



Online citation: Gunnison, Elaine and Lisa M. McCartan. 2010. "Persistent versus Late Onset among Female Offenders: A Test of State Dependent and Population Heterogeneity Interpretations." *Western Criminology Review* 11(3):45-62. (<http://wcr.sonoma.edu/v11n3/Gunnison.pdf>).

Persistent versus Late Onset among Female Offenders: A Test of State Dependent and Population Heterogeneity Interpretations^{*}

Elaine Gunnison
Seattle University

Lisa M. McCartan
LeMoyne College

Abstract: *Research into female offending has begun to explore the utility of different offending trajectories for females. The current research extends this new line of inquiry by employing both population heterogeneity and state dependent interpretations of offending. Using data on a sample of females collected from a southwestern prison, the results indicate that there are significant differences between persistent and late onset offenders. While many theoretical variables did not distinguish between late onset and persistent offenders, sexual abuse did. This research further suggests that prior sexual abuse may be a key factor in explaining the persistence of female offending. Additionally, substance abuse problems and affiliation with deviant peers were also important factors in explaining female persistence. The results also find support for both population heterogeneity and state dependent approaches to understanding female criminality.*

Keywords: persistent offending, late onset offending, female offending, population heterogeneity, state dependent, sexual abuse

^{*}This paper was presented at the annual conference of the Academy of Criminal Justice Sciences in Chicago, IL in March of 2005.

Over the past several decades, female offenders have been receiving increased attention in the criminological literature (Belknap 2007; Belknap and Holsinger 2006; Chesney-Lind and Pasko 2004; Chesney-Lind and Shelden 2004; Gunnison and McCartan 2005; Naffine 1996; Pollock 2002; Steffensmeier and Haynie 2000). While early researchers viewed female offenders as a product of their sexual promiscuity (see Odem 1995), currently, female offending is viewed within the context of traditional criminological theories. Research on female offending highlights two consistent findings: First, females offend at lower rates than their male counterparts although their rates are increasing (Chesney-Lind & Pasko 2004; FBI 2009); and second, female offenders report 2-3 times higher rates of sexual abuse than the general population (Harlow 1999). In addition, there is an emerging third research area that is consistent with the findings within the literature on male offending: there may be discrete groups of female offenders.

While there is still some debate as to the exact number of discrete offender groups, with estimates ranging from two to five (see Fergusson and Horwood 2002), several researchers agree that there are at least two: chronic or persistent offenders and late onset offenders (Blumstein, Cohen, and Farrington 1988; Moffitt 1993; Patterson and Yoerger 1993).¹ Persistent offenders are offenders who begin offending earlier in the life course and who generally fail to age out of crime with their peers (Blumstein et al. 1988). Late onset offenders, on the other hand, begin offending later in the life course (Blumstein et al. 1988). Research into offending trajectories, largely guided by the work of Moffitt (1993), Sampson and Laub (1993), and Patterson and Yoerger (1993), have substantiated the existence of these discrete groups, with mostly male samples.

Research into female offending has also begun to extend into the identification of discrete groups of offenders (see Aguilar et al. 2000; Fontaine et al. 2009;

Gunnison and McCartan 2005; Landsheer and van Dijkum 2005; Odgers et al. 2008; Silverthorn and Frick 1999). As is the case with male offenders, these discrete groups of offenders are qualitatively different from one another and demonstrate different offending trajectories.² Landsheer and van Dijkum (2005:744) have identified persistent female offenders in their examination of male and female adolescent delinquency trajectories. The researchers found that persistent female offenders are a smaller group when compared to persistent male offenders; however, they are “strongly involved in delinquent activities.” Most recently, Haapanen, Britton, and Croisdale (2007:142) noted that the “rate of arrest for females is also very high suggesting that persistence is not simply a male phenomenon.”

The current paper seeks to extend research on the differing female offending groups by employing both state dependence and population heterogeneity interpretations of offending trajectories. These interpretations of offending trajectories posit that either criminal behavior is a result of a stable antisocial trait (population heterogeneity) or that involvement in criminality can increase the chances of future criminality (state dependence). Previous research has argued for either a state dependence or population heterogeneity interpretation of offending, but the current analysis, both qualitative and quantitative in scope, maintains that aspects of both forms of interpretation of continuity will differentiate between persistent and late onset offenders. Specifically, it is hypothesized within the current analysis that persistent offenders will be differentiated from late onset offenders by components of both population heterogeneity and state dependence theories.

LITERATURE REVIEW

Two of the most commonly documented findings within criminology are that 1) females commit fewer criminal offenses than males (Belknap 2007; Chesney-Lind and Pasko 2004; FBI 2009; Moffitt et al. 2001), and 2) past criminal behavior is strongly correlated with future criminal behavior (Farrington et al. 1990; Robins 1978; Tolan and Thomas 1995). The former finding has been well documented with factors such as levels of supervision, lowered criminal propensities, and sexual abuse being identified as critical factors in the difference between offending rates (see Hagan, McCarthy, & Foster 2002; Siegel & Williams 2003). The latter finding may offer insight into an area that is just beginning to be tapped within female offending: persistence in offending.

The literature on the pathway to persistence in offending for females is by no means unequivocal. Recent research has indicated three divergent patterns for female offending: 1) females and males travel the same pathway towards offending; 2) early onset females are similar to early onset males; and 3) girls experience delayed onset instead of early onset (see Rutter, Giller, and Hagell 1998).

More recent research indicates that prior delinquent behavior may be less predictive for female offenders (Landsheer and van Dijkum 2005), suggesting the need to look at additional social and biological influences on female offending. Specifically, Landsheer and van Dijkum (2005), in their longitudinal study of 270 male and female Dutch adolescents, found that for males early involvement in delinquent activity was predictive of late adolescent delinquency. However, the researchers did not find this to be the case for females, and the researchers assert that different models may be needed to explain the development of male and female delinquency. The debate in research on female offending and persistence exemplifies the need for further investigation into the nature of female persistence.

In examining female persistence, the current paper employs two potential interpretations: a state dependence interpretation and a population heterogeneity interpretation. The state dependence interpretation maintains that prior behavior or events alter an individual in such a way as to influence future outcome (Heckman 1981). Conversely, the population heterogeneity interpretation maintains that there is a time stable propensity underlying behavior that is responsible for offending persistence over time. Drawing from traditional, life course, and feminist theories of offending, the current paper attempts to begin answering the question of the nature of female persistence: the result of life experiences or the result of an underlying trait.

