**Perceptions of the Self and Desistance:
Investigating Positive Attributes Associated with Exiting Crime**

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Abstract

While the majority of offenders eventually desist from crime, evidence suggests that desistance is not directly tied to the extinction of risk factors (Laub, Nagin, & Sampson, 1998). For many offenders, desistance involves commitment to quality marriages, gainful employment and substance abuse recovery. However, the internal identity shifts that are hypothesized to underlie offenders' external life changes have not been adequately explored. This study developed scales for assessing cognitive desistance factors and tested their inter-relationships within an offender sample ($N = 73$). Results indicate that the variables largely relate to each other as predicted by desistance theory. Desistance factors were unrelated to risk to re-offend, suggesting these variables may be complementary to risk assessment. Results raise the possibility that offenders primed for desistance may be identified prospectively based on assessments of their desistance beliefs. This avenue of research should be further explored by refining the measurement methods and assessing recidivism outcome post-release.

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Perceptions of the Self and Desistance:
Investigating Positive Attributes Associated with Exiting Crime

Decades of sound empirical research and careful consideration of applicable psychological theories have brought us to a largely solid understanding of the active offender (see Andrews & Bonta, 2003). While knowledge of the predictors and correlates of criminal behaviour provide a detailed profile of how and why the offender engages in crime, our construction of the offender exiting from crime remains a poorly developed caricature. Compared to crime initiation, little attention has been paid to the conditions under which criminal behaviour is either maintained or abandoned. It is possible that fleshing out our image of the desisting offender could be as simple as reversing the processes that led to crime; decreases in the variables associated with criminal activity can be expected to synchronize with waning criminal careers. However, if separate causal processes underlie the various stages of the criminal career (initiation, career characteristics, and desistance), theory must account for the time-dependent causal influences as they emerge throughout the life course (Piquero, Moffitt, & Wright, 2007).

Current research suggests that the initiation into crime and the conversion out of crime are dissimilar experiences; the cessation of criminal behaviour is not directly tied to the extinction of the risk factors that led to one's initial involvement in crime (Kosterman et al., 2005; Laub, Nagin, & Sampson, 1998; Stouthamer-Loeber, Wei, Loeber, & Masten, 2004). Early criminal history variables are strongly predictive of early adult offending and continue to predict offending further into the life course; however, the predictive power of these variables steadily decreases as offenders age (Ezell, 2007a; Kazemian & Farrington, 2006; Piquero, Brame, & Moffitt, 2005; Sampson & Laub, 2005a). While desistance is rooted in and related to childhood and adolescent risk

factors, variation in overall career length cannot be completely explained by individual differences prior to career onset (Ezell, 2007b; Sampson & Laub, 2005a; Stouthamer-Loeber et al., 2004). Uggen and Piliavin (1998) argue that there is an “asymmetry” between initiation and desistance; in their view the etiology of crime naturally differs from the etiology of desistance. They speculate that research will likely confirm that each is a substantially different process involving a unique and complex set of human behaviours, traits, and experiences.

This reveals an important gap in our understanding of the offender. While preventing crime requires a solid grasp of the active offender, competent rehabilitation requires a grasp of the desisting offender. In addition, risk assessment is only likely to be accurate if restricted to the stages of the life course that are well-developed by theory and backed by extensive data. Increasing enthusiasm about the desistance process has grown over the last decade, but some foundational work is still lacking as many of the constructs and theories remain unclear (Kazemian, 2007).

Definitions of desistance have been varied in the research literature (Kazemian, 2007); however, desistance is perhaps best defined as the process of deceleration and eventual cessation from a pattern of criminal activity (i.e., at least two offences). In contrast to crime acquisition, desistance is more clearly an adulthood phenomenon; most repeat offenders who begin in adolescence carry their criminal careers at least into early adulthood (Francis, Soothill, & Piquero, 2007). Generally, individuals have begun to settle into their adult years before desistance begins to emerge. As a result, research and theory must move toward linking crime desistance to adult life experiences even as it acknowledges the relevant but more distal childhood and adolescent factors. Prior to

theory development and attempts to visualize and predict desistance, however, empirical definitions of the desistance process must be laid out. Since desistance does not simply reflect a mirror image of criminal activity, it is necessary for future research to first build a basic foundation: to empirically define the psychological components of the desistance process.

Predicting Involvement and Persistence in Crime

No matter how unique desistance may be, it must occur within the context of prior criminal activity. Risk factors for initiation into offending and continued offending are divided into variables that can be altered and those that cannot; *static risk factors* are historical or demographic variables related to criminal behaviour whereas *dynamic risk factors* are dispositional or context variables. Among static factors, male gender is consistently related to higher risk for crime (Blokland, Nagin, & Nieuwbeerta, 2005; Gendreau, Little, & Goggin, 1996); however, once begun, male offenders are no more at risk compared to female offenders to continue committing crimes (Piquero et al., 2007). Early age of first arrest is also an important risk factor for continued offending. Offenders arrested prior to age 14 tend to have more serious and extensive criminal careers than those arrested later (DeLisi, 2006; Ezell, 2007b; Francis et al., 2007; Piquero, Brame, & Lynam, 2004; Piquero & Chung, 2001). However, the early onset effect is not always reliable; an important amount of serious offenders commit their first crime in adulthood (DeLisi, 2006; Gomez-Smith & Piquero, 2005). Still, both adolescent and adult onset offenders show similar risk profiles (Gomez-Smith & Piquero, 2005). In addition, past criminal behaviour predicts future crime (Phillips et al., 2005) as does a

history of chronic family maltreatment in childhood and adolescence (Benda & Corwyn, 2002; Fagan, 2005; Lemmon, 2006; Smith, Ireland, & Thornberry, 2005).

Other important childhood predictors of crime are personality dispositions such as troublesomeness, impulsivity and aggression (Farrington & West, 1993; Petras et al., 2004). One of the best predictors of adult criminality is impulsivity measured at ages 8-10 (Farrington & West, 1993). Psychopathic personality traits are also related to general and violent offending (Campbell, Porter, & Santor, 2004; Gretton, Hare, & Catchpole, 2004; Murrie, Cornell, Kaplan, McConville, & Levy-Elkon, 2004; Walters, 2003a).

While static factors remain relevant throughout the life course, they cannot be targeted in treatment programs or shift along with reductions in crime. Any variation in adult criminality that is not accounted for by static childhood factors must be due to observable changes in adulthood (Sampson & Laub, 1992).

Dynamic variables, on the other hand, do make important treatment targets and show potential for being involved in the desistance process. Substance use and abuse are dynamic variables that predict criminal behavior (Manzoni, Brochu, Fischer, & Rehm, 2006; Morizot & Le Blanc, 2007; Welte, Barnes, Hoffman, Wieczorek, & Zhang, 2005). Some of the association between substance abuse and crime may be mediated by neuropsychological deficits (Giancola, Parrott, & Roth, 2006) or poor self-regulation (Day, Howells, Heseltine, & Casey, 2003). Association with delinquent family members or delinquent peers also predicts personal involvement in crime (Benda, 2005; Farrington & West, 1993). Persistent offenders are also more likely to be unemployed and unmarried or have poor quality jobs and marriages (Benda, 2005; Blokland et al., 2005).

Finally, attitudes and beliefs supportive of criminal activity also predict engagement in crime (Andrews & Bonta, 2003).

Several theoretical perspectives have developed that show compatibility with these known risk variables. First, Gottfredson and Hirschi's (1986; 1995) General Theory of Crime posits that criminal behaviour can be accounted for solely by between-individual differences in levels of self-control. This theory attributes the greatest levels of offending behaviors to those with the lowest levels of self-control while individuals with higher amounts of self-control either commit no crimes or only sporadically engage in crime. Any shifts in criminality are expected to be caused by natural age-related increases in self-control; desistance is anticipated to occur as offenders experience these age-related declines in impulsivity.

Second, Sampson and Laub's (1990) Social Control Theory suggests criminal activity is linked to poor attachment to voluntary social institutions (i.e., gainful employment and stable marriage). From this perspective, individuals commit crimes during periods in their lives when they have little investment in prosocial institutions but will remain crime-free when crime would result in adverse effects for their relationships or employment. Unlike the General Theory of Crime's construction of a stable, albeit decreasing, propensity toward crime, Sampson and Laub suggest individuals' criminal behaviour directly varies depending upon their access to quality jobs and fulfilling marriages. Desistance is expected when an offender's ties to informal social institutions become meaningful and pervasive in his life.

Finally, Andrews and Bonta (2003), respecting that the offender is subject to all the basic mechanisms of human psychology, bring together an interdisciplinary

understanding of the development of crime. Criminal behaviour, like all behaviours, is purported to be influenced by social learning mechanisms; offending is expected to occur when individual, interpersonal and community influences combine to make criminal behaviour appear highly rewarding and largely devoid of cost. Criminal actions are expected to arise from beliefs that are supportive of crime (antisocial attitudes); these attitudes are supported by intrapersonal factors (antisocial personality) and developed through meaningful interpersonal relationships (antisocial associates). Crime-free periods and desistance are expected to result once beliefs shift to view criminal behaviour as more costly than rewarding.

