which posits that delinquency can sometimes enhance individuals’ self-identity. Even for this sample of serious offenders, for both male and female subsamples, prior delinquency leads to problem self-identity, although lower levels of problem self-identity only affects males’ adult criminal involvement. These results indicate that for this sample of serious offenders, the concept of problem self-identity is more relevant for males than for females in explaining the linkage between juvenile delinquency to adult criminal behavior.

The differential association model also suggests significant gender differences in the pathways from prior delinquency to adult criminal involvement. Juvenile
delinquency significant increases females’ association with delinquent friends in both adolescence and adulthood. Although having criminal friends also increases male’s adult criminal involvement, the linkage from prior delinquency to having criminal friends in adulthood is only significant for females. Juvenile delinquency also reduces female’s perceived parents’ disapproval of deviance in adolescence, although perceived parents’ disapproval of deviance only significantly reduces males’ adult criminal involvement. Considering the reciprocal relationships between association with delinquent partners and adult criminal involvement, adult criminal involvement increases female’s association with delinquent partners. This finding suggests that females’ adult criminal involvement has a contemporaneous effect on increasing the risk factor of persistent offending, i.e. having delinquent partners.

Analysis of the effects of juvenile delinquency on various life opportunities also revealed significant gender differences. Juvenile delinquency significantly reduces females’ attachment to school in adolescence and attachment to school significantly influences females’ employment status in adulthood; this is not the case for males. In early adulthood, more females are unemployed than males, but more females have been married than males. Nevertheless, neither employment status nor marriage significantly affects females’ adult criminal involvement. For males, however, juvenile delinquency does negatively impact marriage in early adulthood, while marriage significantly reduces males’ adult criminal involvement.

The results from each of the four models of critical social domains suggest that juvenile delinquency is more consequential for females in reducing support from
parents, leading to problem self-identity in adolescence, reducing perceived parental
disapproval of deviance, increasing association with criminal friends in adulthood,
and negatively impacting attachment in school in adolescence. These effects are not
significant for males in this sample. The results from the master model confirm these
findings from each of the critical social domains and indicate that for females,
association with criminal friends in adulthood and having delinquent partners are two
important factors that significantly affected females’ adult criminal involvement. For
males, association with delinquent peers in adulthood also greatly increases their adult
criminal involvement. Meanwhile, parents’ disapproval of deviance in adolescence
turns out to be a unique factor that significantly reduces male’s adult criminal
involvement. Marriage has a significant effect in reducing males’ adult criminal
involvement. Overall, the results from the master model suggest that the direct effect
of juvenile delinquency on adult criminal involvement is about the same for female ($\beta = 0.210$) and males ($\beta = 0.218$). Nevertheless, the indirect effect of juvenile
delinquency for females ($\beta =0.056$) seems to be limited compared with that for males
($\beta =0.128$). Although juvenile delinquency significantly impacts critical social
domains in adolescence of females, the results from this sample suggest that males are
more affected by various critical social domains in adolescence and adulthood than
females. Given that the direct impact of juvenile delinquency is about the same for
females and males, the impact of critical social domains on males’ adult criminal
involvement seem to explain why males had higher levels of adult criminal
involvement than females.
Race was used as a control variable in the analyses of the complete sample and the subsamples. Despite that, there are still some significant race differences in the pathways from juvenile delinquency to adult criminal involvement. In all the models, blacks have higher levels of adult criminal involvement than non-blacks. Compared with non-blacks, blacks have a higher level of parents’ support in adolescence but a lower level of friends’ support in early adulthood. Compared with non-black females, black females also have a lower level of parents’ support and friends’ support in early adulthood. Although black males have lower levels of problem self-identity in adolescence than non-black males, black females have higher levels of problem self-identity in adulthood than non-black females. Blacks also report a higher level of association with delinquent partners in adulthood. Particularly, black females have a higher level of association with delinquent partners in adulthood than non-black females. In addition, although blacks have a higher level of attachment to school in adolescence, fewer blacks are employed or have been married than is the case for non-blacks. These results partially explain why blacks, especially black females, have a higher level of adult criminal involvement. These results are consistent with the findings of prior research (Giordano, Cernkovich and Rudolph, 2002) showing that blacks have limited access to conventional life opportunities such as marriage and stable employment, which may influence their desistance from adult criminal involvement.

7.3 Implications of Findings
The primary objective of the present study was to test two theoretical perspectives on the continuity of criminal behavior over time. The population heterogeneity theorem posits that a latent criminal trait is the root cause of current and future criminal behavior, which explains the link from prior delinquency to future criminal behavior. The state dependence theorem maintains that the link between prior delinquency and future crime can be explained by weakened conventional social ties resulting from prior delinquency. The present study was designed to expand the state dependence theorem and to further the testing of the above two competing theorems.

Although the results of this study provide support for both of the theoretical perspectives, the findings are more meaningful for the state dependence theorem. Unlike most of the prior research that has found support for the state dependence theorem, this study was based on a sample of serious juvenile offenders, a sample that is less likely to provide favorable findings for the state dependence theorem. Support for the state dependence theorem based on this sample has important theoretical implications in understanding the continuity of criminal behavior over time. This study has shown that even for comparatively more serious juvenile offenders, their adult criminal behavior is still significantly affected by various social factors. This suggests that the state dependence theorem can be applied to the general population and to serious offenders.

This study also expands prior research on the state dependence theorem by considering the contemporaneous effects of adult criminal behavior on the critical
social domains. In fact, the critical social domains are not only affected by juvenile delinquency, but at the same time are affected by adult criminal behavior as well. The results from the present study highlight some of the contemporaneous effects of adult criminal behavior on the critical social domains in the social capital model and the differential association model. Considering the reciprocal effects between adult criminal behavior and the critical social domains, the state dependence theorem was shown to have more explanatory power in the continuity of criminal behavior over time than does the population heterogeneity model.

Another contribution of this study is that it combined four critical social domains and tested their effects on adult crime in a comprehensive model. An important implication of the present study is that in the master model, where several aspects of the state dependence model were incorporated together, differential association theory and life course theory were shown to have more explanatory powers than the social capital and symbolic interactionism models.

Last but not least, the present study has important policy implications for the prevention of chronic offending and hardened criminal behavior. First of all, the findings suggest that social factors matter not only for the general population but also for serious persistent offenders. Although at the aggregate level we can predict future criminal behavior using prior delinquency, relying solely on latent criminal traits will not solve the problem. While there are serious limitations to the “correction” of latent criminal traits, there is much realistic and practical room for improvement in reducing the social risk factors for chronic offending and for enhancing the protective
dimensions of these factors. The present study suggests that for these serious offenders, effective intervention in the social domains may very well have reduced their adult criminal involvement. Secondly, the present study suggests that females and blacks have differential accesses to the critical social domains and are differentially influenced by juvenile delinquency and various social factors. The present study suggests that females are more affected by their juvenile delinquency, while blacks have limited access to conventional social ties that are helpful to desistance from crime. Understanding those differences in pathways to adult criminal behavior is essential for designing prevention and treatment programs.