Population Heterogeneity vs. State Dependence

The population heterogeneity interpretation of consistency argues that criminal behavior is the result of time stable antisocial propensities developed early in life (Nagin and Paternoster 2000). The population heterogeneity interpretation of offending can be exemplified in trait-based criminological theories such as Gottfredson and Hirschi’s (1990) General Theory of Crime (GTC) and Moffitt’s (1993) theory of life course persistent offending. GTC maintains that the trait underlying criminal behavior is low self-control (Gottfredson and Hirschi 1990). That is, levels of self-control are differentially distributed across the population, and individuals with lower levels of self-control, in the presence of opportunity, are more likely to commit criminal acts. Moffitt’s (1993) theory of life course persistent offenders similarly argues that criminal potential is unequally distributed across the population. Unlike Gottfredson and Hirschi, who argue for more environmental causes (e.g., poor parenting practices),³ Moffitt argues for a biological origin: neuropsychological injury. This neuropsychological injury results in behavioral, motor, and cognitive deficits. When encapsulated in a poor rearing environment, these deficits can lead to life course persistent offending (Moffitt 1993).

And consistent with offending rates, both theories argue that offenders are more likely to be male.

The alternative explanation of continuity, state dependence, argues that each criminal event increases the chances of future criminal events by eroding constraints on criminal behavior and increasing incentives to committing criminal acts. Contrary to population heterogeneity, the state dependence approach maintains that life experiences can either encourage or discourage future criminal experiences. Sampson and Laub's (1993) Age Graded Theory of Offending is an example of a state dependence based theory. According to Sampson and Laub, with each stage of development, an individual accumulates advantages and disadvantages. That is, the experiences of each stage can either encourage or discourage antisocial behavior. Each stage, therefore, changes or influences the experiences that will occur in the next stage (Sampson and Laub 1993).

Other control based theories, such as Hirschi's (1969) social bond theory, are also state dependence based theories. Hirschi's social bond theory states that when an individual's bonds to society are weak or broken, the individual is more likely to engage in delinquent and criminal behavior. Consistent with the state dependence interpretation, prior criminal behavior may actually weaken bonds to society (Agnew 1985). Involvement in criminal behavior may weaken bonds further by damaging attachments to significant others and by reducing involvement in conventional activities (Massey and Krohn 1986). Similarly, from a differential association and social learning perspective, involvement in criminal activity may increase exposure to and involvement with delinquent peers, thus increasing the chances of future delinquent or criminal acts (Akers 1997; Sutherland 1947).

Understanding Female Persistence in Offending

To understand female persistence within the state dependence and population heterogeneity interpretations, it is necessary to explore the nature of female development. The influential developmental factors on female offending can be grouped into four categories: biological factors, social control, female development, and prior abuse. Of these four categories, both biological factors and, to a lesser extent, female development approach female offending from a population heterogeneity perspective. Social control and prior abuse, on the other hand, are strongly ingrained in a state dependence approach.

Biological factors. Within life course criminology, it is becoming increasingly clear that biological factors may play a role in the continuity of offending (see Farrington 1998; Moffitt 1993; Zahn 1999). According to Moffitt (1993), disruptions in prenatal development or head injury may increase a child's chances for engaging in life course persistent offending. Females, however, appear to be less at risk for biological interference than males (Raine 1993).

Males are more likely to suffer prenatal injury resulting in a range of developmental deficits (Raine 1993). These deficits affect a child's ability to develop appropriate behaviors and to interact well with peers, increasing a child's chance of long-term behavioral problems (Moffitt 1993). Boys are also more likely to engage in risky or dangerous behavior due to lower behavioral controls and, therefore, are at a higher risk for head injury. Across the board, females are less likely to experience both of these biological influences (Raine 1993). If, however, a female does experience either or both influences, her chances of engaging in criminal behavior increase.

Social control. From the social control perspective, females are less likely to engage in criminal behavior, because they experience higher levels of social control within society from both friends (McCarthy, Felmlee, and Hagan 2004) and family (McCarthy, Hagan, and Woodward 1999). Research supports this argument of differing levels of social control. For example, Block (1984) argues that females are more closely supervised by family than males, particularly due to the fear of early pregnancy. Females, in turn, are more likely to internalize these social controls at an earlier age, reducing their chances of engaging in delinquent behavior (Heimer 1996). In addition, higher familial responsibilities are also placed on females at an earlier age, further curtailing criminal behavior (Bottcher 2001). Due to both higher levels of supervision and increased responsibilities, girls have less time to engage in delinquent behaviors. Recent research conducted by Booth, Farrell, and Varano (2008) suggests that social controls impact the pathway for female involvement in serious delinquency and risky behaviors.

Female development. There are two areas of gender differences in development that may provide an understanding of the relationship between gender and offending rates: maturity and behavioral disorders. Socially, males develop through increased autonomy. That is, as males grow, they increasingly strive for independence and self-reliance. Females, on the other hand, develop through the initiation, maintenance, and deepening of relationships (Gilligan 1982). Females may, therefore, be more influenced by other people's perception of them and by their relationships with others than are their male counterparts (Morris 1987). Accordingly, female relationships may have more influence on female behavior than male relationships (Peters 2001). Theoretically, this line of thought supports the contention of differential association: exposure to delinquent peers will increase an individual's chances of engaging in delinquent behavior. Females exposed to delinquent peers may be at a higher risk for delinquent or criminal behavior. This perspective also speaks to the intensity of definitions favorable or unfavorable to the commission of criminal acts. Moreover, it suggests that relationships damaged by traumatic acts may have more of an impact on females than males (Belknap and Holsinger 1998).

Research into childhood and adolescent disorders may also shed some light on a differential development in offending rates for females. Girls are less likely to develop overt behavioral disorders such as hyperactivity or ADD, both of which have been linked to early onset of offending (Rutter et al. 1998; Zabel and Nigro 1999). Females, on the other hand, are more likely to develop disorders such as anorexia nervosa or depression (Belknap 2007; Jang and Johnson 2005; Motz 2000). In fact, depression appears to be a more common reaction to strain for females than anger (Jang and Johnson 2005). Anger, females have been taught, can damage relationships. Females, therefore, are less likely to demonstrate angry responses and are more likely to become depressed.

Prior abuse. All of the previously mentioned criminological risk factors are expected to occur less often in females, thus explaining females' lower participation in criminal behavior. Theoretically, females' non-involvement in criminal behavior and females' actual involvement in criminal behavior have generally been addressed using male focused theories. Females, however, may have some unique factors that contribute to persistent offending (Gunnison and McCartan 2005). One risk factor that appears critical in understanding female involvement and persistence in crime is prior abuse.