While the above theories all inherently suggest mechanisms related to desistance, none of these theories were explicitly designed to account for cessation from crime. As a result, these theories rely on understanding desistance as stemming from reductions in risk factors. As stated previously, variation in risk factors lose power in predicting which high-risk individuals will desist from criminal activity (Kazemian & Farrington, 2006; Laub et al., 1998; Sampson & Laub, 2005a). Perhaps not surprisingly, studies suggest that much of the effect of age on crime remains unaccounted for by current theory (Blokland & Nieuwbeerta, 2005). It can be expected that the factors that define group membership according to risk are less likely to discriminate among those within the group who will experience various alternate outcomes. For example, a group of high risk individuals will all exhibit elevated levels of antisocial associates and attitudes; of these individuals, any variation in who continues to persist or desist must be triggered by additional processes. Thus, a group of offenders identified as high-risk by current assessments still show variability in outcome, suggesting that risk variables do not always

reveal who will desist and when. Given that this additional variance is not accounted for within current theory and assessment, it is worth examining which desistance factors may provide incremental predictive validity. The mechanisms underlying desistance and reduction of risk are likely to be linked to new experiences that emerge sometime after the onset of offending.

The Age-Crime Curve

Criminal justice researchers have historically expressed a guarded suspicion regarding whether offenders ever truly desist from crime (Becker, 1964; Martinson, 1974; Maruna & LeBel, 2003; Osborn & West, 1980). However, a consistent finding within criminal behaviour research is that the aggregate level of crime peaks in the late teen years and early twenties and rapidly declines thereafter. That is, research shows that criminal behaviour is largely an attribute of youth. Rates of criminal activity drop sharply around age 30 and decline to close to insignificant numbers later in the life course (Farrington & West, 1993; Hoffman & Beck, 1984). Studies show strong linear declines in criminal career length as age increases (Ezell, 2007b; Kazemian & Farrington, 2006). Desistance is common at age 30 for most offenders and some evidence suggests it is only slightly later for the highest risk offenders (Hare, McPherson, & Forth, 1988; Harpur & Hare, 1994; Porter, Birt, & Boer, 2001). Even sex offenders who tend to persist in offending at relatively older ages show consistent linear declines in offending with increasing age (Barbaree, Blanchard, & Langton, 2003; Fazel, Sjöstedt, Långström, & Grann, 2006; Thornton, 2006). In addition, desistance is relatively uniform across different birth cohorts (Francis et al., 2007). It appears, then, that offenders, given time, will eventually desist from criminal activity (Sampson & Laub, 2005a).

Aggregate crime levels do not provide information about variation among individuals, however. Understanding intra-individual change must involve looking into individual differences within the entire population. Offenders are a heterogeneous group (Piquero et al., 2001) and aggregate age-crime data conceal multiple distinct offending trajectories (Barnett, Blumstein, & Farrington, 1987; Blokland et al., 2005; Ezell, 2007a; 2007b; Francis et al., 2007; Hussong, Curran, Moffitt, Caspi, & Carrig, 2004; Laub et al., 1998; Massoglia, 2006; Nagin, Farrington, & Moffitt, 1995; Piquero, 2000; Piquero et al., 2005). Subpopulations are marked by differences in individual propensities to commit crime (Nagin & Tremblay, 2005); peaks in group crime rates appear to be the result of multiple groups committing many crimes during adolescence and early adulthood while a minor percentage of offenders persist at consistently high rates throughout the entire life course (Blokland et al., 2005; Farrington & West, 1993; Piquero et al., 2001). Similarly, a small number of repeat offenders are responsible for accomplishing the largest percentage of crimes as well as the most serious crimes; the typical offender, however, is convicted at relatively low rates during a relatively short amount of time (Piquero, 2000; Piquero et al., 2005; Wolfgang, 1983). Blumstein and Cohen (1987) found the average criminal career is reasonably short at less than six years for serious offenders, but more recent research marks out the average criminal career to fall around 17 years (Ezell, 2007b; Piquero et al., 2004). Around this average, however, individual careers vary widely, ranging between 4-30 years (Piquero et al., 2004). The age-crime curve may not hold for all offender groups, nor does it follow the same path for each type of crime (Blokland et al., 2005; Nagin et al., 1995). Serious and violent offenders tend to persist

longest, but their careers, while marked by greater severity, are mainly extended due to a persistence in property crimes (Blokland et al., 2005; Ezell, 2007b; Francis et al., 2007).

One-time offenders who remain crime-free immediately after their first offence have elevated chances of remaining arrest-free throughout adulthood. However, those with a second conviction by late adolescence tend to remain at risk for additional convictions until after age 25 (Ezell, 2007a; Francis et al., 2007). The longer an individual can remain crime-free, the better the outcome. Indeed, trajectories can be distinguished by differences in age of onset; older age at first arrest is associated with greater chances of desistance (Francis et al., 2007; Morizot & Le Blanc, 2007; Piquero et al., 2004). While criminal careers that begin earlier also last longer, there is evidence that early starters and late starters still desist at approximately the same age (Ezell, 2007b). Thus, longer criminal careers are largely attributable to an earlier start rather than a drawn-out adult career.

Still, it is difficult to determine whether individuals who have long ceased to be listed in official records continue to commit undiscovered antisocial acts. Accordingly, appropriate theories of desistance must explain both official and undetected crime desistance (Massoglia & Uggen, 2007). There is some evidence that aging offenders restrict their deviance to behaviours (such as theft in the workplace) that are less likely to meet with official sanction or to disrupt their long-term intimate relationships (Nagin et al., 1995; West, 1996). Such “displacement” from one type of antisocial activity to another is also typical in the transition from adolescence to young adulthood, where movement from violence, theft and vandalism to drug offences was observed in 40% of young adults (Massoglia, 2006). Additionally, offenders may simply become skilled at

evading arrest (Bottoms, Shapland, Costello, Holmes, & Muir, 2004; Hare, 1999). On the other hand, studies that suggest some offenders are characterized by life-long criminal activity can be misleading if their short follow-up periods cease when criminal careers are still active but on the verge of completion (Kazemian, 2007).

Even if a small percentage of offenders maintain criminal activities well into adulthood, 70% or more appear to follow some approximation of the age-crime curve (Blokland et al., 2005; Piquero et al., 2001). One of the few studies to track offenders essentially until death shows evidence that all offenders desist (Sampson & Laub, 2005a). Given the striking prevalence of desistance, it seems inconsistent to have paid little attention to why the arguably “normal” offender follows a path out of crime (Piquero et al., 2001). Addictions researchers have advocated first exploring how individuals naturally shift pervasive patterns of addictive behaviour prior to being so bold as to attempt to intervene with rehabilitation programs (Prochaska, DiClemente, Velicer, Ginpil, & Norcross, 1985). Thus, while desistance is widely observed, it remains unclear exactly what changes are occurring in offenders’ lives and whether a complex theory will be necessary to adequately capture the change experiences of offenders who follow heterogeneous trajectories.

Challenges in the Study of Desistance

Prior to exploring why offenders give up crime, certain theoretical and methodological issues need to be highlighted. Indeed, while criminal justice research in the last decade has enthusiastically embraced the study of desistance, research has proceeded with neither guidance from empirically evolved theory nor the infrastructure of

well-defined constructs. As a result, several challenges are often debated within the literature.

One challenge facing attempts to either describe or understand desistance is determining whether an offender has truly ceased criminal activity for all time or whether crime-free periods simply represent lulls in offending. Criminal behaviour is indeed an “inconstant phenomenon” (Levesque, 1998, p. 8). Luckenbill and Best (1981) argue that comparing criminal activity to a “career” proves to be a limited analogy; they note that antisocial acts are largely sporadic and interspersed with periods of prosocial living (see also Bottoms et al., 2004; Maruna, 1997; Maruna, LeBel, Mitchell, & Naples, 2004; Meisenhelder, 1977). What triggers and characterizes these crime-free periods is unknown; Bottoms et al. (2004) suggests that offenders are simply evading arrest whereas Sykes and Matza (1957) argue that offenders adhere to society’s predominant values in most situations and commit crimes only in situations that can be easily neutralized. Changes in within-individual offending rates may depend upon short-term changes in their life circumstances. For instance, retrospective studies note that the odds of ceasing crime are higher during months that offenders move in with a partner while the odds of committing crimes are higher during months of reported drug use (Horney, Osgood, & Marshall, 1995; MacKenzie & de Li, 2002). Individuals are also less likely to commit crimes while attending school (Blokland & Nieuwbeerta, 2005). It seems that typical offenders do not commit antisocial acts with regularity, working on their crimes from nine-to-five daily, periodically receiving promotions and raises. Thus, temporary periods of nonoffending must not be confused with true desistance (Bushway, Piquero, Broidy, Cauffman, & Mazerolle, 2001).