7.4 Limitations and Directions for Future Research

While the present study was designed to expand state dependence theorem’s propositions on the continuity of criminal behavior, there are several limitations of this study that should be acknowledged. The first limitation is that the study was based on a non-probability sample. While the Ohio Lifecourse Study is a unique study of the life histories of juveniles followed into their adulthood, the institutional sample used in the present study is not a national probability sample. Although this sample better satisfies the research objective of the present study, generalization of the results is limited in scope.

Secondly, ideally I would have been able to analyze possible race differences in the structural equation models. However, the sample size did not allow a division of the complete sample into subsamples of blacks and non-black with sufficient number
of respondents to permit meaningful analysis. Therefore, race was only used as a control variable in all the models.

Thirdly, the present study examined four of the critical social domains that fall in the category of state dependence theorem. However, there may be other important social domains not included in the present study such as economic strain, negative emotionality, drug use and so forth. These social factors may as well interact with gender and race and affect the pathways from juvenile delinquency to adult criminal involvement. In addition, the Ohio Lifecourse Study does not include specific questions regarding the characteristics of parents and other relatives who may influence respondents in various ways. For instance, support from deviant parents may have negative consequences for respondents’ attitudes and behavior. Therefore, future research should include other important social domains and differentiate among various types of social variables in the models.

Fourthly, the results from the present study were based on statistical models and data at the aggregate level. However, pathways from juvenile delinquency to adult criminal involvement can be quite different for individual respondents. This is especially the case for respondents of different demographic backgrounds. In the Ohio Lifecourse study there are abundant qualitative data that consist of narratives of the respondents life histories obtained from the interviews. Future research should incorporate the qualitative data in order to better understand individual differences in the pathways to adult criminal behavior.
Fifth, the Ohio Lifecourse Study also includes a separate sample of respondents sampled from local households. This sample is a probability sample that includes respondents representing the general youth population. Future research should conduct a comparative study based on both the neighborhood and the institutional samples and examine to what degree propositions derived from the population heterogeneity and the state dependence models are supported by the conventional youth sample and the sample of serious juvenile offenders.
REFERENCES


Heimer, Karen. 1996. “Gender, Interaction, And Delinquency: Testing a theory of


Points Through Life. Harvard University Press.

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Figure 1. Measurement of Latent Variables of Social Capital Model

1982

- I feel comfortable talking to my parents when I have a problem
- My parents give me the right amount of affection
- One of the worst things that could happen to me would be finding out that I let my parents down
- My parents are usually proud of me when I've finished something I've worked hard at
- My parents trust me
- I'm closer to my parents than a lot of kids my age are

1995

- I feel comfortable calling my friends when I have a problem
- I can trust them - I can tell them private things and know they won't tell other people
- They're easy to talk to
- They care about me and what happens to me
- I can't really be myself if I want to stay friends with these people

1982

Parents' Support

- My parents sometimes put me down in front of other people
- My parents give me the right amount of affection
- Sometimes my parents won't listen to me or my opinions
- My parents are usually proud of me when I've finished something that I've worked hard at
- My parents trust me
- I'm closer to my parents than a lot of kids my age are
- My parents seem to wish I were a different type of person
- Sometimes my family can't be counted on when I need them
- Members of my family are not always the best ones to go to if I need help
- If I really needed something my family would loan or give it to me

1995

Parents' Support

- I feel comfortable calling my friends when I have a problem
- Sometimes my friends just won't listen to me or my opinion
- I like most of my friends more than they like me
- I can trust them - I can tell them private things and know they won't tell other people
- They're easy to talk to
- They care about me and what happens to me
<table>
<thead>
<tr>
<th>1982 Indicators</th>
<th>1995 Loadings</th>
<th>1995 Indicators</th>
<th>1995 Loadings</th>
</tr>
</thead>
<tbody>
<tr>
<td>I feel comfortable talking to my parents when I have a problem</td>
<td>0.763 -----</td>
<td>My parents sometimes put me down in front of other people</td>
<td>0.584 -----</td>
</tr>
<tr>
<td>My parents give me the right amount of affection</td>
<td>0.732 -----</td>
<td>My parents give me the right amount of affection (reverse coded)</td>
<td>0.691 -----</td>
</tr>
<tr>
<td>One of the worst things that could happen to me would be finding out that I let my parents down</td>
<td>0.523 -----</td>
<td>Sometimes my parents won't listen to me or my opinion</td>
<td>0.608 -----</td>
</tr>
<tr>
<td>My parents are usually proud of me when I've finished something I've worked hard at</td>
<td>0.554 -----</td>
<td>My parents are usually proud of me when I've finished something that I've worked hard at</td>
<td>0.626 -----</td>
</tr>
<tr>
<td>My parents trust me</td>
<td>0.688 -----</td>
<td>My parents trust me (reverse coded)</td>
<td>0.627 -----</td>
</tr>
<tr>
<td>I'm closer to my parents than a lot of kids my age are</td>
<td>0.832 -----</td>
<td>I'm closer to my parents than a lot of kids my age are (reverse coded)</td>
<td>0.601 -----</td>
</tr>
<tr>
<td>I feel comfortable calling my friends when I have a problem</td>
<td>----- 0.582</td>
<td>My parents seem to wish I were a different type of person</td>
<td>0.534 -----</td>
</tr>
<tr>
<td>I can trust them - I can tell them private things and know they won't tell other people</td>
<td>----- 0.648</td>
<td>Sometimes my family can't be counted on when I need them</td>
<td>0.545 -----</td>
</tr>
<tr>
<td>They're easy to talk to</td>
<td>----- 0.655</td>
<td>Members of my family are not always the best ones to go to if I need</td>
<td>0.531 -----</td>
</tr>
<tr>
<td>They care about me and what happens to me</td>
<td>----- 0.837</td>
<td>If I really needed something my family would loan or give it to me</td>
<td>0.586 -----</td>
</tr>
<tr>
<td>I can't really be myself if I want to stay friends with these people (reverse coded)</td>
<td>----- 0.399</td>
<td>I feel comfortable calling my friends when I have a problem (reverse coded)</td>
<td>0.638</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sometimes my friends just won't listen to me or my opinion</td>
<td>0.352</td>
</tr>
<tr>
<td></td>
<td></td>
<td>I like most of my friends more than they like me</td>
<td>0.136</td>
</tr>
<tr>
<td></td>
<td></td>
<td>I can trust them - I can tell them private things and know they won't tell other people (reverse coded)</td>
<td>0.675</td>
</tr>
<tr>
<td></td>
<td></td>
<td>They're easy to talk to (reverse coded)</td>
<td>0.603</td>
</tr>
<tr>
<td></td>
<td></td>
<td>They care about me and what happens to me (reverse coded)</td>
<td>0.605</td>
</tr>
</tbody>
</table>

RMSEA=0.05, $\chi^2$ Ratio = 1.66, df =318. All loadings are significant at α=0.05 level.
Figure 2. Measurement of Latent Variables of Symbolic Interactionism Model

1982

- A troublemaker
- Moody
- Something of a hell-raiser
- Needed counseling
- Someone who got on people's nerves
- Someone who broke rules