Prior abuse can include both sexual and physical forms of abuse. Both forms have demonstrated negative effects on future outcomes. Numerous researchers have found that one unique pathway into onset in criminal offending is prior sexual abuse (Belknap 2007; Belknap and Holsinger 2006; Chesney-Lind and Pasko 2004; Comack 2005; Gilfus 1992). Research indicates that children abused earlier in life are more likely to be arrested later in life (Widom 1995). Prior sexual abuse of females has a pervasive impact on their lives. Mullen and colleagues (1988) found that females who had experienced sexual abuse as a child experienced mental health issues in adulthood (e.g., various psychiatric disorders) and at a greater rate than those women who had not experienced such abuse. Female inmates report higher levels of sexual victimization than the general population (Belknap 2007; Siegel and Williams 2003). When compared to institutionalized juvenile males, institutionalized juvenile females report higher rates of sexual abuse (Belknap and Holsinger 2006). Additionally, it has been suggested that the rate of victimization for female inmates may be double or triple the rate experienced by the general population (Harlow 1999). Sexual abuse can indeed have a detrimental impact on both males and females (McCartan and Gunnison 2010; McGuigan and Middlemiss 2005; Reinemann, Stark, and Swearer 2003; Romano and De Luca 2000). Romano and De Luca (2000), who examined the empirical literature on the impact of sexual abuse for males and compared it to the research literature on females, found that regardless of gender, childhood sexual abuse can negatively impact their lives. The researchers

did note that females who experienced childhood sexual abuse tended to display more internalizing problems (e.g., depression or anxiety) as a result of their victimization. Other responses to childhood sexual abuse that females exhibit include substance abuse (internalized pain) and criminal involvement (externalized pain). Several researchers have linked prior sexual abuse to the use of drugs and/or alcohol for females (Bailey and McCloskey 2005; Belknap 2007; Cheney-Lind and Pasko 2004; Comack 2005; Gilfus 1992; Goodkind, Ng, and Sarri 2006; Kilpatrick et al. 2000; Luster and Small 1997; Miller and Downs 1993; Saunders et al. 1999; Widom 1995). Thus, the trauma of abuse can not only lead to onset into offending, but sexual abuse can also have a long-term cumulative impact on the lives of female offenders, causing them to persist in offending (see Gunnison and McCartan 2005).

Physical abuse has also been associated with arrest for a violent crime later in life (Bunch, Foley, and Urbina 1983; Rivera and Widom 1989; Widom 1995). Physical abuse of females has additionally been linked to the onset of criminal behavior in general (Belknap 2007; Belknap and Holsinger 2006; Chesney-Lind and Shelden 2004), as well as increasing a female's chance of beginning to use drugs or joining a gang (Acoca 1998). The role of abuse, therefore, appears to be a factor that needs to be addressed in explaining female persistence.

From these four areas of research, we find both population heterogeneity and state dependence approaches to understanding female offending. From the population heterogeneity perspective, the argument is put forth that females experiencing in-utero injury or early head injuries are more likely to engage in delinquent or criminal behavior than females who have not experienced in-utero injury or early head injuries. Also from the population heterogeneity perspective is the argument that females' pathway to maturity through relationships places her at greater risk for criminal behavior, as she may be more susceptible to negative influences. While this approach does address environmental factors (i.e., the negative influences), the actual causal factor that sets a female up for a detrimental outcome is her gender, and hence, this approach falls into the population heterogeneity camp. The remaining categories address critical life events that can re-direct a female from a non-criminal pathway into a criminal pathway. Through social control, females can be prevented from engaging in offending behavior. Prior abuse, on the other hand, can have a crippling effect on a female's pathway and can encourage her to engage in future criminal behavior.

Drawing on both state dependence and population heterogeneity based theories, the following analyses examine the role of these theoretical factors in explaining persistence for a group of persistent and non-persistent female offenders. Previous research into offending offers some further guidance into the expected results. Research

by Chung and colleagues (2002) indicates that discrete offender groups and non-offender groups can be distinguished by alcohol use, family factors, and exposure to antisocial peers. Fergusson, Horwood, and Nagin (2000) similarly found family factors played a role in differentiating offender groups. Association with delinquent peers, however, appears to be the critical factor in escalating onset of offending. Unlike the delineation demarcated by the state dependence and population heterogeneity approaches, it is hypothesized within the current analysis that persistent offenders will be differentiated from late onset offenders by components of both population heterogeneity and state dependence theories. Drawing from the extant criminological literature discussed earlier, specifically, it is believed that: 1) persistent offenders are more likely to have biological injury early in life; 2) persistent offenders are more likely to have experienced abuse; 3) persistent offenders are more likely to have lower levels of self control; 4) persistent offenders are more likely to have few social ties and to associate with delinquent or criminal others; 5) persistent offenders are more likely to have a history of drug and alcohol use; and 6) persistent offenders are more likely to commit violent crimes. Thus, unlike previous research which argues for either a state dependence or population heterogeneity interpretation of offending, the current analysis maintains that aspects of both forms of interpretation of continuity will differentiate between persistent and late offenders.⁴

METHOD

The current analysis seeks to better explain persistent female offending using both a quantitative and qualitative approach. Using both juvenile and adult descriptors from multiple criminological theories (e.g., social control theory, differential association theory, self-control theory, feminist theory), the analyses compare female late onsetters and female persisters. It is necessary to compare both juvenile and adult descriptors for the discrete offender groups as some researchers have asserted that exploration into adult onset of offending has been overlooked in the literature (see Eggleston and Laub 2002). Through such comparisons, the analyses seek to provide both similarities and differences between those females who have late onset into criminal offending patterns to those females who persist in criminal behavior.

Sample

The data used in the following analyses are gathered from a voluntary retrospective self-report survey of female inmates at a Southwestern prison. This prison represents the only privately run prison in the state and the only prison for women in the state. Within this Southwestern

state, there are eight prison institutions, ten conservation camps, and one restitution center. Virtually all prisons within the state are operating beyond designed inmate capacity. At the time of this research investigation, 400 women were incarcerated in this Southwestern prison that had a designed operating capacity of 291 offenders. Females represented approximately 8 percent of the total prison population in this state, and the majority of incarcerated females had committed property or drug offenses. The ethnic distribution of the incarcerated women is as follows: 66 percent Caucasian, 23 percent African-American, 7 percent Latina-American, 2 percent Asian-American, and 2 percent Native-American. Overwhelmingly, incarcerated females were between the ages of 25 and 44. A total of 131 surveys were administered and completed after approval from the Institutional Review Board at the University of Nevada, Las Vegas (UNLV) and from the Institutional Review Board at the Department of Corrections in the Southwestern state was sought and granted. Similar to the entire prison population, the majority of the sample was Caucasian (57%). There were 15 percent African-American women, 10 percent Latina-American women, 2 percent Asian-American women, and 4 percent Native-American women in our sample. In addition, the majority of our sample was from lower socioeconomic backgrounds (74%), had received a G.E.D. or lower levels of education (51%), and was not currently married (55%). In terms of prior arrest histories, 74 percent of the sample reported a prior arrest, 66 percent reported a prior misdemeanor conviction, and 61 percent reported a prior felony conviction.

The designed survey collected information on the offenders' life history, prior criminal involvement, and demographic information. Overwhelmingly, the designed survey was quantitative in nature. However, several open-ended questions were included in the survey in order to gather qualitative feedback that could aid in understanding both female onset and persistent offending patterns. The researchers were careful in the solicitation of subjects to ensure that every female offender participating in the study was doing so on a voluntary basis. For example, subjects were recruited via fliers hung in all of the inmates' pods explaining that a research study was being conducted by university researchers and that voluntary participants were appreciated. All posted fliers contained information, such as the time and place of the survey administration, and did not indicate the nature of the study. Since the fliers did not state the exact purpose of the study, the researchers were assured that this method did not exclude participation of females from various racial/ethnic and criminal backgrounds.