Given that criminal behaviour generally evolves in a scattered pattern, it is likely unreasonable to assume that desistance will occur in a linear fashion. Individuals overcoming substance abuse addictions tend to make multiple attempts toward recovery before success is achieved (Hser, Anglin, Grella, Longshore, & Prendergast, 1997; Merrill, Alterman, Cacciola, & Rutherford, 1999; Prochaska, DiClemente, & Norcross, 1992; Waldorf, 1983). Most researchers uphold that desistance is best understood as a process (for specific discussions on desistance as a process, see Maruna, 2001; McNeill, 2004). While desistance is often defined dichotomously as the absence of criminal activity, current theory recognizes richer, more detailed data arises from conceptualizing desistance as an active, ongoing process of change and growth rather than a distinct, instantaneous event (Burnett & McNeill, 2005; Maruna, 2001). Data also shows that the length of time between arrests increases with age, suggesting that offenders' criminal behaviour slows before it completely ceases (Ezell, 2007a). Offenders themselves prefer to describe their desistance experience as a process (Haggård, Gumpert, & Grann, 2001; Maruna, 2001). Desisting offenders are actively learning how to maintain prosocial goals and activities while they are also actively resisting antisocial activities. Complete termination is the final outcome of desistance, but gradual declines in severity or frequency and multiple attempts at change should not be disregarded as unimportant within the desistance process.

If desistance is more similar to a cyclical process than a linear path, then statistically charting the course of desistance presents certain challenges. While researchers are generally unanimous in theoretically defining desistance as a process, many researchers continue to statistically define desistance as a discrete state (for

example, see Ayers, Williams, Hawkins, Peterson, & Abbott, 1999; Loeber, Stouthamer-Loeber, Van Kammen, & Farrington, 1991; Maruna, 2001; Stouthamer-Loeber et al., 2004). Although a statistical strategy that investigates whether offenders commit crimes within one time period and become crime-free in a subsequent time period can establish causal order, this static approach cannot map out the progression of individual change (Laub et al., 1998). Nagin and Land (1993) responded to this inconsistency between definition and method by adapting and developing a semiparametric trajectory model (SPM) that allows researchers to estimate changes in an individual's criminal propensity over time. One key feature in this model is that it allows offenders to have momentary periods of non-offending without modifying their overall offending rate. The SPM method has its advocates (Bushway et al., 2001; Nagin & Tremblay, 2005; Nagin et al., 1995; Piquero et al., 2001) but is also not without its critics (Hussong et al., 2004).

The SPM has been shown to have greater explanatory power over other models such as simple growth curve analysis. This confirms that there is not only heterogeneity between offenders, but that the criminal careers of individual offenders are characterized by intermittency (Nagin & Land, 1993). Bushway, Thornberry, and Krohn (2003) analyzed the same offender data using both the traditional static approach and the more recent SPM approach to determine which method more closely matches our conceptual definition of desistance. Their results suggest the SPM method describes offending patterns substantially better. While the static method identified 27.6% of the sample as desisters, the dynamic trajectory approach identified only 8.4% of the sample as desisters, suggesting fewer false negatives resulted from the dynamic method (Bushway et al., 2003). Their results underline the important distinction between "taking a break" from

offending and real declines in criminal behaviour. These declines, either gradual or sudden, largely remain unobserved by static statistical methods. The SPM also highlights the advantage of an inherently descriptive approach to testing hypotheses about desistance; a visualization of the transition from offending to non-offending provides an abundance of information compared to an approach that sets two time periods and an arbitrary cut-off point at which to measure change (Burnett & McNeill, 2005; Bushway et al., 2003).

Other researchers have also raised awareness about often overlooked intricacies within the study of desistance. Escarela, Francis, and Soothill (2000) argue that researchers should pay greater attention to not only whether offenders commit another crime during a study's follow-up period, but whether they commit a different crime than before. Patterns of decline in crime severity are relevant for understanding desistance and transitioning from more severe to less severe crimes is relatively common (Massoglia, 2006). Piquero et al. (2001) also note that exposure time must be taken into account to control for individuals' periods of incarceration. Although their research found that the overall trend in arrest activity did not differ when exposure time was taken into account, the study did suggest that fewer individuals will be falsely identified as desisters when exposure time controls are added (Piquero et al., 2001). Horney et al. (1995) make a case for using frequent waves of data collection in longitudinal studies of desistance. They argue that many longitudinal studies are taken over too broad of a time period to track the variability of within-individual variability. In addition, researchers have systematically ignored police characteristics as an important source of bias when examining official crime data in that there may be a difference between what crimes are

actually committed and which crimes are actively pursued by law enforcement (Massoglia & Uggen, 2007; Uggen & Kruttschnitt, 1998). Accessing both self-reports and an official record is always the most comprehensive way of tracking recidivism (Babinski, Hartsough, & Lambert, 2001).

Conceptualizing Desistance Factors

Active offenders exhibiting the risk characteristics described earlier are the focus of desistance research. Thus, researchers are faced with the challenge of how best to conceptualize the factors that emerge to reduce and eliminate ongoing criminal activity and criminal risk. Variables that serve to reduce risk when present alongside risk factors are thought to protect high risk individuals from poor outcomes. Unfortunately, the term *protective factor* has been widely applied to a variety of situations, obscuring its intended meaning (Farrington, Gallagher, Morley, St. Ledger, & West, 1988; Luthar, Cicchetti, & Becker, 2000). It is generally accepted that protective factors should not be defined as the opposite end of risk factors; rather, individuals who rate low on risk factors should simply be defined as “low risk” (Rutter, 1985). This is not always straightforward, however; for example, the equivalent concepts of *low impulsivity* and *high self-control* could possibly be construed as either the absence of risk or the presence of a positive feature. In this case, high self-control is most likely synonymous with “lack of risk”, and, thus, it is beneficial to narrow the definition of protective factors to the variables that exist simultaneously with risk factors but insulate against criminal activity. For example, the existence of prosocial relationships can be viewed as a separate protective factor when it is present alongside the risk factor of antisocial relationships. Protection against poor outcomes can only exist if there is a true risk that poor outcomes will occur.

Researchers have also varied in their understanding of the time-frame in which protective factors can appear (Luthar et al., 2000). Protective factors may be those that: a) pull individuals at risk for offending away from criminal opportunities, b) allow at-risk individuals to resist when faced with criminal opportunities, or c) facilitate desistance once the individual engages in crime. Protective factors may be personal qualities or external circumstances; as such, they are also subject to change and may protect the individual for only a short period of time (Luthar et al., 2000).

Few protective factors have been identified in the study of criminal behaviour. Shy, withdrawn or unsocial characteristics serve as protective factors for children high risk for future offending, although these characteristics do not protect against other unfortunate life outcomes (Farrington et al., 1988; Farrington & West, 1993). High reading achievement, high parental monitoring and good family functioning are also protective against criminal behaviour in high risk (high aggression) youth (Caldwell, Wiebe, & Cleveland, 2006; Petras et al., 2004; Tolan, 1988). These protective factors, then, are best characterized as following either definition (a) or (b) seen above. The factors that facilitate desistance, however, are unlikely to be these same variables; personality dispositions are firmly established by adulthood and parental monitoring cannot be regained once adolescence is completed. Thus, as desistance theory develops, it may be important to make a distinction between the childhood protective factors that block risk from resulting in criminal outcomes versus desistance factors that emerge in adulthood and lead to transition out of crime.

Correlates of Desistance

Recognizing that desistance is a complex, dynamic process has encouraged innovation in the way we statistically model criminal careers. Similarly, desistance research has begun to shed light into the murky areas of our theoretical understanding of the criminal life course. Initially, research has focused on declines in risk factors. While this research has broadly painted a picture of the major life changes that occur with desistance, a review of current desistance research highlights two important gaps. First, the specific mechanisms that trigger desistance and prime the offender to make meaningful life changes have not been identified. For example, if a rehabilitation program reduces association with deviant peers and criminal activity, it is still unclear what psychological turning point occurred before the outward manifestation of change could be expressed (i.e., the day-to-day and long-term decisions to avoid close associates). Second, researchers have skipped to questioning why desistance occurs prior to looking deeper into the question of how desistance occurs. Although the broad life changes that correlate with desistance describe the overarching life changes, detailed description of the internal, psychological transitions that occur alongside desistance remains lacking.

Explaining crime acquisition through the single mechanism of low self-control has not received strong empirical support when compared to more complex theories (Benda, 2003); however, high impulsivity is reliably associated with prolonged persistence in crime as well as delayed desistance (Morizot & Le Blanc, 2007; Piquero et al., 2007). Despite this, research has not clearly shown that changes in levels of self-control are related to the desistance process.

On the other hand, research has consistently shown that increased attachment to employment and marital relationships is related to decreases in crime (Benda, 2005; Blokland & Nieuwbeerta, 2005; Kosterman et al., 2005; Kruttschnitt, Uggen, & Shelton, 2000; MacKenzie & de Li, 2002; Massoglia & Uggen, 2007; Morizot & Le Blanc, 2007; Sampson & Laub, 2005a; Uggen, 1999; 2000). It must be noted that research also shows it is specifically the offender's psychological attachment to their jobs and marriages that is associated with desistance. Income and weddings themselves do not predict desistance whereas job stability and relationship quality do predict, even after taking prior criminal history and individual propensity for crime into account (Massoglia & Uggen, 2007; Sampson & Laub, 1990; 2005a). When quality of marriage was followed over time, offenders within high-quality marriages became less and less likely to be arrested. Notably, the same was not true for those offenders who later divorced, separated or had possibly entered the marriage under duress while their spouse was pregnant (Laub et al., 1998). Thus, an unpleasant marriage makes little difference to desistance, but a marriage relationship in which both parties are personally invested reduces antisocial activity. By contrast, research that examines marital status without taking relationship quality into account does not find a strong marriage effect (Kruttschnitt et al., 2000; Warr, 1998). Likewise, offenders cannot be expected to desist if they only obtain or are provided employment without commitment to maintaining their jobs. Some offenders may simply use employment as an opportunity to steal from their workplace (Osborn & West, 1980). Adult life changes themselves do not necessarily encourage desistance; becoming a parent does not have an effect on crime (Blokland & Nieuwbeerta, 2005; Massoglia & Uggen, 2007). Also, marriage to a deviant spouse or steady employment within

organized crime is not expected to reduce offending (Giordano, Cernkovich, & Holland, 2003). On the other hand, samples of low risk, sporadic offenders (among whom strong social bonds are likely normative) do not show this same attachment to marriage effect (Blokland & Nieuwbeerta, 2005; Simons, Stewart, Gordon, Conger, & Elder, 2002).