1995

- A troublemaker
- Moody
- Something of a hell-raiser
- Needed counseling
- Someone who got on people's nerves
- Someone who broke rules
### Table 2. Complete Standardized Loadings of Indicators on Latent Variables of the Symbolic Interactionism Model

<table>
<thead>
<tr>
<th>1982</th>
<th>Loadings</th>
<th>1995</th>
<th>Loadings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Indicators</td>
<td>Self-reflected Identity</td>
<td>Indicators</td>
</tr>
<tr>
<td>A troublemaker</td>
<td>0.710</td>
<td>A troublemaker</td>
<td>0.556</td>
</tr>
<tr>
<td>Moody</td>
<td>0.364</td>
<td>Moody</td>
<td>0.450</td>
</tr>
<tr>
<td>Something of a hell-raiser</td>
<td>0.550</td>
<td>Something of a hell-raiser</td>
<td>0.612</td>
</tr>
<tr>
<td>Needed counseling</td>
<td>0.724</td>
<td>Needed counseling</td>
<td>0.578</td>
</tr>
<tr>
<td>Someone who got on people's nerves</td>
<td>0.771</td>
<td>Someone who got on people's nerves</td>
<td>0.815</td>
</tr>
<tr>
<td>Someone who broke rules</td>
<td>0.776</td>
<td>Someone who broke rules</td>
<td>0.618</td>
</tr>
</tbody>
</table>

RMSEA=0.06, $\chi^2$ Ratio = 2.43. df=53. All loadings are significant at $\alpha=0.05$ level
Figure 3. Measurement of Latent Variables of Differential Association Model

- If you shoppedlifted
- If you stole a car for a joy ride
- If you used a fake ID to get into a bar
- If you got into a fight
- If you destroyed somebody else's property
- If you carried a weapon like a gun or knife
- If you skipped school

1982

Friend's Acceptance of Deviance

- Used marijuana or hashish
- Stolen something worth less than $5
- Hit or threatened to hit someone
- Sold hard drugs such as heroin, cocaine, and LSD
- Stolen something worth more than $50
- Suggested you do something that was against the law
- Gotten drunk once in a while
- Been paid to have sex with someone

1995

Having Delinquent Friends

- Steal (or tried to steal) a motor vehicle, such as a car or motorcycle
- Steal (or tried to steal) something worth more than
- Carry a hidden weapon other than a plain pocket
- Attack someone with the idea of seriously hurting him/her
- Use force or threat of force to get money or other
  …… ( other 17 items of delinquency scale)

Having Delinquent Partners

Parents’ Disapproval of Deviance

- If you skipped school
- If you used marijuana
- If you got into a fight
- If you used alcohol
- If you stole a car for a joy ride
Table 3. Complete Standardized Loadings of Indicators on Latent Variables (1982) of the Differential Association Model

<table>
<thead>
<tr>
<th>1982</th>
<th>Loadings</th>
<th>parents' disapproval of delinquency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicators</td>
<td>Friends’ acceptance of deviance</td>
<td></td>
</tr>
<tr>
<td>If you shoplifted</td>
<td>0.65</td>
<td>-----</td>
</tr>
<tr>
<td>If you stole a car for a joy ride</td>
<td>0.68</td>
<td>-----</td>
</tr>
<tr>
<td>If you used a fake ID to get into a bar</td>
<td>0.50</td>
<td>-----</td>
</tr>
<tr>
<td>If you got into a fight</td>
<td>0.56</td>
<td>-----</td>
</tr>
<tr>
<td>If you destroyed somebody else's property</td>
<td>0.80</td>
<td>-----</td>
</tr>
<tr>
<td>If you carried a weapon like a gun or knife</td>
<td>0.56</td>
<td>-----</td>
</tr>
<tr>
<td>If you skipped school</td>
<td>0.51</td>
<td>-----</td>
</tr>
<tr>
<td>If you used marijuana</td>
<td>-----</td>
<td>0.57</td>
</tr>
<tr>
<td>If you got into a fight</td>
<td>-----</td>
<td>0.87</td>
</tr>
<tr>
<td>If you used alcohol</td>
<td>-----</td>
<td>0.58</td>
</tr>
<tr>
<td>If you stole a car for a joy ride</td>
<td>-----</td>
<td>0.77</td>
</tr>
<tr>
<td>If you skipped school</td>
<td>-----</td>
<td>0.36</td>
</tr>
</tbody>
</table>

RMSEA=0.05, χ² Ratio = 1.45, df=53.  All loadings are significant at α=0.05 level.
<table>
<thead>
<tr>
<th>1995</th>
<th>Loadings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicators</td>
<td>Having Criminal Friends</td>
</tr>
<tr>
<td>Used marijuana or hashish</td>
<td>0.609</td>
</tr>
<tr>
<td>Stolen something worth less than $5</td>
<td>0.844</td>
</tr>
<tr>
<td>Hit or threatened to hit someone</td>
<td>0.734</td>
</tr>
<tr>
<td>Broken into a vehicle or building to steal something?</td>
<td>0.803</td>
</tr>
<tr>
<td>Sold hard drugs such as heroin, cocaine, and LSD</td>
<td>0.876</td>
</tr>
<tr>
<td>Stolen something worth more than $50</td>
<td>0.840</td>
</tr>
<tr>
<td>Suggested you do something that was against the law</td>
<td>0.823</td>
</tr>
<tr>
<td>Gotten drunk once in a while</td>
<td>0.494</td>
</tr>
<tr>
<td>Been paid to have sex with someone</td>
<td>0.725</td>
</tr>
</tbody>
</table>

RMSEA=0.07, $\chi^2$ Ratio = 2.56., df=27. All loadings are significant at $\alpha=0.05$ level.
<table>
<thead>
<tr>
<th>Indicators</th>
<th>Loadings</th>
<th>Loadings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steal (or tried to steal) a motor vehicle, such as a car or motorcycle</td>
<td>0.673</td>
<td>0.187</td>
</tr>
<tr>
<td>Steal (or tried to steal) something worth more than $50</td>
<td>0.391</td>
<td>0.895</td>
</tr>
<tr>
<td>Carry a hidden weapon other than a plain pocket knife</td>
<td>0.173</td>
<td>0.334</td>
</tr>
<tr>
<td>Steal (or tried to steal) things worth $5 or less</td>
<td>0.385</td>
<td>0.886</td>
</tr>
<tr>
<td>Attack someone with the idea of seriously hurting him/her</td>
<td>0.369</td>
<td>0.232</td>
</tr>
<tr>
<td>Get involved in gang fights</td>
<td>0.582</td>
<td>0.759</td>
</tr>
<tr>
<td>Use force or threat of force to get money or other things</td>
<td>0.551</td>
<td>0.719</td>
</tr>
<tr>
<td>Sell marijuana or hashish (&quot;pot&quot;, &quot;grass&quot;, or &quot;hash&quot;)</td>
<td>0.201</td>
<td>0.883</td>
</tr>
<tr>
<td>Hit (or threaten to hit) someone</td>
<td>0.267</td>
<td>0.256</td>
</tr>
<tr>
<td>Been paid for having sex with someone</td>
<td>0.352</td>
<td>0.829</td>
</tr>
<tr>
<td>Embezzle: that is, use money or funds entrusted in his/her care for purposes other than intended</td>
<td>0.950</td>
<td></td>
</tr>
</tbody>
</table>

RMSEA=0.08, $X^2$ Ratio = 2.36, df =209. All loadings are significant at $\alpha=0.05$ level.
Figure 4. Measurement of Latent Variables of Life Course Model

1982

Most of my teachers treat me fairly. (0.368)
I like school. (0.741)
I wish I could drop out of school (reverse coded). (0.867)
I feel as if I really don't belong at school (reverse coded). (0.896).