Since the survey had a Flesch-Kincaid readability of 6.0, the researchers felt that the survey was not written at a level above the reading comprehension level of inmates. Thus, the survey was administered to small groups of 5 to

10 female inmates, and it took the women approximately 30 minutes to complete. On several occasions, the researchers gave assistance to the Spanish-speaking inmates and to inmates with reading difficulties or learning disabilities. In these two types of situations, the survey questions were read aloud to the inmates without anyone else being in the room at the same time. This procedure was utilized to ensure confidentiality of survey responses. Unfortunately, the researchers did not have access to the official records of the female inmates in our study to verify reported information.

Measures of Theoretical Constructs

In order to better understand which descriptors could distinguish late onsetters from persisters, respondents were asked to reflect on experiences that occurred prior to the age of 18 in their lives as well as experiences over the age of 18. Responses gleaned from items asking the respondent to reflect on experiences prior to age 18 were classified as juvenile descriptors, while responses obtained from items asking the respondent to reflect on experiences after the age of 18 were classified as adult descriptors. The only exception to this was our head injury variable where respondents were asked to report any head injuries prior to age 12. Given the problems with retrospective measures (e.g., telescoping, retrieval error, etc.), the reference period is important to consider. For the juvenile measures, respondents were asked to recall events prior to age 18. For the adult measures, respondents were asked to recall items as an adult (i.e., over age 18) or within one year prior to arrest leading to their incarceration, with the majority of the adult measures falling in the latter category. To help prevent error, the key elements of the survey questions were bolded and italicized to draw greater attention to the specificity of the item (e.g., under the age of 18). While retrospective surveys do have their limitations, Gottfredson and Hirschi (1990) assert that retrospective studies are a valid method of measurement. Additionally, Henry and colleagues (1994), in their study of shoplifters, found that offenders did remember committing an offense earlier in their lives but that they had difficulties identifying the specific age at which they committed it.

Population heterogeneity variables

Premature birth. According to Moffitt (1993), a child who is born premature will develop behaviorally, physically, and cognitively slower than his/her counterparts. In addition, Moffitt (1993) asserts that life course persisters are more likely to be impacted by premature birth than their late onsetter, or adolescent limited, counterparts. Thus, a measure of premature birth was included in the current analysis. The researchers asked respondents whether or not they were born premature.

Head injury. Since Moffitt (1993) asserts that neurological deficits are the root cause of life course persistent offending patterns, we wanted to explore whether such a deficit could distinguish our groups. While we did not have access to the medical records of the female inmates, we used a proxy for neurological deficits in this research. Respondents were asked whether or not they had suffered a head injury when they were under the age of 12.

Low self-control. We utilized Grasmick et al.'s (1993) 24-item low self-control scale to determine whether persisters were more likely to exhibit this trait than late onsetters. Responses were dummy coded where 0 = low self-control and 1 = high self-control. The Cronbach alpha for this scale is .85.

State dependence measures

Employment. In order to ascertain whether employment distinguished persisters from late onsetters, we asked respondents whether, while under the age of 18, they had a mother or father who was employed. In addition, respondents were asked whether or not they were employed in the year before their current prison sentence.

Spousal Attachment. Sampson and Laub (1993) state that a quality marriage can promote desistance from crime. King, Massoglia, and MacMillan (2007) note that marriage can suppress criminal involvement for females. Thus, in order to determine whether marriage could distinguish persisters from late onsetters, respondents were asked whether they were married in the year prior to their current prison sentence. Horney, Osgood, and Marshall (1995) found that men who were not residing with their spouses were more likely to continue committing crimes. Therefore, we asked respondents whether or not they resided with their spouses. Additionally, Sampson and Laub (1993) explain that it is not marriage per se that contributes to one breaking away from criminality, but a quality marriage where each spouse supports the other. Thus, we asked respondents whether or not they received support, warmth, encouragement, and love from their partner and whether they had respect for their spouse or shared similar interests with them. Responses from these questions were then summated to create a spouse attachment scale. The Cronbach alpha for this scale is .77.

Child attachment. To ascertain whether attachments are important, as Sampson and Laub (1993) assert, we explored whether persisters were less likely than late onsetters to be attached to their child/ren. Thus, using items adapted from the National Youth Survey, we asked respondents to report their enjoyment and satisfaction with their children prior to their current incarceration sentence. The responses from these two items were summated to create a child attachment scale where responses were recoded as 0 = no enjoyment/satisfaction and 1 = enjoyment/satisfaction.

Loving household. Hirschi (1969) proposes that those who are attached to a significant other are less likely to commit criminal acts. In order to explore whether being raised in a non-loving household distinguished late onsetters from persisters, we asked respondents to report whether or not they would describe their household as loving when under the age of 18.

Religious commitment. In the qualitative portion of Giordano, Cernkovich, and Rudolph's (2000) analysis of desistance, a large number in their sample reported that a commitment to religion promoted desistance from criminality. Thus, we would expect persisters to be less committed to religion than late onsetters. Respondents were questioned as to the importance of religion in their lives prior to their incarceration sentence.

Military service. In 1996, Sampson and Laub, using the Gluecks' (1950) data, found that overseas duty in the WWII era emerged as a crucial life experience for breaking away from past social disadvantages (such as poverty and deviant peers). Thus, we expect that persisters would be less likely to have served in the military than late onsetters. Respondents were questioned as to whether they had ever served in the military.

Drug and/or alcohol use. Drug abuse has been associated with onset and persistence of criminality (Johnson, Golub, and Fagan 1995). Respondents were asked separate questions as to whether or not they had used drugs or alcohol as a juvenile and as an adult.

Delinquent associations. Sutherland (1947) proposed that those who had friends that were delinquent and/or criminal were also more likely to be delinquent and/or criminal. In this survey, respondents were asked whether or not they had ever been a member of a gang (as a juvenile and adult). Respondents were also asked whether any of their closest friends had been arrested (as a juvenile and adult).

Physical abuse. Researchers have found that physical violence during one's childhood is related to onset and persistence in criminal offending patterns (Chesney-Lind and Rodriguez 1983; Widom 1995). Respondents were asked whether they had been physically abused as a juvenile or as an adult, and two separate measures were created capturing abuse before age 18 and after 18.

Sexual abuse. Several researchers have pinpointed sexual abuse as a unique pathway into criminal offending patterns for females (Belknap 2007; Belknap and Holsinger 1998; Chesney-Lind and Rodriguez 1983; Silbert and Pines 1981; Widom 1995). Respondents were asked if they had been sexually abused as a juvenile or as an adult, and two separate measures were created capturing abuse before age 18 and after 18.

Depression. Some research has suggested that offenders who recidivate suffer from mental illness such as depression (Craft and Craft 1984). Research has also found that women who persist in illicit drug use suffer from depression (Kandel, Simcha-Fagan, and Davies 1986). In

order to investigate whether depression is more likely to be found in persisters, respondents were asked if they had ever been diagnosed with depression as a juvenile or adult.