The social bond effect may only be activated once offenders reach a certain level of maturity or during a restricted period of the life course. Employment only reduced crime for offenders over the age of 26 in one sample (Uggen, 2000) whereas marriage and employment did not reduce crime for the eldest offenders in another sample (MacKenzie & de Li, 2002). These older, persistent offenders likely comprise the highest risk category. Moreover, persistent offenders appear to be less amenable to forming social bonds even if they do show decreases in crime (Cernkovich & Giordano, 2001). For those who do form strong relationship attachments, the protective effect of these relationships on crime can be immediate (Blokland & Nieuwbeerta, 2005; Horney et al., 1995; MacKenzie & de Li, 2002). Similarly, the dissolution of a marriage also has immediate aggravating effects on crime; in contrast to the marriage effect, persistent offenders are not immune to the increases in crime that co-occur with a separation or divorce (Blokland & Nieuwbeerta, 2005). Even though persistent offenders show a reduced tendency to form strong social bonds, the social bond effect is not simply a between-individual effect; within-individual levels of crime vary along with differential attachment to social bonds (Sampson & Laub, 2005a).

Despite the strong association between marriage quality and desistance, the data are less clear whether marital status itself has a causal effect on crime. Even as getting married coincides with decreases in crime and dissolution of marriage coincides with

increases in crime, it is unclear whether some other mechanism plays the causal role. Marriage is self-selected; it may be that individual differences determine who chooses to either enter a long-term relationship and give up crime or stay single and continue in crime (Simons et al., 2002). Rather than marriage precipitating desistance, some desisters described marriage as part of their attempt to pull away from criminal activity (Giordano et al., 2003). Similarly, steady employment may serve to reduce offenders' positive views of crime (Uggen, 1999), but it may also be a negative appraisal of crime that leads to seeking employment. Prosocial relationships are also a gateway into additional prosocial opportunities and relationships and choosing to link with social bonds can occur in addition to or separate from marriage (Giordano et al., 2003). Research has not yet teased apart this interplay between cognitive processes and external life changes. The bulk of the desistance outcome may depend upon individual outlook such that simply observing the environments an individual selects for himself may be sufficient to predict desistance (Simons et al., 2002). It is also apparent that quality marriages and jobs are not equally available for everyone. Thus, there is an element of chance inherent in these interpersonal variables. This may be part of the reason why variables measured in adolescence have diminished power to predict desistance (Laub et al., 1998).

Deviant associates prove to be problematic for those trying to desist (Abrams, 2007; Simons et al., 2002). It may be that entry into marriage encourages desistance through lost contact with one's peer group. When measures of peer influence are held constant, the marriage effect is greatly diminished (Warr, 1998). However, when marriage quality is examined rather than a dichotomous measure of marital status, marital

attachment also directly affects drug use (Maume, Ousey, & Beaver, 2005). Thus, while both marital status and marital attachment are related to the desistance process, the sustained effort involved in forming a high-quality marriage may be particularly vital. Still, if both marriage and marriage quality have causal effects on crime, it is still unclear what specific mechanisms underlie these effects (Sampson & Laub, 2005b).

Evidence suggests that desistance does not occur in a vacuum; giving up crime appears to be a part of a larger trend of the offender improving adjustment in his life (Stouthamer-Loeber et al., 2004). Desisters progress in the areas of employment, education and relationships while simultaneously giving up crime. Substance abuse, however, delays progress in these important desistance areas. In the same way substance abuse accelerates involvement in crime, it also stunts offenders' crime de-escalation (Hussong et al., 2004; Morizot & Le Blanc, 2007; Welte et al., 2005). Individuals with substance abuse showed greater antisocial behaviour than was expected based on their estimated individual trajectories. Further, of those offenders with similar criminal histories, those free of substance abuse desisted, while abusing offenders persisted in crime (Hussong et al., 2004). Although desistance is not completely synonymous with marriage or substance abuse recovery, desistance does appear to be a part of offenders' wider effort to "clean up" their lives.

In summary, we can broadly understand desistance as being related to increased affinity and motivation for attachment to social bonds. More broadly, quality social support in general is related to optimism about one's chances of staying crime-free (Abrams, 2007; Brown, Killian, & Evans, 2003), and more importantly, is related to actual reductions in crime (Andrews, 1980; Brown et al., 2003; Colvin, Cullen, & Vander

Ven, 2002; Kaplan & Lin, 2005; McNeill, 2004; Meisenhelder, 1977; Rex, 1999; Walters, 2003b). Time-frame may be an important consideration in that the variables that predict early desistance may be different from those that predict later desistance (Ayers et al., 1999; Kazemian, 2007). For example, offenders needed to be in their mid-twenties before employment had an effect (Uggen, 2000), while negative emotionality is related to desistance only in offenders over the age of 40 (Morizot & Le Blanc, 2007). Societal expectations of social timetables should also be considered. It is possible that the same experience (i.e., parenthood) could conceivably be related to desistance in mid-adulthood but related to crime in mid-adolescence (Blokland & Nieuwbeerta, 2005). In addition, societal views of social bonds may be changing. Common-law partnerships are becoming more typical, as sustained marriage is becoming less typical (Kazemian, 2007). These potential generational differences require researchers to shift focus toward observing psychological transitions rather than external transitions. Observable changes in social bonds and interpersonal relationships are not external events only, but the result of individual effort grounded in human perceptions and human decision making (Sampson & Laub, 2005a). Paying greater attention to the cognitive processes of desistance is warranted.

Turning to Psychological Transition

It is of note that the key correlates of desistance (marriage, employment, recovery from substance abuse, prosocial friendship and activity) are best characterized as long-term commitments that require ongoing maintenance (Maruna, 2001). No marital relationship or career will sustain itself without ongoing effort; as Laub et al. (1998) note, “social bonds do not arise intact or full-grown but develop over time” (p. 225). Marriage

is not a distinct turning point, but rather a part of a larger, dynamic process (Sampson & Laub, 2005a). Perhaps it is of little surprise that offenders are not initiated into desistance through an instantaneous conversion, but rather take time to gradually commit themselves to prosocial lifestyles and significant others. Desistance research should benefit from focusing upon the cognitive determinants of sustained action in understanding the maintenance of crime avoidance.

It may be that one set of variables triggers lapses in offending, whereas a separate set of variables are responsible for the maintenance of a crime-free lifestyle (Kazemian, 2007). Lapses in criminal behaviour are common (Bushway et al., 2003), but time and sustained effort are required for successful desistance. The active offender is dedicated to doing what can be accomplished easily (or impulsively) and what benefits the self (often driven by a strong sense of entitlement). The desisting offender, on the other hand, is dedicated to investing in long-term commitments that bring benefit to at least one other person besides himself (Maruna, 2001; Maume et al., 2005; Stouthamer-Loeber et al., 2004). This transition is not trivial. These changes involve embracing previously disregarded opportunities for prosocial living while at the same time actively removing oneself from enticing, self-serving opportunities (Maruna & Roy, 2007). This transition involves shifts in self-concept, personal strategies and goals as well as a reconstruction of one's past (Maruna, 1997; Maruna & Roy, 2007; Maruna, Wilson, & Curran, 2006). Successful desistance also likely requires a re-structuring of one's understanding of self (Maruna, 1997).

Self-identity, or the sense of one's own abilities, goals, and dispositions, also requires some degree of consistent effort. Individuals who indiscriminately follow each

impulse as it arises will have little coherence within their self-identities (Brezina, 2000). Identity is a psychological structure that involves more than simple self-awareness. Rather, the self-concept is highly involved in determining how we envision the world and interact with it (Taylor, 1983). Oyserman and Markus (1990a; 1990b) demonstrated the importance of the fictional person one imagines they will become (possible selves). Notably, adolescents' constructions of identity were able to differentiate between those with and without a criminal past as well as predict future criminal behaviour. Further, while entertaining the possibility that one might become criminal predisposes someone to committing criminal acts, if one neither fears nor expects he will take on the criminal role, his chances of becoming criminal are greatly reduced (Oyserman & Markus, 1990a). Thus, there appears to be hope for offenders who can vividly imagine themselves as ex-offenders. Identity can function as a bridge between cognitions and behaviour; taking steps to make changes and following through with ample motivation requires one to both value the goal and imagine themselves as a person who can attain the goal.