Attachment to School

1995

Ever been married? (1)

Main job position or occupation called (1)

Currently employed? (1)

Having Been Married

Employment Status

Occupational Status

Ratio = 2.48, df=2. All loadings are significant at a=0.05 level. Standardized loadings are given in parentheses.
Figure 5a. 

Social Capital Model

Prior Delinquency → Adult Crime

Parents’ Support → Parents’ Support

Friends’ Support → Friends’ Support

1982 1995

Figure 5b. 

Symbolic Interactionism Model

Prior Delinquency → Adult Crime

Self-Reflected Identity 1982

Self-Reflected Identity 1995

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**Figure 5c.**

**Differential Association Model**

- Prior Delinquency
- Friends’ Acceptance of Deviance
- Parents’ Disapproval of Deviance
- Having Delinquent Friends
- Having Delinquent Partners
- Adult Crime

1982 to 1995

**Figure 5d.**

**Life Course Model**

- Prior Delinquency
- Attachment to School 1982
- Employment Status
- Occupational Categories
- Ever Been Married
- Adult Crime
Figure 6. Testing Reciprocal Effects between Adult Crime and Latent Variables of Social Capital

Prior Delinquency → Adult crime: 0.341***

Parents’ Support 1982 → Parents’ Support 1995: 0.268***
Friends’ Support 1982 → Friends’ Support 1995: 0.434***

Female → Parents’ Support 1982: -0.286***
Female → Parents’ Support 1995: -0.301*
Female → Friends’ Support 1982: 0.201**
Female → Friends’ Support 1995: -0.255**

Black → Adult crime: 0.286***

*p<0.05, **p<0.01, ***p<0.001. RMSEA=0.05, df=490, $\chi^2$ Ratio = 1.51. All coefficients are standardized.
Figure 7. Testing Effects of Latent Variables of Social Capital on Adult Criminal Involvement

* p< 0.05, **p<0.01, ***p<0.001. RMSEA=0.05, df= 489., X² Ratio = 1.52. All coefficients are standardized.
Figure 8. Testing Reciprocal Effects between Adult Crime and Latent Variables of Reflected Self-Identity

Prior Delinquency → 0.298*** → Adult Crime

Age

Female

Black

Reflected Self-Identity 1982 → 0.324*** → Adult Crime

Reflected Self-Identity 1995

* p<0.05, **p<0.01, ***p<0.001. RMSEA=0.08, df=126, X² Ratio = 2.69. All coefficients are standardized.
Figure 9. Testing the Effects of Reflected Self-Identity on Adult Criminal Involvement

- Prior Delinquency
  - Black
  - Female
- Reflected Self-Identity 1982
  - 0.313***
  - 0.225***
- Reflected Self-Identity 1995
  - 0.370***
  - -0.169 *
- Adult Crime
  - 0.266 ***
  - -0.144 *
  - -0.146 *

- p<0.05, **p<0.01, ***p<0.001. RMSEA=0.08, df=126, X² Ratio = 2.68. All coefficients are standardized.
Figure 10. Testing the Reciprocal Effects between Adult Criminal Involvement and Latent Variables of Differential Association Model.

- Prior Delinquency
- Adult Crime
- Age
- Female
- Black
- Friends' Acceptance of Deviance 1982
- Having Delinquent Partners 1995
- Parents' disapproval of deviance 1982
- Having Delinquent Friends 1995

- $p<0.05$, **$p<0.01$, ***$p<0.001$. RMSEA=0.11, df=1090, $X^2$ Ratio = 4.34. All coefficients are standardized.
Figure 11. Testing the Reciprocal Effects between Adult Criminal Involvement and Latent Variables of Differential Association Model. (Cross-lagged Model)

- Prior Delinquency
- Age
- Female
- Black
- Friends' Acceptance of Deviance 1982
- Having Criminal Friends 1995
- Parents' disapproval of deviance 1982
- Having Delinquent Partners 1995
- Adult Crime

-0.159*
-0.249***
0.167***
0.318***
-0.238***
0.544***
0.327*
0.097
0.310**
0.321

- p< 0.05, **p<0.01, ***p<0.001. RMSEA=0.08, df= 1135, X^2 Ratio = 3.08. All coefficients are standardized.
Figure 12. Testing the Effects of Latent Variables of Differential Association on Adult Criminal Involvement

<table>
<thead>
<tr>
<th>Prior Delinquency</th>
<th>Adult Crime</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.187***</td>
<td></td>
</tr>
</tbody>
</table>

- Age
- Female
- Black

<table>
<thead>
<tr>
<th>Parents’ disapproval of deviance 1982</th>
<th>Having Delinquent Friends 1995</th>
</tr>
</thead>
<tbody>
<tr>
<td>-0.308***</td>
<td>0.351*</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Friends’ Acceptance of Deviance 1982</th>
<th>Having Delinquent Partners 1995</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.350***</td>
<td>-0.138*</td>
</tr>
</tbody>
</table>

- 0.154**
- 0.193**
- 0.303***
- -0.162*
- 0.139*

*p < 0.05, **p < 0.01, ***p < 0.001. RMSEA = 0.08, df = 1135, \( \chi^2 \) Ratio = 3.09. All coefficients are standardized.
p < 0.05, **p < 0.01, ***p < 0.001. RMSEA < 0.001, df = 36, $\chi^2$ Ratio = 1.97. All coefficients are standardized.
**Figure 14. Testing the Effects of Life Course Opportunities on Adult Crime**

- \( p < 0.05 \), \( **p < 0.01 \), \( ***p < 0.001 \).
- RMSEA < 0.01, \( \text{df}=36 \), \( \chi^2 \text{Ratio} = 1.49 \).
- All coefficients are standardized.
Figure 15. Master Model of the State Dependence Theorem.