Discrete Offender Groups

Research within life course criminology is increasingly using discrete offender groups to understand male offending. Previous research into female offending has also begun to examine and support the use of discrete offender groups (see, for example, Gunnison and McCartan 2005; Landsheer and van Dijkum 2005). The current research dichotomizes its offender sample into late onset and persistent offenders to be consistent with this previous research. Using responses to arrest and incarceration questions in our self-report survey, persister and late onsetter groups were created. It is recognized by researchers that those who persist in criminality have exhibited involvement in crime as an adolescent (Ge, Donnellan, and Wenk 2001; Moffitt 1993; Soothill, Ackerley, and Francis 2003). Thus, a persister was defined as an individual who had self-reported an arrest as a juvenile and then was subsequently incarcerated as an adult. A late onsetter was defined as an individual who did not self-report an arrest or incarceration as a juvenile but was later incarcerated as an adult. Some researchers have defined late onset as criminal onset at ages 13-15. However, Eggleston and Laub (2002:613) state "that applying the definition of late onset to adult only offenders may be more appropriate since adolescent onset seems normative." Since researchers have found that a higher percentage of female late onset offenders are adults in the U.S. and Sweden, there is empirical support for defining late female onsetters in adulthood (Kratzer and Hodgins 1999; Magnusson 1988; Shannon 1998; Tracy and Kempf-Leonard 1996). There were a total of 55 persisters and 76 late onsetters in our sample. While some researchers would argue for the use of group based methodology for identifying these groups (see Odgers et al. 2008), the authors did not utilize latent class analysis (ELCA) since the purpose of the present study was to evaluate state dependent versus population heterogeneity interpretations for persistent vs. late onsetters. There is not a precedent in the literature to use such an analysis for a research investigation such as ours. More recently, Skardhamar (2010:311) reports that utilizing group based methodology "to test for the existence of distinct latent groups...is, at best, unreliable."

RESULTS

The first step in the research investigation was to examine qualitative feedback from the overall sample of female offenders to better understand why they first became involved in criminality and why they continued to

persist in criminal offending patterns. Then, quantitative comparisons were utilized to further define late onsetters and persisters and to understand these discrete groups. Specifically, comparisons between juvenile descriptors, adult descriptors, and the type of crime were performed to ascertain differences between late onsetters and persisters by using descriptive statistics and Chi-square analyses.

Experiences Promoting Involvement

Several open-ended questions were utilized to understand the minute similarities and differences as to why females may first become involved in criminality. When the female offenders were asked, "Can you identify any life experiences, problems, or difficulties that caused you to get into trouble and commit this crime?" 50.4 percent of the sample (n = 66) articulated a response, and the majority of their responses were consistent with previous literature.

Multiple female offenders (19.6% of the sample) reported abuse as a child and abandonment as reasons why they first became involved in crime. Not surprisingly, many female offenders (16.7% of the sample) reported sexual abuse as contributing to their onset into criminality. One woman reported "an out of control life of incest, sexual abuse, and running away from home by age 13" as contributing to her onset. Several researchers have reported that, to escape sexual abuse, many juveniles escape to the streets to evade the abuse (Belknap 2007; Belknap and Holsinger 1998; Chesney-Lind and Pasko 2004).

For 27 percent of our sample, drug and/or alcohol addictions were reported as explanations for their involvement in criminality, which is consistent with previous literature (Sommers and Baskin 1994). Several women reported multiple explanations for their onset into criminality. One woman reported a "dysfunctional childhood, being abused sexually, verbally, and mentally," while another woman identified "my own guilt (wrongful) of being molested and no money in the home" as reasons for onset into crime. Other women stated "poor coping skills," "parents drank, I feel unloved, lonely, and unwanted," "brain cancer, sexual assault (rape), mental trauma," "going around wrong people, getting high again," and "sexual abuse, drugs, and alcohol" as explanations for entering into crime. Thus, for some female inmates, it was a culmination of multiple life experiences. Much of the women's explanations are consistent with the literature (Baskin and Sommers 1998; Belknap 2007; Belknap and Holsinger 1998; Chesney-Lind and Sheldon 2004; Sommers and Baskin 1994).

Based on the qualitative feedback, the women helped to shape our understanding of female offending. For example, onset into offending is linked to drug and/or alcohol use, prior sexual abuse, child abuse, and feelings of abandonment. These multifaceted explanations for entry

into criminal offending suggest that onset cannot typically be attributed to one sole factor. After obtaining a more comprehensive understanding of female onset into offending, the examination into *why* these females continued to persist was explored.

Experiences promoting persistence

As stated above, relatively little research has examined persistence in criminal offending patterns, and most of what has been published has involved samples of males (Farrington, Lambert, and West 1998; Ge et al. 2001). Thus, our question of "If you had committed crimes under the age of 18, why do you think you continued to commit crime as an adult?" can aid in the understanding of female persistence patterns. A total of 57 percent of our sample (n = 75) answered this question.

Interestingly, none of the women in our sample reported prior sexual abuse as a contributor to their persistent behavior. However, an overwhelming number of women in our sample (20%) stated a drug and/or alcohol addiction as the primary reason for their persistent criminal behavior. For example, the women explained that they continued in crime because of "addiction," "to supply my drug use," to support my drug habit," "becoming addicted to drugs, my criminal behavior overtook my ability to make correct choices," and "because I was hiding from my problems and felt I did not have to deal with them if I was high." It is possible that some of these women had turned to drugs and/or alcohol to cope with prior sexual abuse as previous research has suggested (Acoca 1998). However, we were unable to determine if this was indeed the case for our sample. Research literature has reported that drug addiction is a factor for onset into criminality, but few researchers have examined whether drug use is related to persistence in offending (Dembo et al. 1991; Fainzylber, Lederman, and Loayza 2002).

Several women (5% of our sample) reported that they continued because they were "bored," "for fun," or "for the excitement and gain." The feedback that was given by these women is consistent with the existing literature on reasons why offenders may commit crime. For example, several researchers have suggested that offenders may commit crime for the thrill or excitement (Carlen 1988; De Hann and Vos 2003; Katz 1988; McCarthy and Hagan 2005). Carlen (1998), in her qualitative study of 39 British female offenders, found that excitement was one explanation that female offenders provided for their continued involvement in crime. Other researchers have linked boredom to various forms of criminal involvement, including white-collar crime (Nadler 1987; Samuelson, Hartnagel, and Krahn 1995).

A few women stated their continued involvement in crime "because I got away with it," "because I loved the money I was making," and "because I was forced to do some of the things by my ex." Primarily, researchers have

found that female offenders will commit the crime alone approximately 20-30 percent of the time, and if they have a “crime partner,” it is often another woman (Alarid et al. 1996; Bunch et al. 1983). Similar to these previous findings, we found only one female in our qualitative sample who reported that her involvement was due to an outside male influence.