Maruna's (2001) work on subjective self-understanding suggests certain aspects of self-identity correlate with desistance. Desisting offenders, in comparison to active offenders, have a stronger sense of agency, greater commitment to prosocial action, and internal attributions for positive events (Maruna, 2001; 2004). Similarly, recovering drug abuse patients are more likely to view themselves as prosocial members of society while simultaneously acknowledging their addiction (Flynn, Joe, Broome, Simpson, & Brown, 2003). It may appear inconsistent to view oneself as a "prosocial drug addict", but acknowledging their addiction appeared to serve as a reminder of their continued need to sustain effort toward recovery.

Thus, it is expected that the psychological transition underlying crime desistance is both distinctly personal (i.e., related to the self) and action-oriented (i.e., related to ongoing maintenance). The cognitive processes associated with desistance should be conducive to sparking and sustaining effortful action. Desisters' self-beliefs are also expected to group together coherently around a similar paradox seen in those recovering from addiction; desisters should unapologetically view themselves as changed individuals while still acknowledging their ongoing need to make this identity a reality.

An Informed Understanding of Desistance Behaviour

Individuals are expected to engage in behaviours that are consistent with their sense of self (Conner & Armitage, 1998). However, a reciprocal process may occur where one's behaviours influence one's sense of identity as much as identity influences behaviour (Ajzen, 1971). Teasing apart how self-beliefs influence behaviour must involve examination of the psychological components known to influence behaviour. Like credible theories of crime acquisition, desistance theory must respect the basic principles of human psychology. That is, offenders will desist from crime when there are perceived benefits attached to desistance behaviours and high costs attached to criminal behaviours.

An *outcome expectancy* is the consequence an individual anticipates will occur if a particular action is taken (Bandura, Adams, & Beyer, 1977). The *expected value* of the action is the worth the individual sets upon this consequence (Ajzen & Fishbein, 1969). Expected values can be positive, negative or neutral and individuals are likely to engage in behaviours they associate with positive-valued outcome expectancies. The sum of an individual's outcome expectancies toward a given action (taking each expected value into

account) makes up an individual's attitude toward that action (Ajzen & Fishbein, 1969). These attitudes predict an individual's intentions for behaviour which, in turn, predict an individual's behavioural choices (Webb & Sheeran, 2006).

The Theory of Reasoned Action (TRA; Ajzen & Fishbein, 1969) and its more recent extension, the Theory of Planned Behavior (TPB; Ajzen, 1991) posit that conscious attitudes towards behaviours underlie all volitional action. Specific attitudes are more predictive of behavioural intentions than general attitudes, such that the degree of correspondence between the attitude and behaviour (i.e., context and time-frame) is also an important consideration (Ajzen & Fishbein, 1970; 1972; 1977). In addition to personal attitudes towards action, an individual's perceptions of important others' beliefs toward the action (i.e., normative beliefs) also relate to behavioural intention (Ajzen & Fishbein, 1972). In some contexts (competitive environments) personal beliefs are more salient, whereas in other contexts (cooperative environments) normative beliefs are more predictive of behavioural outcome (Ajzen & Fishbein, 1970).

Thus, individuals will engage in the behaviours they subjectively expect will bring benefit, based upon their own beliefs and the beliefs of their significant other(s). If, however, the individual does not have reasonably accurate expectations about the true consequences of his behaviour, feedback from the environment will lead to adjustment of the behaviour (Ajzen, 1971; Ajzen & Fishbein, 1970). Also, any constraints upon the individual's ability to enact the intended behaviour (i.e., ability, opportunity or resources) are certain to be relevant. Thus, an individual's perception of personal control over behaviour predicts what behaviours are chosen and pursued (Ajzen, 1991). Perceived behavioral control (PBC) is compatible with self-efficacy in that both involve specific

beliefs about specific behaviours. Self-efficacy beliefs can be distinct from PBC, however. Self-efficacy is related to confidence in ability and access to resources whereas PBC is related to perceptions of how much effort is required (Armitage & Conner, 2001; Conner & Armitage, 1998). In contrast, locus of control is a more stable, generalized understanding of what influences outcomes and is less compatible with PBC (Ajzen, 1991).

Any additional variables are expected to influence behaviour through their influence upon the three core elements: attitudes toward the action, normative beliefs and perceived behavioral control (Ajzen, 1991; Ajzen & Fishbein, 1970). The Theory of Planned Behavior (TPB) stands well against criticisms regarding potential conceptual flaws (Ajzen & Fishbein, 2004). Meta-analyses have concluded that the model accounts for 39% of the variance in behavioural intention (Armitage & Conner, 2001) whereas medium-to-large changes in intentions lead to small-to-medium changes in behaviour (Webb & Sheeran, 2006). Thus, despite its strengths, the TPB has not captured the complete scope of components related to behaviour (Bilic, 2005). Past behaviour (i.e., habit) is also relevant (Hagger, Chatzisarantis, & Biddle, 2002) as well as an individual's ability to generate specific plans and strategies for implementing the behaviour (Oyserman, Bybee, Terry, & Hart-Johnson, 2004; Webb & Sheeran, 2006).

As stated previously, given that TPB focuses on intended behaviours, then reflexive or habitual behaviours are not captured through behavioural intention (Ajzen & Fishbein, 1973). Thus, TPB may more powerfully predict desistance behaviours compared to offending behaviours. Offenders may form their attitudes about offending behaviours quickly due to personality (impulsivity) or affective (poor anger management)

factors. For example, TPB may be able to account for an offender's decision whether or not to go to a pub with friends (i.e., enter or avoid a high-risk situation), but it may not account for the split-second decision to assault an individual while there (the actual crime). Thus, TPB may not be as useful for predicting some offences since causal attitudes must be specific to well-defined situations (Ajzen, 1971; Ajzen & Fishbein, 1977). By contrast, desistance behaviours are expected to involve greater planning and consideration (i.e., attending substance abuse treatment). Even then, research will be limited to assessing a finite range of behaviours, which will fail to capture a desisting offenders' full context. For example, an offender who states an intention to attend Alcoholics Anonymous may later choose to instead put effort into a friendship with an alcohol-free relative with equally beneficial result. Since assessing an offender's attitude toward each behaviour or situation he could possibly encounter is unrealistic, it may be more feasible to focus upon broader-level constructs and expect that this will inform individual action in individual situations. However, this assumes that individuals have a basic level of skill for translating broad goals into plans of action in future, unknown situations. In addition to attitudes and outcome expectancies, research should also focus on offenders' personal beliefs regarding their ability to affect specific and necessary changes in their lives.

In summary, offenders will engage in behaviours they expect will bring the consequences they desire. More specifically, offenders will engage in behaviours they value and believe they have the ability to enact. These dual elements of attitude and self-efficacy should be assessed as directly as possible for the specific behaviours of interest.

In other words, the study of desistance should involve assessing offenders' attitudes toward extending effort toward desistance behaviours.

The Present Study

It is beyond the scope of this paper to test whether observed changes in identity constructs are related to actual desistance. However, it is an important first step to examine offender cognitions related to change and desistance. Elucidating offenders' identity-related beliefs should be informative for determining what proportion of pre-release offenders are primed for desistance behaviours and crime-free maintenance post-release. While prior research has identified the external changes in social bonds related to desistance, this research will prepare the way for future exploration of the psychological transitions associated with desistance. Farrall (2005) criticizes an exclusive focus on either internal or external factors and argues that the two must be integrated in theory just as their effects are integrated into an individual's life. The interplay between the internal and external seems especially important to explaining desistance. As stated earlier, it is the offender's internal attitude toward external events such as employment and marriage that drives the desistance process (Farrall & Maruna, 2004).

Criminal justice research's focus on the risk factors that lead into crime has insufficiently explored into the desistance factors that lead one out of crime. Stouthamer-Loeber et al. (2004) state: "specific measurements of positive attributes are rare in this literature" (p. 899). Indeed, little advancement will be made in desistance research until the cognitive processes that push offenders into desistance are identified. Unfortunately, these variables cannot be identified until they can be accurately measured. The present

research attempts to investigate the process of desistance through building scales for measuring identity-related beliefs. This research also examines how these constructs interact within an offender sample.

A model depicting how the desistance constructs explored in this study are hypothesized to relate to risk factors and desistance correlates is presented in Figure 1. This framework suggests that an individual offender's criminal career follows a path roughly similar to the aggregate age-crime curve. Important individual risk factors play a causal role in the initiation and escalation of criminal behaviour whereas the reduction of these risk factors can be observed on the downward slope of desistance. However, some desistance correlates also suggest the offender has begun to maintain important commitments to prosocial living in addition to learning how to avoid being entangled in criminal activity. This infers, then, that certain cognitive factors work to sustain change throughout the offender's transition period and beyond his initial commitment to desist. It is hypothesized that neither the commitment to change nor the desistance factors alone are sufficient for desistance, but that together these two elements prime an offender to sustain a crime-free lifestyle.