To simplify the model, the direct effects from prior delinquency to 1995 variables and the direct effects from 1982 variables to adult crime are not shown but included in the analysis.
<table>
<thead>
<tr>
<th>Latent Variables of Critical Social Domains</th>
<th>Total Effect of Prior Delinquency on Latent Social Variables</th>
<th>Total Effect of Latent Social Variables on Adult Criminal Involvement</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Social Capital</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parents’ Support in 1982</td>
<td>-0.129*</td>
<td>0.012</td>
</tr>
<tr>
<td>Friends’ Support in 1982</td>
<td>-0.010</td>
<td>0.038</td>
</tr>
<tr>
<td>Parents Support in 1995</td>
<td>-0.050</td>
<td>0.042</td>
</tr>
<tr>
<td>Friends Support in 1995</td>
<td>0.089</td>
<td>0.087</td>
</tr>
<tr>
<td><strong>Symbolic Interactionism</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reflected Self-Identity in 1982</td>
<td>-0.207***</td>
<td>-0.010</td>
</tr>
<tr>
<td>Reflected Self-Identity in 1995</td>
<td>-0.222***</td>
<td>-0.027</td>
</tr>
<tr>
<td><strong>Differential Association</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Friends’ Acceptance of Deviance</td>
<td>0.344***</td>
<td>0.073</td>
</tr>
<tr>
<td>Parents’ Disapproval of Deviance</td>
<td>-0.157**</td>
<td>-0.187***</td>
</tr>
<tr>
<td>Having Criminal Friends</td>
<td>0.153*</td>
<td>0.330***</td>
</tr>
<tr>
<td>Having Delinquent Partners</td>
<td>0.061</td>
<td>0.152***</td>
</tr>
<tr>
<td><strong>Life Course</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attachment to School in 1982</td>
<td>-0.191***</td>
<td>-0.001</td>
</tr>
<tr>
<td>Employment Status</td>
<td>-0.033</td>
<td>0.043</td>
</tr>
<tr>
<td>Marriage</td>
<td>-0.023</td>
<td>-0.142**</td>
</tr>
<tr>
<td>Occupational Status</td>
<td>0.098</td>
<td>0.059</td>
</tr>
<tr>
<td><strong>Population Heterogeneity</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adult Criminal Involvement</td>
<td>0.303*** (total effect)</td>
<td>-------</td>
</tr>
<tr>
<td></td>
<td>0.156*** (direct effect)</td>
<td></td>
</tr>
</tbody>
</table>

*p< 0.05, **p<0.01, ***p<0.001. RMSEA=0.06, df= 4365, χ² Ratio =1.84. All coefficients are standardized.
<table>
<thead>
<tr>
<th>Indicators</th>
<th>Parent’s Support</th>
<th>Friends’ Support</th>
<th>Indicators</th>
<th>Parent’s Support</th>
<th>Friends’ Support</th>
</tr>
</thead>
<tbody>
<tr>
<td>I feel comfortable talking to my parents when I have a problem</td>
<td>0.796</td>
<td>-----</td>
<td>My parents sometimes put me down in front of other people</td>
<td>0.661</td>
<td>-----</td>
</tr>
<tr>
<td>My parents give me the right amount of affection</td>
<td>0.718</td>
<td>-----</td>
<td>My parents give me the right amount of affection (reverse coded)</td>
<td>0.702</td>
<td>-----</td>
</tr>
<tr>
<td>One of the worst things that could happen to me would be finding out that I let my parents down</td>
<td>0.595</td>
<td>-----</td>
<td>Sometimes my parents won't listen to me or my opinion</td>
<td>0.664</td>
<td>-----</td>
</tr>
<tr>
<td>My parents are usually proud of me when I've finished something I've worked hard at</td>
<td>0.604</td>
<td>-----</td>
<td>My parents are usually proud of me when I've finished something that I've worked hard at</td>
<td>0.600</td>
<td>-----</td>
</tr>
<tr>
<td>My parents trust me</td>
<td>0.800</td>
<td>-----</td>
<td>My parents trust me (reverse coded)</td>
<td>0.651</td>
<td>-----</td>
</tr>
<tr>
<td>I'm closer to my parents than a lot of kids my age are</td>
<td>0.922</td>
<td>-----</td>
<td>I'm closer to my parents than a lot of kids my age are (reverse coded)</td>
<td>0.585</td>
<td>-----</td>
</tr>
<tr>
<td>I feel comfortable calling my friends when I have a problem</td>
<td>-----</td>
<td>0.504</td>
<td>My parents seem to wish I were a different type of person</td>
<td>0.734</td>
<td>-----</td>
</tr>
<tr>
<td>I can trust them - I can tell them private things and know they won't tell other people</td>
<td>-----</td>
<td>0.787</td>
<td>Sometimes my family can’t be counted on when I need them</td>
<td>0.508</td>
<td>-----</td>
</tr>
<tr>
<td>They’re easy to talk to</td>
<td>-----</td>
<td>0.665</td>
<td>Members of my family are not always the best ones to go to if I need</td>
<td>0.561</td>
<td>-----</td>
</tr>
<tr>
<td>They care about me and what happens to me</td>
<td>-----</td>
<td>0.804</td>
<td>If I really needed something my family would loan or give it to me</td>
<td>0.555</td>
<td>-----</td>
</tr>
<tr>
<td>I can’t really be myself if I want to stay friends with these people (reverse coded)</td>
<td>-----</td>
<td>0.276</td>
<td>I feel comfortable calling my friends when I have a problem (reverse coded)</td>
<td>0.733</td>
<td>0.353</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Sometimes my friends just won’t listen to me or my opinion</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>I like most of my friends more than they like me</td>
<td></td>
<td>0.201</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>I can trust them - I can tell them private things and know they won’t tell other people (reverse coded)</td>
<td></td>
<td>0.590</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>They’re easy to talk to (reverse coded)</td>
<td></td>
<td>0.712</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>They care about me and what happens to me (reverse coded)</td>
<td></td>
<td>0.716</td>
</tr>
</tbody>
</table>

RMSEA=0.06, $\chi^2$ Ratio = 1.55, df=318. All loadings are significant at $\alpha=0.05$ level.
<table>
<thead>
<tr>
<th>Indicators</th>
<th>1982 Loadings</th>
<th>1995 Loadings</th>
<th>Indicators</th>
<th>1995 Loadings</th>
</tr>
</thead>
<tbody>
<tr>
<td>I feel comfortable talking to my parents when I have a problem</td>
<td>0.710</td>
<td>-----</td>
<td>My parents sometimes put me down in front of other people</td>
<td>0.354</td>
</tr>
<tr>
<td>My parents give me the right amount of affection</td>
<td>0.720</td>
<td>-----</td>
<td>My parents give me the right amount of affection (reverse coded)</td>
<td>0.719</td>
</tr>
<tr>
<td>One of the worst things that could happen to me would be finding out that I let my parents down</td>
<td>0.393</td>
<td>-----</td>
<td>Sometimes my parents won't listen to me or my opinion</td>
<td>0.449</td>
</tr>
<tr>
<td>My parents are usually proud of me when I've finished something I've worked hard at</td>
<td>0.517</td>
<td>-----</td>
<td>My parents are usually proud of me when I've finished something that I've worked hard at</td>
<td>0.670</td>
</tr>
<tr>
<td>My parents trust me</td>
<td>0.510</td>
<td>-----</td>
<td>My parents trust me (reverse coded)</td>
<td>0.562</td>
</tr>
<tr>
<td>I'm closer to my parents than a lot of kids my age are</td>
<td>0.671</td>
<td>-----</td>
<td>I'm closer to my parents than a lot of kids my age are (reverse coded)</td>
<td>0.544</td>
</tr>
<tr>
<td>I feel comfortable calling my friends when I have a problem</td>
<td>-----</td>
<td>0.609</td>
<td>My parents seem to wish I were a different type of person</td>
<td>0.203</td>
</tr>
<tr>
<td>I can trust them - I can tell them private things and know they won't tell other people</td>
<td>-----</td>
<td>0.562</td>
<td>Sometimes my family can't be counted on when I need them</td>
<td>0.562</td>
</tr>
<tr>
<td>They're easy to talk to</td>
<td>-----</td>
<td>0.622</td>
<td>Members of my family are not always the best ones to go to if I need</td>
<td>0.458</td>
</tr>
<tr>
<td>They care about me and what happens to me</td>
<td>-----</td>
<td>0.858</td>
<td>If I really needed something my family would loan or give it to me</td>
<td>0.595</td>
</tr>
<tr>
<td>I can't really be myself if I want to stay friends with these people (reverse coded)</td>
<td>-----</td>
<td>0.455</td>
<td>I feel comfortable calling my friends when I have a problem (reverse coded)</td>
<td>0.593</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Sometimes my friends just won't listen to me or my opinion</td>
<td>0.313</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>I like most of my friends more than they like me</td>
<td>0.118</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>I can trust them - I can tell them private things and know they won't tell other people (reverse coded)</td>
<td>0.737</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>They're easy to talk to (reverse coded)</td>
<td>0.462</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>They care about me and what happens to me (reverse coded)</td>
<td>0.420</td>
</tr>
</tbody>
</table>