Juvenile descriptors

The qualitative feedback generated descriptors that may distinguish female late onsetters from their persister counterparts. The quantitative comparisons provide further insight into these discrete groups. In Table 1, results from descriptive analyses and Chi-square Tests of Independence for the juvenile descriptors between the discrete offender groups are presented. The percentage of participants with prior head injuries differed significantly between late onsetters and persistors [$\chi^2(1, N = 124) = 4.84, p < .05$], as did several other variables: the percentage of inmates who had been gang members [$\chi^2(1, N = 123) = 4.93, p < .05$]; the percentage of inmates who had friends arrested [$\chi^2(1, N$

$= 107) = 11.25, p < .05$]; the percentage of inmates who had experienced prior sexual abuse [$\chi^2(1, N = 121) = 6.85, p < .05$]; the percentage of inmates who had experienced prior physical abuse [$\chi^2(1, N = 121) = 14.72, p < .05$]; and the percentage of inmates who had been diagnosed with depression as juveniles [$\chi^2(1, N = 98) = 3.08, p < .10$]. As can be seen in the table, late onsetters were less likely to have a head injury (14.5% vs. 30.9%), been a gang member (10.3% vs. 25.5%), and have friends arrested (19.3% vs. 50%) than their persister counterparts. In addition, late onsetters were less likely to have experienced sexual abuse (50.7% vs. 74.1%), physical abuse (42.6% vs. 77.4%), or have been diagnosed with depression (22.4% vs. 38.8%) than persisters. The percentage of inmates who consumed drugs as juveniles also differed significantly between late onsetters and persistors [$\chi^2(1, N = 121) = 20.97, p < .05$], as did the percentage of inmates who drank alcohol [$\chi^2(1, N = 123) = 15.80, p < .05$]. Late onsetters were less likely to have consumed drugs (54.4% vs. 92.5%) or alcohol (64.7% vs. 94.5%) as a juvenile than persisters.

Table 1. Comparisons of Juvenile Descriptors for Late Onsetters and Persisters: Percentages and Chi-Square Tests of Independence (N = 131)

Juvenile Descriptors	Late Onsetter	Persister	Chi Square	Phi
Population Heterogeneity				
Not Premature Birth	89.9% (n=62)	85.2% (n=46)	0.62	
Premature Birth	10.1% (n=7)	14.8% (n=8)		
No Head Injury	85.5% (n=59)	69.1% (n=38)	4.84**	.198
Head Injury	14.5% (n=10)	30.9% (n=17)		
State Dependence				
Mother Not Employed	33.3% (n=23)	22.2%(n=12)	1.84	
Mother Employed	66.7% (n=46)	77.8%(n=42)		
Father Not Employed	13.2% (n=9)	17.0% (n=9)	0.33	
Father Employed	86.8% (n=59)	83.0% (n=44)		
Not Loving Household	25.0% (n=17)	38.2% (n=21)	0.25	
Loving Household	75.0% (n=51)	61.8% (n=34)		
Not Gang Member	89.7% (n=61)	74.5% (n=41)	4.94**	.200
Gang Member	10.3% (n=7)	25.5% (n=14)		
No Friend Arrested	80.7% (n=46)	50.0% (n=25)	11.25**	.324
Friend Arrested	19.3% (n=11)	50.0% (n=25)		
No Sexual Abuse	49.3% (n=33)	25.9% (n=14)	6.85**	.238
Sexual Abuse	50.7% (n=34)	74.1%(n=40)		
No Physical Abuse	57.4% (n=39)	22.6% (n=12)	14.72**	.349
Physical Abuse	42.6% (n=29)	77.4% (n=41)		
No Alcohol Use	35.3%(n=24)	5.5% (n=3)	15.80**	.358
Alcohol Use	64.7% (n=44)	94.5% (n=52)		
No Drug Use	45.6% (n=31)	7.5% (n=4)	20.97**	.416
Drug Use	54.4% (n=37)	92.5% (n=49)		

** p < .05

Adult descriptors

Comparisons, using percentages and Chi-square tests of independence for the adult descriptors between the discrete offender groups are presented in Table 2. The percentage of inmates who were prior gang members differed significantly between late onsetters and persistors [$\chi^2(1, N = 122) = 6.69, p < .05$], as did the percentage of inmates who had friends arrested [$\chi^2(1, N = 121) = 16.53, p < .05$], the percentage who had experienced sexual abuse [$\chi^2(1, N = 120) = 8.15, p < .05$], the percentage who had

consumed drugs [$\chi^2(1, N = 121) = 13.57, p < .05$], and the percentage who drank alcohol [$\chi^2(1, N = 123) = 4.00, p < .05$], as an adult. Similar to the juvenile descriptors, results revealed that late onsetters were less likely to have been a gang member (7.4% vs. 24.1%) and to have had friends arrested (63.6% vs. 94.5%) than their persistor counterparts. In addition, late onsetters were less likely to have experienced sexual abuse (34.8% vs. 61.5%) or consumed drugs (64.2% vs. 92.6%) or alcohol (64.7% vs. 94.5%) as an adult than persisters.

Table 2. Comparisons of Adult Descriptors for Late Onsetters and Persisters: Percentages and Chi-Square Tests of Independence (N = 131)

Adult Descriptors	Late Onsetter	Persister	Chi Square	Phi
Population Heterogeneity				
High Self-Control	17.5% (n=11)	14.3% (n=7)	0.21	
Low Self-Control	82.5% (n=52)	85.7% (n=42)		
State Dependence				
No Military Service	100% (n=69)	98.2% (n=54)	1.27	
Military Service	0% (n=0)	1.8% (n=1)		
No Employment	25.4% (n=16)	39.2% (n=20)	2.49	
Employment	74.6% (n=47)	60.8% (n=31)		
No Religious Commitment	63.2% (n=43)	72.2% (n=39)	1.10	
Religious Commitment	36.8% (n=25)	27.8% (n=15)		
No Spousal Attachment	61.5% (n=24)	63.2% (n=12)	0.01	
Spousal Attachment	38.5% (n=15)	36.8% (n=7)		
No Child Attachment	7.8% (n=4)	8.9% (n=4)	0.03	
Child Attachment	92.2% (n=47)	91.1% (n=41)		
Not Gang Member	92.6% (n=63)	75.9% (n=41)	6.70**	.234
Gang Member	7.4% (n=5)	24.1% (n=13)		
No Friend Arrested	36.4% (n=24)	5.5% (n=3)	16.53**	.370
Friend Arrested	63.6% (n=42)	94.5% (n=52)		
No Sexual Abuse	64.7% (n=44)	38.5% (n=20)	8.15**	.261
Sexual Abuse	35.3% (n=24)	61.5% (n=32)		
No Depression	39.4% (n=26)	30.9% (n=17)	0.94	
Depression	60.6% (n=40)	69.1% (n=38)		
No Alcohol Use	34.8% (n=24)	18.5% (n=10)	4.00**	.180
Alcohol Use	65.2% (n=45)	81.5% (n=44)		
No Drug Use	35.8% (n=24)	7.4% (n=4)	13.57**	.335
Drug Use	64.2% (n=43)	92.6% (n=50)		