As seen in the figure, the desistance factors explored in this study comprise a collection of identity-related beliefs that show promise in their ability to influence and sustain change. Many of these constructs were chosen from within narrative research, which provides a productive place to begin to build the infrastructure of well-defined constructs (Maruna, 2001). Operationalizing the constructs identified within this in-depth, concept-rich research is a logical next step. Five beliefs that deserve attention are: beliefs about personal agency, personal responsibility, the change process, affiliation with

Figure 1. Model of Effects on an Individual's Age-Crime Curve, Including Both Empirically Established and Hypothesized Factors.

criminal peers and the perceived benefits of crime (for a discussion, see below as well as Andrews, 1980; Maruna, 2001; 2004).

Agency

Agency is the belief that one has the capacity to exercise control over one's own thought processes, motivation and action (Bandura, 1989). Self-efficacy is a more specific sub-mechanism of agency (Bandura, 1989), whereas agency is a sub-component of the broader construct of hope (Snyder et al., 1991). While self-efficacy is specific to beliefs about one's ability to enact specific behaviours in particular situations, hope is defined as a state of mind pervasive across situations (Moulden & Marshall, 2005). These broad-to-narrow concepts are inter-related, however; individuals with hope are able to divide goals into manageable sub-goals (i.e., able to determine pathways; Moulden & Marshall, 2005; Snyder et al., 1991).

As stated previously, self-efficacy is an accurate predictor of future behaviour (Bandura et al., 1977; Hagger et al., 2002). Individuals who believe certain goals are unattainable are expected to extend little effort to reach those goals, whereas individuals with a strong sense of agency are expected to actively work toward their goals. Individuals can have a general sense of agency (i.e., beliefs that they can accomplish any task) or agency beliefs for specific behaviours (i.e., beliefs that they can accomplish a specific range of tasks). Agency is distinct from which behaviours an individual chooses to pursue. For example, an offender may have a strong sense of agency for his ability to commit break and enters undetected. In desistance research, however, the focus is upon agency for prosocial activities.

Maruna (2001) found that active offenders were five times more likely to lack language consistent with a sense of agency when compared to desisting offenders. Whereas a lack of agency involves beliefs that one is condemned to be the way one has always been, offenders with personal agency believe they are able to influence their lives and complete the goals they choose for themselves. Beliefs that one is capable of attaining one's goals through prosocial means are hypothesized to be associated with decreased offending behaviours (Moulden & Marshall, 2005). Among adolescents, uncertainty about one's future prospects for marriage and employment predicted general delinquency (Caldwell et al., 2006). Among offenders, self-efficacy is correlated with motivation to change (McMurran et al., 1998). Among low risk offenders, non-recidivists had significantly higher self-efficacy and showed more resilience (i.e., believed that they were able to overcome setbacks). Overall, non-recidivists were more optimistic about their future prior to release (Benda, 2001).

While a strong sense of agency is required to continue effort in the face of setbacks, judgments and failure (Bandura, 1989), agency is also informed by contextual factors. Should the barriers between oneself and one's goals become too extreme, agency will shrink (Burnett & McNeill, 2005). Thus, agency is a product of both the situation and the individual (Sampson & Laub, 2005a).

Individuals with agency are able to visualize and work towards events they have never seen; in other words, they cognitively construct outcome expectancies that they have not personally witnessed (Bandura, 1989). A strong sense of agency or hope is likely incompatible with offending behaviour given that they are decidedly future-oriented whereas offending is often tied to immediate gratification (Maruna & LeBel,

2003). A focus on the future is opposite to impulsivity; impulsive individuals are concerned with immediate outcomes at the expense of future consequences whereas agentic individuals expend immediate effort for delayed desired outcomes. Thus, offenders who begin to show a sense of agency for prosocial outcomes are likely involved in a transition away from the mechanisms that led them to crime.

Arguably, offenders are not able to make the overarching transition into prosocial living without serious attempts at reaching prosocial goals. Inmates generally state an intention to give up crime, but few manage to maintain effort toward that goal (Burnett, 1992, as cited in Maruna, 2001). Attempting desistance is not synonymous with attaining desistance. Agency is less about the initial act of quitting crime than perceptions of one's ability to persist in a crime-free lifestyle over time. Our understanding of the desisting offender cannot stop at mere commitment to change or brief lapses in criminal activity. Perceptions of agency show promise as important for long-term desistance.

This sense of agency may be illusory given the amount of antagonistic forces counteracting one's efforts. For instance, the prison environment actively discourages a sense of agency in inmates. Incarcerated offenders are given little opportunity to accomplish any of their goals and are likely concerned with blending into the crowd (Burnett & Maruna, 2006). The accuracy of agency perceptions matters little, however, as long as these perceptions sustain the offender's perseverance (Maruna, 2001). In general, self-efficacy may be more optimistic than realistic, but disbelief is likely more dangerous than self-enhancement (Bandura, 1989). Offenders tend to provide unrealistically optimistic forecasts of their chances of recidivism, but illusory cognitions can be highly adaptive in difficult circumstances (Dhimi, Mandel, Loewenstein, &

Ayton, 2006; Taylor, 1983). Legal decision-makers and potential employers may only respond favourably to offenders who present as confident in their abilities to stay crime-free (Harding, 2003; Kazemian, 2007).

The importance of agency has been emphasized by a number of researchers in the recent past. For example, Sampson and Laub (2005a) state that “agency is a crucial ingredient in causation and thus will be a first-order challenge for future work in life-course criminology” (p. 39). Meanwhile, Bottoms et al. (2004) argue that the “whole concept of agency in criminology is currently under-theorised” and suggest that it may be the one subjective dimension most important to desistance (p. 376). The concept of agency may be “under-theorised” in criminal justice research because there currently are no adequate measures of agency. For agency to emerge as an important dimension of desistance, it must first be measured. A good measure of agency must be specific (i.e., an individual with a generalized sense of agency may feel competent at many tasks, including evading arrest). A desisting offender should feel competent in their ability to remain crime-free. However, Maruna (2001) observed that ex-offenders drew on their mastery of criminal pursuits to convincingly argue that they were also able to master desistance. Desistance-specific agency is unlikely to develop if the offender does not also have some general sense of agency.

Attribution Style

Attribution style is a person’s tendency to offer similar explanations for different events in their lives (Peterson et al., 1982). Unlike agency and self-efficacy which are concerned with one’s ability to successfully execute action, attribution style involves broad beliefs about locus of control. Locus of control is an individual’s overarching

explanation for whether responsibility for life outcomes lies without or within their control; self-efficacy and locus of control are largely unrelated (Bandura, 1989).

Taking responsibility for one's ability to maintain crime-free behaviour could easily lead to pessimism as failures and setbacks occur along the change process. Maruna (2001) argues that positive sentiments about oneself are a key ingredient of sustained effort to change. Correlational evidence suggests that desistance is positively associated with attributing the cause of *positive* events to oneself and attributing the cause of *negative* events to external circumstances (Maruna, 2004). While a tendency to see negative events as due to external causes may be criticized as blame-shifting, it is active offenders, not desisting offenders, who were found to describe negative circumstances as internally-caused. Additionally, active offenders described the causes of negative events as being stable through time and propagating a variety of other negative life situations. Similar to patients suffering from depression (which often involves periods of apathy), active offenders also are more likely to believe *positive* events have external, unstable and specific causes over which they have little influence (Maruna, 2004).

Therefore, while it may be most adaptive for desisters to view their crimes and *negative* events as externally motivated, those successfully recovering from drugs or crime tend to describe these *positive* events as internally motivated (Flynn et al., 2003; Giordano et al., 2003; Mann, Webster, Schofield, & Marshall, 2004). For someone to desist, it may be important for individuals to reject blame for their problems (external) while still holding themselves responsible for finding the solution (internal; Maruna & Mann, 2006). This also ties in with the construct of agency as one must also believe that he has the ability to find a solution.

Attribution beliefs are important because they relate to the amount of effort one puts toward one's future. An offender who attributes their criminal behaviour to outside forces is hypothesized to extend little or no personal effort toward going straight (Ward, Day, Howells, & Birgden, 2004). Maruna (2004) argues that desisting offenders will use attributions that allow (and even expect) themselves to change, but at the same time avoid labeling themselves as unable to overcome past and present mistakes. Like lack of agency, beliefs that put excess blame on the individual and assume there is no hope for change will deter desistance. Effective rehabilitation is known to hinge upon offenders receiving positive reinforcement for effort made toward prosocial living (Andrews & Bonta, 2003; Maruna et al., 2004; Trotter, 1990; 1996). Further, offenders must attribute the praise from respected prosocial others to their own actions in order for this rehabilitative principle to succeed. On the other hand, Blatier (2000) hypothesizes that rehabilitation equally hinges upon the offender having an internal locus of control for punishments. Maruna's (2004) early data contradicts this and may highlight the greater importance of positive reinforcement over positive punishment. Additionally, Maruna, like Sykes and Matza (1957), is specifically focused on attributions for one's own crimes and not necessarily attributions for the resulting negative consequences; he argues offenders are prepared to desist when they view themselves as having once been externally influenced to commit crimes, but now fully capable of generating positive, prosocial experiences (Maruna, 2001; 2004).

Traditionally, explanatory style has been measured through a questionnaire capturing the three dimensions of attributions: internal/external, stable/unstable and global/specific (Peterson et al., 1982). Maruna (2004) devised a method to unravel

explanatory style in his participants' life narratives, but the attribution style questionnaire has yet to be adequately explored in an offending population. As stated above, measurement should pay special attention to attributions specifically for one's own crimes rather than attributions for general events.