RMSEA=0.06, \( \chi^2 \) Ratio = 1.44., df=318.  All loadings are significant at \( \alpha = 0.05 \) level.
Figure 16. Gender Differences in the Reciprocal Effects between Adult Crime and Latent Variables of Social Capital

Prior Delinquency ➔ Adult Crime


Friend’s Support 1982 ➔ Friends’ Support 1995 ➔ Adult Crime

Age ➔ Parents’ Support 1982

Black ➔ Parents’ Support 1995

RMSEA=0.05, $X^2$ Ratio = 1.34, df= 950. Only standardized significant ($p<0.05$) coefficients are given.

Significant coefficients from male sample are in parentheses.
Figure 17. Gender Differences in the Effects of Latent Variables of Social Capital on Adult Crime

RMSEA = 0.05, X^2 Ratio = 1.34, df = 945. Only standardized significant (p<0.05) coefficients are given.

Significant coefficients from male sample are in parentheses.
Table 9. Complete Standardized Loadings of Indicators on Latent Variables of the Symbolic Interactionism Model, Based on Female Sample

<table>
<thead>
<tr>
<th>Year</th>
<th>Loadings</th>
<th></th>
<th>Year</th>
<th>Loadings</th>
</tr>
</thead>
<tbody>
<tr>
<td>1982</td>
<td>Indicators</td>
<td>Self-reflected Identity</td>
<td>1995</td>
<td>Indicators</td>
</tr>
<tr>
<td></td>
<td>A troublemaker</td>
<td>0.732</td>
<td></td>
<td>A troublemaker</td>
</tr>
<tr>
<td></td>
<td>Moody</td>
<td>0.447</td>
<td></td>
<td>Moody</td>
</tr>
<tr>
<td></td>
<td>Something of a hell-raiser</td>
<td>0.713</td>
<td></td>
<td>Something of a hell-raiser</td>
</tr>
<tr>
<td></td>
<td>Needed counseling</td>
<td>0.680</td>
<td></td>
<td>Needed counseling</td>
</tr>
<tr>
<td></td>
<td>Someone who got on people's nerves</td>
<td>0.641</td>
<td></td>
<td>Someone who got on people's nerves</td>
</tr>
<tr>
<td></td>
<td>Someone who broke rules</td>
<td>0.859</td>
<td></td>
<td>Someone who broke rules</td>
</tr>
</tbody>
</table>

RMSEA=0.08, $\chi^2$ Ratio = 2.73, df=53. All loadings are significant at $\alpha=0.001$ level.

Table 10. Complete Standardized Loadings of Indicators on Latent Variables of the Symbolic Interactionism Model, Based on Male Sample

<table>
<thead>
<tr>
<th>Year</th>
<th>Loadings</th>
<th></th>
<th>Year</th>
<th>Loadings</th>
</tr>
</thead>
<tbody>
<tr>
<td>1982</td>
<td>Indicators</td>
<td>Self-reflected Identity</td>
<td>1995</td>
<td>Indicators</td>
</tr>
<tr>
<td></td>
<td>A troublemaker</td>
<td>0.746</td>
<td></td>
<td>A troublemaker</td>
</tr>
<tr>
<td></td>
<td>Moody</td>
<td>0.372</td>
<td></td>
<td>Moody</td>
</tr>
<tr>
<td></td>
<td>Something of a hell-raiser</td>
<td>0.718</td>
<td></td>
<td>Something of a hell-raiser</td>
</tr>
<tr>
<td></td>
<td>Needed counseling</td>
<td>0.643</td>
<td></td>
<td>Needed counseling</td>
</tr>
<tr>
<td></td>
<td>Someone who got on people's nerves</td>
<td>0.638</td>
<td></td>
<td>Someone who got on people's nerves</td>
</tr>
<tr>
<td></td>
<td>Someone who broke rules</td>
<td>0.735</td>
<td></td>
<td>Someone who broke rules</td>
</tr>
</tbody>
</table>

RMSEA=0.08, $\chi^2$ Ratio = 2.58, df=53. All loadings are significant at $\alpha=0.001$ level.
Figure 18. Gender Differences in Reciprocal Effects between Adult Crime and Latent Variables of Reflected Self-Identity

RMSEA=0.07, $X^2$ Ratio = 1.72, df = 244 Only standardized significant (p<0.05) coefficients are given. Significant coefficients from male sample are in parentheses.
Figure 19. Gender Differences in the Effects of Reflected Self-Identity on Adult Criminal Involvement

RMSEA = 0.07, X² Ratio = 1.71, df = 241. Only standardized significant (p<0.05) coefficients are given. Significant coefficients from male sample are in parentheses.
Table 11a. Complete Standardized Loadings of Indicators on Latent Variables (1982) of the Differential Association Model, Female Sample

<table>
<thead>
<tr>
<th>1982 Indicators</th>
<th>1982 Loadings</th>
<th>Parents' disapproval of delinquency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Friends' acceptance of deviance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>If you shopped</td>
<td>0.655</td>
<td>-----</td>
</tr>
<tr>
<td>If you stole a car for a joy ride</td>
<td>0.662</td>
<td>-----</td>
</tr>
<tr>
<td>If you used a fake ID to get into a bar</td>
<td>0.570</td>
<td>-----</td>
</tr>
<tr>
<td>If you got into a fight</td>
<td>0.632</td>
<td>-----</td>
</tr>
<tr>
<td>If you destroyed somebody else's property</td>
<td>0.810</td>
<td>-----</td>
</tr>
<tr>
<td>If you carried a weapon like a gun or knife</td>
<td>0.573</td>
<td>-----</td>
</tr>
<tr>
<td>If you skipped school</td>
<td>0.521</td>
<td>-----</td>
</tr>
<tr>
<td>If you used marijuana</td>
<td>-----</td>
<td>0.670</td>
</tr>
<tr>
<td>If you got into a fight</td>
<td>-----</td>
<td>0.835</td>
</tr>
<tr>
<td>If you used alcohol</td>
<td>-----</td>
<td>0.605</td>
</tr>
<tr>
<td>If you stole a car for a joy ride</td>
<td>-----</td>
<td>0.895</td>
</tr>
<tr>
<td>If you skipped school</td>
<td>-----</td>
<td>0.470</td>
</tr>
</tbody>
</table>