** p < .05

Type of crime

In addition to developing an understanding of descriptors that may distinguish the discrete offender groups, we also explored whether there were any differences in the type of crime (i.e., violent, property, drug) committed by each group. According to Moffitt (1993), life course persisters commit more serious types of offenses than their adolescent limited counterparts. There was a slightly higher percentage of female late onsetters

(30.3%) than female persisters (27.5%) in our sample, which is inconsistent with Moffitt's assertions, although it should be kept in mind that the discrete groups of the current analysis were not identical to Moffitt's typologies. Consistent with Moffitt's theory, we discovered that a higher percentage of late onsetters in our sample (34.8%) had committed a property offense than persisters (27.5%). Thus, Moffitt's explanation that adolescent limiteds commit less serious types of offenses than life course

persisters was supported in our *descriptive* analyses. However, a Chi-square test for independence failed to reveal any significant relationship between discrete offender groups and type of crime [$\chi^2(1, N = 121) = 5.11$]. Due to the availability of data, the sample could not be delineated into Moffitt's categorizations. Therefore, it is possible that adolescent limited and life course persistent offenders are confounded within the current categorizations of persistent and late onset offenders. Additionally, because of the small sample size for the groups, we were unable to conduct any predictive analyses. Thus, this relationship should be further explored by future researchers. Perhaps, there are distinct differences in the types of crimes that female late onsetters and female persisters commit.

DISCUSSION

Within the last few years, criminological research has identified discrete offending trajectories for male offenders (Fergusson et al. 2000; Nagin, Farrington, and Moffitt 1995). More recently, discrete offending trajectories have been employed to further our understanding of female offending. The current research examines two potential interpretations of these offending trajectories for female offenders: state dependence and population heterogeneity. To this end, the current research examines whether female offenders can be identified as discrete groups of offenders and whether these discrete groups can be differentiated by underlying traits or life experiences.

The first stage of analysis involved examining the qualitative differences between onset and persistence in female offenders. Results from our open-ended questions revealed that, while females attributed prior sexual abuse as a factor for onset into offending, they did not attribute the experience to their continued involvement in crime. In fact, the females reported that drug and/or alcohol dependence was responsible for their persistence in criminal offending. However, results from our quantitative analyses revealed that prior sexual abuse is a critical factor for persisters. Perhaps females are not cognizant of the full effects of sexual abuse on their behavior or their self-perception. Additionally, it is also very likely that sexual abuse was underreported in both our qualitative and quantitative measures.

The results from the current quantitative analysis revealed that there do appear to be two discrete groups of offenders. Persistent offenders were differentiated from their late onset counterparts with a range of juvenile predictors including early life head injury, association with gangs, association with criminal others, both prior sexual and physical abuse, depression, and the use of both alcohol and drugs. Two findings within the juvenile descriptors may relate to Moffitt's work on persistence. In the analysis, late onset and persistent offenders were not differentiated by premature birth but were differentiated by

head injury. Our finding that late onsetters were less likely to have a head injury is consistent with Moffitt's (1993) assertion that life course persisters, as opposed to adolescent limiteds, are more likely to have suffered from a neurological deficit or injury to the head. Additionally, our finding that sexual or physical abuse as a juvenile distinguished late onsetters from persisters was consistent with feminist research literature which has found that sexual or physical abuse as a child can have an enduring impact on behavior (Belknap 2007; Chesney-Lind 1989; Chesney-Lind and Sheldon 2004; Gunnison and McCartan 2005). This finding was also consistent with research that has found child abuse as a juvenile to be related to persistence (see Dean, Brame, and Piquero 1996). Delinquent associations and alcohol consumption as a juvenile also distinguished late onsetters from persisters. The literature reveals that persisters are more likely to consume alcohol and have delinquent peer associations as a juvenile (see Smith, Visher, and Jarjoura 1991), and we found that persisters did indeed consume more alcohol and possess more delinquent peer associations than late onsetters. Not all of the descriptor variables, however, distinguished late onsetters from persisters. For instance, parental employment and residing in a loving household did not distinguish late onsetters from persisters.

For the adult predictors, only the differential association measures (i.e., association with gang members, association with criminal others), prior sexual abuse, and use of both alcohol and drugs significantly differentiated the two groups. Similar to our juvenile descriptor findings, we once again found that persisters were more likely to have experienced sexual abuse. Consistent with the feminist literature, sexual abuse at any age is one of the main pathways for females to enter criminality (Belknap 2007; Chesney-Lind and Pasko 2004). It is apparent that prior sexual abuse can contribute not only to onset into offending but to persistence as well. It may be that the trauma of the abuse experienced makes it more difficult for the female offender to break from offending patterns. While prior sexual abuse has been linked to the onset of drug abuse (see Kilpatrick et al. 2000), it has not been linked to contributing to female persistent substance abuse problems until recently. According to Denov (2004), prior sexual abuse can contribute to long-term substance abuse problems for females. Thus, our finding that late onsetters were significantly less likely to have experienced sexual abuse or consume drugs or alcohol than persisters provides support for Denov's (2004) assertion. Moreover, our finding is congruent with the drug literature where previous researchers have found that consumption of drugs can have an enduring impact on behavior (see Johnson et al. 1995). Finally, we found that delinquent peer associations were more problematic for persisters than late onsetters. While it is widely known that delinquent peer associations are a risk factor for entry into offending (see Farrington 2003), recently, Kosterman and colleagues

(2001) discovered that adult persistence in violent behavior was influenced by early antisocial associations. Our findings reveal that adult antisocial associations may also be instrumental in contributing to persistence.

The research also found support for both the population heterogeneity and state dependence interpretations of offending trajectories. Of the juvenile predictors, late onset and persistent offenders were not differentiated by premature birth but were differentiated by head injury. This finding hints to a biological underpinning of persistent offending behavior. For the set of adult predictors, however, self-control failed to significantly differentiate between late onset and persistent offenders. Additionally, this finding is contrary to the population heterogeneity argument. The bulk of the findings, however, appear to support a state dependence interpretation of female offending, particularly for persistent female offenders. While head injury before age 12 did significantly differentiate between persistent and late onset offenders, the large majority of factors differentiating the two groups are factors that would alter or interrupt a female's social interactions and behavior. These findings are consistent with the different developmental tracks of females. Recall that research indicates that females develop and mature through relationships (Morris 1987). Therefore, it is possible that these significant factors, particularly sexual abuse, are radically altering a female's perception of herself and her relationship with others. Although additional research will be required to confirm, these findings suggest that female offending trajectories may differ from male offending trajectories with certain factors such as sexual abuse being more influential for females than males. While some researchers have found similarities between males and females in regards to their development of offending trajectories (see Odgers et al. 2008), our finding is more consistent with research reported by Fontaine and colleagues (2009), who state that females can indeed have unique developmental offending trajectories.