Beliefs About Change

If an offender is unlikely to put forth effort to change when encumbered with negative beliefs about himself and his ability to effect change, the offender is also unlikely to extend effort if he believes that change requires no effort. Even outcomes that are viewed as desirable will not be pursued if it is believed that they will occur automatically (Moulden & Marshall, 2005). In addition to self-blame, wishful thinking is negatively related to successful attempts to change addictive behaviours (Norcross, Ratzin, & Payne, 1989). Wishful thinking is opposed to active perseverance; McCorkel, Harrison and Inciardi (1998) offer limited evidence that the degree to which clients in treatment believe rehabilitation involves active participation predicts completion of the program.

Self-efficacy beliefs are developed when individuals are able to anticipate and overcome setbacks when learning a new task (Bandura, 1989). Offenders who understand that change will not be spontaneous or effortless will be more ready to handle setbacks, temptations and failures. Offenders who are aware that they are embarking on a process will likely be more focused on the maintenance of prosocial behaviour rather than simply dabbling in prosocial behaviour (Prochaska et al., 1985). Abstinence from a long-existing habit will certainly be difficult at the start; life satisfaction was low for abstaining alcoholics, but rose significantly as a longer period of sobriety was

accomplished (Amodeo, Kurtz, & Cutter, 1992). An understanding that change is a process is likely necessary to move one past the initial difficulties of habit destruction and on to experiencing the satisfaction of accomplishing one's goal.

Adolescent offenders generally re-entered the community with a strong sense of resolve and were able to accurately anticipate the challenges they would face in the community (Abrams, 2007). This understanding alone did not necessarily lead to success, but beliefs that one must continually work toward recovery has been endorsed by recovering drug abusers (Flynn et al., 2003). An intervention designed to encourage students to pursue academic success despite possible future setbacks was related to future success (Oyserman, Bybee, & Terry, 2006). While it has been taken for granted by desistance researchers that desistance is indeed a process, offenders themselves have yet to weigh in on the issue. As argued above, such measurement is important because beliefs about change may be highly relevant to whether attempts to remain crime-free are successful or unsuccessful.

Associates

One simple (albeit indirect) measure of criminal identity is the criminality of one's close associates. Although the criminality of one's respected peers does not provide a particularly nuanced understanding of one's criminal identity, this measure does provide a direct answer to whether the individual sees himself as belonging within a prosocial or antisocial group. Indeed, how we think of ourselves is largely created through social interaction with others, specifically those others we respect and value (Felson, 1985). Arguably, the strenuous method of assessing identity through examination of narratives can be greatly relieved through less effortful measures that also

overlap with other respected theories (i.e., Andrews & Bonta, 2003). Thus, beliefs about an offender's own sense of criminality are hypothesized to be deduced from the degree to which he identifies with and associates with antisocial peers.

Outcome Expectancies

In addition to envisioning whether a crime-free existence is possible (i.e., agency, attribution, effort and identity beliefs), the value attached to being crime-free is also expected to be related to desistance. The probability of engaging in future criminal behaviour should increase with the relative expected value attached to these behaviours (Harris, 1975). "Relative" expected value suggests that the perceived costs of crime should outweigh the perceived benefits; the total number of beliefs is less important compared to how the beliefs measure up to the total array of beliefs (Ajzen & Fishbein, 1969; Harris, 1975). It has also been hypothesized that the path to desistance begins when a crisis encourages an individual to outweigh the advantages of crime with its disadvantages (Shover, 1983; Walters, 2002).

Expectations that legitimate pursuits will yield more salary than criminal pursuits are linked to lower risk to re-offend (Shover & Thompson, 1992). Expectancies have also been related to changes in criminal behaviour in early adolescence (Ayers et al., 1999). Among alcohol and drug abusers, those who endorsed negative substance abuse expectancies were more likely to avoid relapse (Flynn et al., 2003; Jones & McMahon, 1994). Positive expectancies and negative expectancies for the same behaviour appear to be independent constructs, which suggests that both effects should be measured and examined (Jones & McMahon, 1994). Both negative and positive crime expectancies can be changed when targeted in rehabilitation programs, but it remains unclear how these

changes relate to crime outcome (Walters, 2004). The expected value of crime varies throughout the incarceration experience reflecting the conflicting influences of contact with antisocial others and experience of adverse effects in relation to one's own criminal activity (Harris, 1975). Again, the relation between changes in expectancies and criminal behaviour has not been adequately explored.

When outcomes are within an individual's control, expectancies are closely related to self-efficacy beliefs, indicating individuals expect outcomes to occur if they believe they have the ability to obtain them (Bandura, 1989). However, whether the outcome is valued is an added dimension affecting whether the individual will actually pursue the particular outcome.

Hypotheses

Given the need for greater description of the psychological components of desistance and for the creation of pioneer measures of these components, the following hypotheses are worthy of exploration. Of central interest is how desistance beliefs cluster together to create a desistance profile.

Hypothesis 1

Higher agency scores will be related to readiness to desist.

Hypothesis 2

Attributions that are internal, global and stable for the positive event of rejecting an opportunity to commit crime will be associated with readiness to desist.

Hypothesis 3

Offenders who show an understanding that desistance will be a multi-step process and not an instant conversion will also show a readiness to desist.

Hypothesis 4

Offenders who report access and receptivity to supportive, prosocial relationships will show a greater readiness to desist than those without access and receptivity to prosocial relationships.

Hypothesis 5

Offenders who report a greater understanding of the benefits of staying crime-free will show a greater readiness to desist than those who endorse the benefits of criminal behaviour.

Method

Participants

Seventy-three male offenders were recruited within a minimum-security institution for participation in this study. Participants were excluded only if education level or mental illness impeded their ability to complete the questionnaires. Volunteers ranged in age from 21 to 70 years with a mean age of 41.6 years. A majority of the offenders were Caucasian (70.4%) while the remaining participants were Black (8.5%), Aboriginal (7.0%), Asian (5.6%), multi-racial (1.4%), or listed as Other (7.0%). Most participants were single, either never married (37.5%), divorced (33.3%), or widowed (6.9%) while 22.24% of the sample was married or in a common-law relationship.

Slightly more than half of the sample was incarcerated for a non-sexual violent index offence, whether assault or murder (52.9%), while a greater percentage of the remaining half had non-violent index offences (35.7%) compared to an index offence of sexual assault (11.4%). Less than half of the sample had served a previous sentence for assault (40.0%) and a majority of those with a prior assault conviction reported that the

victim was not their partner or girlfriend (71.9%). Some offenders had served a prior federal sentence (20.8%) while a greater percentage had served a prior provincial sentence (44.4%). Length of current prison term ranged from six months to 25 years, indicating some of the participants are serving life sentences and will not experience opportunities for desistance soon; average length was 7.3 years.

Materials

Much of this exploratory research employs newly developed materials or measures in their infancy. While these innovative measures are previously untested, they are carefully linked to current desistance theory. As stated earlier, desistance research in the last decade experienced a flux of theory-building and discussion before an empirical foundation could be adequately laid. While these theoretical constructs have yet to be tested, the theories provide a detailed framework from which to draw items for inclusion. The main goal for these measures is to reflect desistance theory so that these theories can further be explored and evaluated.

Scales

Personal Agency for Desistance Scale.

A ten-item questionnaire was prepared to capture the construct of agency as described in Maruna (2001). A complete listing of the items can be found in Appendix A. Participants are asked to rate each statement on a scale from *strongly disagree* (coded 1) to *strongly agree* (coded 5). Sample items include: "I'm smart enough to be able to learn skills and anything else I need to learn to help me live a crime-free life" and "I feel helpless when I try to stop myself from committing crimes; the world always somehow forces me to keep going back to crime" (reverse coded). Although some suggest even a

general sense of agency is associated with desistance (Maruna, 2001), this scale is desistance-specific; it is designed to assess perceptions of agency for maintaining a crime-free lifestyle.

Scores range from 10–50. Higher scores indicate a greater level of personal agency for desistance.

Trait Hope and State Hope.

The Hope Scale uses twelve items to measure cognitive appraisal of goal-related capabilities as a dispositional trait (Snyder et al., 1991), while the State Hope Scale uses six items to measure the same perceptions at a specific time (Snyder et al., 1996). Both questionnaires can be found in Appendix B. The State Hope items are analogous to the Hope items except the wording is in the present tense only. Individuals scoring high on the *agency* subscale expect positive outcomes to occur. The *pathways* subscale, on the other hand represents efficacy; individuals are expected to experience hope only when they can envision specific means to reach their goals.

Using both scales, Moulden, Marshall and Marshall (2005) found that a preparatory rehabilitation program for sex offenders significantly increased their sense of agency. This study provides normative data on the scales for an offender population. Participants scored an average of 9.5 out of 16 points on the agency subscale of the Hope Scale and 12.2 out of 16 points on the pathways subscale (Moulden et al., 2005). On the State Hope Scale, participants scored an average of 30.0 points pre-treatment and 34.5 points post-treatment (with possible scores ranging 8-64; Moulden et al., 2005).