RMSEA=0.06, χ² Ratio = 1.11, df= 53. All loadings are significant at α=0.05 level.
Table 11b. Complete Standardized Loadings of Indicators on Having Criminal Friends, Female Sample

<table>
<thead>
<tr>
<th>1995</th>
<th>Loadings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicators</td>
<td>Having Criminal Friends</td>
</tr>
<tr>
<td>Used marijuana or hashish</td>
<td>0.645</td>
</tr>
<tr>
<td>Stolen something worth less than $5</td>
<td>0.855</td>
</tr>
<tr>
<td>Hit or threatened to hit someone</td>
<td>0.591</td>
</tr>
<tr>
<td>Broken into a vehicle or building to steal something?</td>
<td>0.789</td>
</tr>
<tr>
<td>Sold hard drugs such as heroin, cocaine, and LSD</td>
<td>0.914</td>
</tr>
<tr>
<td>Stolen something worth more than $50</td>
<td>0.925</td>
</tr>
<tr>
<td>Suggested you do something that was against the law</td>
<td>0.835</td>
</tr>
<tr>
<td>Gotten drunk once in a while</td>
<td>0.481</td>
</tr>
<tr>
<td>Been paid to have sex with someone</td>
<td>0.741</td>
</tr>
</tbody>
</table>

RMSEA=0.07, $\chi^2$ Ratio = 2.58, df= 27. All loadings are significant at $\alpha=0.05$ level.
<table>
<thead>
<tr>
<th>Indicators</th>
<th>Loadings</th>
<th>Loadings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steal (or tried to steal) a motor vehicle, such as a car or motorcycle</td>
<td>0.922</td>
<td>0.314</td>
</tr>
<tr>
<td>Steal (or tried to steal) something worth more than $50</td>
<td>0.375</td>
<td>0.657</td>
</tr>
<tr>
<td>Carry a hidden weapon other than a plain pocket knife</td>
<td>0.222</td>
<td>0.156</td>
</tr>
<tr>
<td>Steal (or tried to steal) things worth $5 or less</td>
<td>0.578</td>
<td>0.696</td>
</tr>
<tr>
<td>Attack someone with the idea of seriously hurting him/her</td>
<td>0.567</td>
<td>0.176</td>
</tr>
<tr>
<td>Get involved in gang fights</td>
<td>0.983</td>
<td>0.682</td>
</tr>
<tr>
<td>Use force or threat of force to get money or other things</td>
<td>0.966</td>
<td>0.728</td>
</tr>
<tr>
<td>Sell marijuana or hashish (&quot;pot&quot;, &quot;grass&quot;, or &quot;hash&quot;)</td>
<td>0.342</td>
<td>0.869</td>
</tr>
<tr>
<td>Hit (or threaten to hit) someone</td>
<td>0.473</td>
<td>0.101</td>
</tr>
<tr>
<td>Been paid for having sex with someone</td>
<td>0.824</td>
<td>0.987</td>
</tr>
<tr>
<td>Embezzle: that is, use money or funds entrusted in his/her care for purposes other than intended</td>
<td>0.943</td>
<td></td>
</tr>
</tbody>
</table>

RMSEA=0.08, $\chi^2$ Ratio = 2.36, df= 209. All loadings are significant at $\alpha=0.05$ level
Table 12a. Complete Standardized Loadings of Indicators on Latent Variables (1982) of the Differential Association Model, Male Sample

<table>
<thead>
<tr>
<th>1982</th>
<th>Loadings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicators</td>
<td>Friends’ acceptance of deviance</td>
</tr>
<tr>
<td>If you shoplifted</td>
<td>0.662</td>
</tr>
<tr>
<td>If you stole a car for a joy ride</td>
<td>0.689</td>
</tr>
<tr>
<td>If you used a fake ID to get into a bar</td>
<td>0.447</td>
</tr>
<tr>
<td>If you got into a fight</td>
<td>0.425</td>
</tr>
<tr>
<td>If you destroyed somebody else’s property</td>
<td>0.769</td>
</tr>
<tr>
<td>If you carried a weapon like a gun or knife</td>
<td>0.500</td>
</tr>
<tr>
<td>If you skipped school</td>
<td>0.536</td>
</tr>
<tr>
<td>If you used marijuana</td>
<td>-----</td>
</tr>
<tr>
<td>If you got into a fight</td>
<td>-----</td>
</tr>
<tr>
<td>If you used alcohol</td>
<td>-----</td>
</tr>
<tr>
<td>If you stole a car for a joy ride</td>
<td>-----</td>
</tr>
<tr>
<td>If you skipped school</td>
<td>-----</td>
</tr>
</tbody>
</table>

RMSEA=0.05, $\chi^2$ Ratio = 1.30, df = 53 All loadings are significant at $\alpha=0.05$ level.
### Table 12b. Complete Standardized Loadings of Indicators on Having Criminal Friends, Male Sample

<table>
<thead>
<tr>
<th>1995</th>
<th>Loadings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicators</td>
<td>Having Criminal Friends</td>
</tr>
<tr>
<td>Used marijuana or hashish</td>
<td>0.530</td>
</tr>
<tr>
<td>Stolen something worth less than $5</td>
<td>0.862</td>
</tr>
<tr>
<td>Hit or threatened to hit someone</td>
<td>0.881</td>
</tr>
<tr>
<td>Broken into a vehicle or building to steal something?</td>
<td>0.744</td>
</tr>
<tr>
<td>Sold hard drugs such as heroin, cocaine, and LSD</td>
<td>0.866</td>
</tr>
<tr>
<td>Stolen something worth more than $50</td>
<td>0.724</td>
</tr>
<tr>
<td>Suggested you do something that was against the law</td>
<td>0.775</td>
</tr>
<tr>
<td>Gotten drunk once in a while</td>
<td>0.441</td>
</tr>
<tr>
<td>Been paid to have sex with someone</td>
<td>0.688</td>
</tr>
</tbody>
</table>