One of the key findings of the current research is the role of prior sexual abuse. While most theoretical variables did not distinguish between late onset and persistent offenders, sexual abuse did. Specifically, persistent offenders were significantly more likely to have experienced sexual abuse using both juvenile and adult descriptors. This finding adds to the already substantial evidence indicating prior sexual abuse is a critical factor in the etiology of female offending (see for example, Feerick and Snow 2005). The research further suggests that prior sexual abuse may be a key factor in explaining the persistence of female offending. What seems possible is that sexual abuse may create a state in which persistent offending becomes more likely. While the factors that relate to this state are currently unknown, the research offers some suggestions. Research indicates that females are often initiated into criminal activity through a male

(Alarid et al. 1996). It seems possible that prior sexual abuse, which has been associated with lowered self-esteem, may set a female up to be manipulated by males in her life. As such, the sexual abuse creates a state in which her chances of future criminal behavior are greatly enhanced. Or from Moffitt's perspective, sexual abuse may snare an individual within an offending trajectory from early on. From Sampson and Laub's perspective, early sexual abuse may reduce an individual's social capital or, perhaps more accurately, their perception of social capital.

Of critical importance is also exposure to delinquent peers or gang members. For both juvenile and adult predictors, these two differential association measures distinguished between late onset and persistent offenders. These findings are in line with the findings of Fergusson et al. (2000). They further highlight that these critical factors in male offending are similarly critical in the etiology of female offending.

While this study represents one of the few that have explored the similarities and differences between female late onsetters and female persisters, it is not without its limitations. One limitation of this study was our small sample size. This limitation precluded us from conducting more sophisticated statistical analyses that could have aided in our explanation of female persisters. Additionally, our sample was comprised only of females. Thus, we were unable to directly compare whether there are similarities and differences between male and female late onsetters and persisters. Future research should examine both male and female late onsetters and persisters to determine whether similarities and/or differences exist between the discrete groups. Because the sample design is retrospective, it suffers from the same methodological problems as all retrospective samples. For instance, the prevalence and incidence of critical factors, such as abuse, could be inflated when compared with a representative sample (see Widom 1995). Also, the researchers did not have access to other sources of information (e.g., prison records), thus only one source of information was utilized for this study. Finally, as mentioned previously, there is disagreement in the field whether distinct offending trajectories exist for females and males (see Fergusson and Horwood 2002). Thus, some researchers may view our delineation of discrete groups to be a limitation.

Despite the limitations, findings from this research offer implications for researchers. This is one of the few studies to explore the etiological differences between female late onsetters and female persisters, and more research on both discrete groups is needed (see Aguilar et al. 2000; Odgers et al. 2008; Piquero, Moffitt, and Wright 2007; Piquero and White 2003; Silverthorn, Frick, and Reynolds 2001). While much of the existing research on persistence has been on samples of males, more research is needed to further understand both male and female late onset and persistent offending patterns. For females, the differential findings between individuals with a history of

sexual abuse and those without requires further analysis to see why those with a sexual abuse history were more likely to be persistent offenders. Clearly, there is a need for future researchers to examine the issues of co-morbidity in relation to sexual abuse given that females are at a greater risk for experiencing mental health problems (e.g., depression) as compared to males (National Institute of Mental Health 2010). Additionally, the etiology of how sexual abuse may contribute (i.e., internal or external) to offending needs further exploration. Future researchers examining late onset or persistence should also consider using qualitative research methods in addition to quantitative methods. For instance, conducting in-depth interviews with offenders could provide a greater understanding of late onset and persistence upon which theoretical propositions might be made and subsequently tested with quantitative methods.

Finally, the results from this research investigation also have implications for policymakers. One implication from this research is that correctional programming should address prior sexual abuse, drug abuse, and the role of delinquent peers. For instance, programming which counsels female offenders about their past victimizations and helps to resolve such issues may be useful in reducing persistence. Moreover, the continued implementation of drug abuse programs in the correctional system would be beneficial, especially since many women in the sample indicated that drug abuse was a key factor as to *why* they continued to commit crimes.

Endnotes

¹ There is a debate in the literature as to whether discrete groups exist (see Laub and Sampson 2003; Nagin and Tremblay 2005). More recently, for example, Laub and Sampson (2003) challenged the existence of Moffitt's life course persistent offending group.

² Some researchers have stated that identical offending trajectories exist for males and females (see Fergusson and Horwood 2002) or that distinct offending trajectories proposed by Silverthorn and Frick (1999) may be overstated (see White and Piquero 2004).

³ It should be noted that some researchers have asserted that differences in power relationships in a household can result in different socialization of male and female children (see Hagan, Gillis, and Simpson 1985; 1990). Thus, several researchers have criticized the general theory of crime for its inattention to gendered power differences and inequalities, particularly as it relates to parenting of children (Miller and Burack 1993). More recently, Blackwell and Piquero (2005) found that parental control predicted the development of low self-control except for females reared in less patriarchal households. Clearly, the results of their research indicate that males and females responded differently to parental control.

⁴ This employment of both interpretations is not refusal by the authors to pick a side. It is informed by the nature of the literature currently available on continuity. It is largely recognized that there is not equipotentiality early in life for later life offending (Gottfredson and Hirschi 1990; Moffitt 1993). Instead, individuals have different levels of criminal disposition. Individuals with a higher potentiality have an increased risk of engaging in offending behavior across the life course. At the same time, life events can alter pathways of offenders both with criminal pre-dispositions and those without (Sampson and Laub 1993). As the current analysis is exploratory, it is critical, therefore, to examine both possibilities in the continuity of offending.

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About the authors

Elaine Gunnison, Ph.D., is an Associate Professor of Criminal Justice at Seattle University. Her research interests are in life course criminology, corrections, and female offending. She conducts research exploring female desistance from criminality as well as female persistence in criminal offending patterns. Currently, she is conducting research on offender reentry. Her recent publications have appeared in *Women and Criminal Justice*, the *Journal of Criminal Justice*, *Criminal Justice Studies*, *Federal Probation*, *Academic Exchange Quarterly*, the *Journal of Police and Criminal Psychology*, and the *Journal of Crime and Justice*. Email: gunnisone@seattleu.edu

Lisa M. McCartan, Ph.D., is an Associate Professor of Sociology at Le Moyne College in Syracuse, NY. In addition to her research into life course criminology, she is currently conducting research on international terrorism. Her recent publications have appeared in *Studies in Conflict and Terrorism*, *Women and Criminal Justice*, *Journal of Criminal Justice*, and the *Journal of Crime and Justice*. Email: mccartlm@lemoyne.edu

Contact information: Elaine Gunnison, Criminal Justice Department, Seattle University, 901 12th Ave., P.O. Box 222000, Seattle, WA 98122-1090; Phone: (206)296-2430; Fax: (206)296-5997; Email: gunnisone@seattleu.edu.