RMSEA=0.07, $\chi^2$ Ratio = 2.79, df = 27. All loadings are significant at $\alpha=0.05$ level.
<table>
<thead>
<tr>
<th>Indicators</th>
<th>Loadings</th>
<th>Loadings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steal (or tried to steal) a motor vehicle, such as a car or motorcycle</td>
<td>0.472</td>
<td>0.011</td>
</tr>
<tr>
<td>Steal (or tried to steal) something worth more than $50</td>
<td>0.262</td>
<td>0.989</td>
</tr>
<tr>
<td>Carry a hidden weapon other than a plain pocket knife</td>
<td>0.078</td>
<td>0.390</td>
</tr>
<tr>
<td>Steal (or tried to steal) things worth $5 or less</td>
<td>0.138</td>
<td>0.967</td>
</tr>
<tr>
<td>Attack someone with the idea of seriously hurting him/her</td>
<td>0.175</td>
<td>0.198</td>
</tr>
<tr>
<td>Get involved in gang fights</td>
<td>0.327</td>
<td>0.766</td>
</tr>
<tr>
<td>Use force or threat of force to get money or other things</td>
<td>0.276</td>
<td>0.706</td>
</tr>
<tr>
<td>Sell marijuana or hashish (&quot;pot&quot;, &quot;grass&quot;, or &quot;hash&quot;)</td>
<td>0.016</td>
<td>0.922</td>
</tr>
<tr>
<td>Hit (or threaten to hit) someone</td>
<td>0.072</td>
<td>0.291</td>
</tr>
<tr>
<td>Been paid for having sex with someone</td>
<td>0.073</td>
<td>0.766</td>
</tr>
<tr>
<td>Embezzle: that is, use money or funds entrusted in his/her care for purposes other than intended</td>
<td>0.964</td>
<td></td>
</tr>
</tbody>
</table>

RMSEA=0.08, $\chi^2$ Ratio = 2.83, df=209. All loadings are significant at $\alpha=0.05$ level.
Figure 20. Gender Differences in the Reciprocal Effects between Adult Criminal Involvement and Latent Variables of Differential Association Model. (Cross-lagged Model)

RMSEA=0.08, $X^2$ Ratio = 2.38, df = 2117. Only standardized significant (p<0.05) coefficients are given. Significant coefficients from male sample are in parentheses.
Figure 21. Gender Differences in the Effects of Latent Variables of Differential Association on Adult Criminal Involvement.

RMSEA=0.08, X² Ratio = 2.37, df = 2110. Only standardized significant (p<0.05) coefficients are given.

Significant coefficients from male sample are in parentheses.
Figure 22. Gender Differences in the Effects on Life Course Opportunities on Adult Criminal Involvement

RMSEA=0.03, X² Ratio = 1.16, df = 78. Only significant (p<0.05) standardized coefficients are given. Significant coefficients from male sample are in parentheses.
Table 13a. Total Effect of Prior Delinquency on Latent Social Variables in the Master Model (Based on Subsamples)

<table>
<thead>
<tr>
<th>Latent Variables of Critical Social Domains</th>
<th>Total Effect of Prior Delinquency on Latent Social Variables (Female)</th>
<th>Total Effect of Prior Delinquency on Latent Social Variables (Male)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Social Capital</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parents' Support in 1982</td>
<td>-0.255***</td>
<td>0.067</td>
</tr>
<tr>
<td>Friends' Support in 1982</td>
<td>-0.082</td>
<td>0.069</td>
</tr>
<tr>
<td>Parents Support in 1995</td>
<td>-0.108</td>
<td>-0.018</td>
</tr>
<tr>
<td>Friends Support in 1995</td>
<td>0.052</td>
<td>0.135</td>
</tr>
<tr>
<td><strong>Symbolic Interactionism</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reflected Self-Identity in 1982</td>
<td>-0.251***</td>
<td>-0.147</td>
</tr>
<tr>
<td>Reflected Self-Identity in 1995</td>
<td>-0.119</td>
<td>-0.328***</td>
</tr>
<tr>
<td><strong>Differential Association</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Friends' Acceptance of Deviance</td>
<td>0.434***</td>
<td>0.222**</td>
</tr>
<tr>
<td>Parents' Disapproval of Deviance</td>
<td>-0.243***</td>
<td>-0.031</td>
</tr>
<tr>
<td>Having Criminal Friends</td>
<td>0.208*</td>
<td>0.082</td>
</tr>
<tr>
<td>Having Delinquent Partners</td>
<td>0.077</td>
<td>0.062</td>
</tr>
<tr>
<td><strong>Life Course</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attachment to School in 1982</td>
<td>-0.234***</td>
<td>-0.126</td>
</tr>
<tr>
<td>Employment Status</td>
<td>-0.078</td>
<td>0.025</td>
</tr>
<tr>
<td>Marriage</td>
<td>0.125</td>
<td>-0.184*</td>
</tr>
<tr>
<td>Occupational Status</td>
<td>0.166</td>
<td>0.013</td>
</tr>
<tr>
<td><strong>Population Heterogeneity</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adult Criminal Involvement</td>
<td>0.266*** (total effect)</td>
<td>0.346*** (total effect)</td>
</tr>
<tr>
<td></td>
<td>0.210*** (direct effect)</td>
<td>0.218*** (direct effect)</td>
</tr>
</tbody>
</table>

*p< 0.05, **p<0.01, ***p<0.001. All coefficients are standardized. RMSEA=0.06, df = 8416. $\chi^2$ Ratio =1.40.
Table 13b. Total Effect of Latent Social Variables on Adult Criminal Involvement (Based On Subsamples)

<table>
<thead>
<tr>
<th>Latent Variables of Critical Social Domains</th>
<th>Total Effect of Latent Social Variables on Adult Criminal Involvement (Female)</th>
<th>Total Effect of Latent Social Variables on Adult Criminal Involvement (Male)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parents' Support in 1982</td>
<td>-0.009</td>
<td>0.021</td>
</tr>
<tr>
<td>Friends' Support in 1982</td>
<td>-0.007</td>
<td>0.023</td>
</tr>
<tr>
<td>Parents Support in 1995</td>
<td>-0.031</td>
<td>0.081</td>
</tr>
<tr>
<td>Friends Support in 1995</td>
<td>-0.012</td>
<td>0.090</td>
</tr>
<tr>
<td>Reflected Self-Identity in 1982</td>
<td>0.026</td>
<td>-0.067</td>
</tr>
<tr>
<td>Reflected Self-Identity in 1995</td>
<td>0.075</td>
<td>-0.147</td>
</tr>
<tr>
<td>Friends' Acceptance of Deviance</td>
<td>0.012</td>
<td>0.005</td>
</tr>
<tr>
<td>Parents' Disapproval of Deviance</td>
<td>-0.023</td>
<td>-0.139**</td>
</tr>
<tr>
<td>Having Criminal Friends</td>
<td>0.232***</td>
<td>0.391***</td>
</tr>
<tr>
<td>Having Delinquent Partners</td>
<td>0.212***</td>
<td>0.125</td>
</tr>
<tr>
<td>Attachment to School in 1982</td>
<td>0.004</td>
<td>-0.014</td>
</tr>
<tr>
<td>Employment Status</td>
<td>0.099</td>
<td>0.056</td>
</tr>
<tr>
<td>Marriage</td>
<td>-0.108</td>
<td>-0.166*</td>
</tr>
<tr>
<td>Occupational Status</td>
<td>0.112</td>
<td>0.026</td>
</tr>
<tr>
<td>Prior Delinquency</td>
<td>0.266*** (total effect)</td>
<td>0.346*** (total effect)</td>
</tr>
<tr>
<td></td>
<td>0.210*** (direct effect)</td>
<td>0.218*** (direct effect)</td>
</tr>
</tbody>
</table>

p< 0.05, **p<0.01, ***p<0.001. All coefficients are standardized. RMSEA=0.06, df = 8416. \( \chi^2 \) Ratio = 1.40.