Although the Personal Agency for Desistance questionnaire was developed independently, it resembles the components of the Hope Scale. The Hope Scale applies

widely to the general population while the Personal Agency for Desistance questionnaire focuses on agency for crime desistance. Otherwise, the scales are comparable: the sample item “I meet the goals that I set for myself” (Hope Scale) corresponds to “When I was committing crimes, I was good at getting what I wanted. Now that I’m trying to go straight, I believe I can be good at this, too” (Personal Agency for Desistance Questionnaire). The similarity of the scales provides an opportunity to explore concurrent validity.

Crime and Desistance Attribution Style Questionnaire.

The Attributional Style Questionnaire (Peterson et al., 1982) was adapted for offending and desistance behaviours. The complete Crime and Desistance Attribution Style Questionnaire can be found in Appendix C. Two scenarios are presented, one that results in a crime and one that results in avoidance of a high risk situation. For each vignette, participants are asked to imagine themselves in the situation and then answer five questions designed to tap their beliefs about the cause underlying their behaviour. The questionnaire avoids naming specific crimes in order to allow participants to imagine the crime they are most likely to be tempted to commit.

The questionnaire assesses the three dimensions of attribution. One open-ended and one forced choice question assess the internal/external dimension while two forced choice questions explore the stable/unstable and global/specific dimensions. The final question asks the participant to report whether the scenario relates to a real-life situation and serves as a manipulation check. The open-ended explanations are rated dichotomously as internal or external. The final four questions are rated on a four-point

scale. The questionnaire was adapted from the original version in order to make the language more concrete.

Change Process Beliefs Scale.

Three questions were prepared to explore offenders' beliefs about the desistance change process. Each question is coded on a four-point scale. The items are listed in Appendix D. The questions are designed to uncover whether participants believe that change is instantaneous or that change is gradual.

Total scores range from 3-12. Higher scores indicate greater endorsement of change as a process.

Measures of Criminal Attitudes and Associates (MCAA).

The Measures of Criminal Attitudes and Associates (MCAA; Mills & Kroner, 2001) measures both number of antisocial associates (Part A of the MCAA) as well as attitudes towards antisocial associates (Attitudes Towards Associates subsection of Part B). Part A asks offenders to think of the four adults they spend most of their time with when in the community. It assesses both the amount of time spent with each associate as well as each associates' involvement in crime. Scores range from 0–64. Higher scores on Part A indicate not only the presence of criminal friends but also a high percentage of self-reported free time spent with those friends.

The construction sample had an average of 1.2 ($SD = 1.3$) criminal friends and an average score of 4.9 ($SD = 3.0$) on the Attitudes Towards Associates subscale (possible range is 0-10). The Attitudes Towards Associates subscale has good internal consistency ($\alpha = .84$) and fair test-retest reliability ($r = .66$; Mills, Kroner, & Forth, 2002).

The MCAA also assesses attitudes about the appropriateness of antisocial acts through three subscales: Attitudes Toward Violence, Attitudes Toward Entitlement and Antisocial Intent (12 agree/disagree statements each). These measures have been shown to predict both general recidivism (AUC range = .58 to .65) and violent recidivism (AUC range = .59 to .70; Mills, Kroner, & Hemmati, 2004). Scores range from 0–36. Higher scores indicate greater endorsement of antisocial attitudes.

The MCAA can be found in Appendix E.

Crime and Desistance Outcome Expectancies Scales.

The Crime and Desistance Outcome Expectancies Scales assess the perceived benefits and costs of crime and desistance. These scales were constructed for the present research. Items were generated by an offender sample through a free-response task in an unrelated study (Brown, 2002). In this previous study, offenders were asked to respond to two open-ended questions: a) what things could happen to a person if they commit a crime? and b) what things could happen to a person if they decide not to commit crimes? The free response items were gathered into two scales, one assessing possible crime outcomes (positive and negative) and the other assessing possible desistance outcomes (positive and negative). On all items, participants are asked to rate the likelihood of each outcome from *not at all likely* (coded 1) to *completely likely* (coded 5).

The Crime Expectancies were divided into 19 negative crime outcome expectancies and 13 positive crime outcome expectancies. Sample items for negative outcomes include “They will get hurt or killed” and “They will lose respect from others”. Sample items for positive outcomes include “They will have a better life” and “They will feel a good thrill or excitement”. All 32 items were repeated to assess personal

expectancies, for example, “You will be able to get the revenge you want”. For both general and personal crime outcome expectancies, the negative outcomes subscale scores range from 19-95 and the positive outcomes subscale scores range from 13-65.

The Desistance Expectancies were divided into three subscales. Seven items measured negative desistance outcomes, including “They won’t achieve their goals” and “They will live on lower income, at least for a while”. Scores range from 7-35. Positive desistance outcomes were measured using 17 items, including “They won’t worry about arrest or prison again” and “They will have a healthier lifestyle”. Scores for this subscale range from 17-85. Twelve additional free response items did not clearly fit along the positive/negative dimension, but appeared to tap perceptions regarding the amount of effort that would be required for desistance. Sample items include “They won’t be able to give up, even when things seem hopeless” and “They will have to put effort into getting out of feeling angry or upset when feeling that way”. Alternatively, this component can be thought of as perceptions of behavioural control. Scores range from 13-65. These 37 items were also repeated to assess personal expectancies.

The Crime and Desistance Outcome Expectancies Scales are located in Appendix F. None of the offenders who provided the items for these scales participated in the present study.

Risk to Re-offend.

The Statistical Information on Recidivism Scale (SIR-R1) combines 15 static risk factors for Canadian offenders’ post-release recidivism (Nuffield, 1989). A substitute measure of the Statistical Information on Recidivism was developed within Correctional Services Canada (CSC) to assess probability of re-offence within three years of release

(i.e., the SIR-Proxy; Nafekh, 2003). This proxy measure uses a shorter list of risk items to expand the scope of re-offence probability estimates beyond non-Aboriginal males to females and Aboriginal offenders. The SIR-Proxy compiles a risk estimate from information about past and current offences as well as offenders' criminogenic needs. The SIR-Proxy is highly correlated with the SIR-R1 ($r = .90$), has good internal consistency ($\alpha = .78$) and good predictive validity for federally sentenced non-Aboriginal male offenders (AUC = .75; Nafekh, 2003). Approximately equal percentages of offenders score either *good/very good* on the SIR-R1 (44%) or *poor/very poor* (40-41%); a smaller percentage of offenders receive a moderate score of *fair* (15-16%; Motiuk & Nafekh, 2001). Level of risk to re-offend is measured in the present study, but no a priori hypotheses about how risk relates to desistance beliefs are made. Scores range from -27 to +30 with higher, positive scores indicating lower risk.

Measures of Criminal and Antisocial Desistance (MCAD).

The Measures of Criminal and Antisocial Desistance (MCAD) is an unpublished scale created by D.G. Kroner and J.F. Mills. The questionnaire asks offenders to report which of 106 items they perceive as helping them to avoid involving themselves in criminal activities. Items were developed from a review of extant literature as well as through interactions with offenders while offering clinical service. A full listing of the items and questionnaire instructions can be found in Appendix G. The scale assesses self-awareness of the desistance factors that are particularly relevant to an individual as well as evaluates the range of factors offenders personally have access to when they attempt to remain crime-free.

The MCAD is divided into three domains and ten scales. The Defensive Domain includes three scales (Values, Purpose and Personal Factors) and is comprised of items that assess feelings of self-control, attempts at long-term, community goals and the ability to manage oneself well. The Offensive Domain includes five domains (High Activity, Lifestyle Patterns, Connected with Person/Small Group, Family and Positive Lifestyle) and is comprised of items that assess involvement in organized activities, positive routines, committed relationships, family activities and satisfying hobbies. Finally, the Center Domain includes two scales (Availability of Resources and Social Control) and assesses the availability of positive support and submission to the guidance of others.

The MCAD was recently normed on a sample of offenders ($n = 48$) in an unpublished pilot study (Storey & Serin, 2006). The average score on the MCAD was 65.9 out of 106. Average scores for the ten subscales ranged from 2.42 to 11.77. Results indicate that the ten scales of the MCAD are inter-correlated (Storey & Serin, 2006).

Scores range from 0–106 on the MCAD. Higher scores indicate greater readiness to desist.

Procedure

A research assistant contacted incarcerated offenders, requesting their voluntary participation in the study. Inmates were fully informed of the nature of the study through a consent form in which confidentiality is promised. Participation proceeded after the offender signed the informed consent, which advised them they were free to terminate their involvement at any time without penalty.

Participants completed the questionnaires individually in the presence of the research assistant. No order effects were expected, however, four separate packets were

prepared in which the questionnaires were presented in a different order. This was expected to counteract any possible order effects as well as diminish low completion of any one scale due to fatigue effects. The assistant was available to answer questions or concerns about the wording or meaning of the questions and was available to receive feedback from the participants. It was emphasized in the instructions that there were no correct answers to any of the questions and participants were asked to answer to the best of their knowledge.

At the completion of the offenders' participation, they were thanked and fully debriefed. Electronic files (Offender Management System) were consulted at a later date through institution file review.

Results

Scale Construction and Psychometrics

Personal Agency for Desistance Scale

Calculation of Cronbach's alpha indicates that the Personal Agency for Desistance Scale has good internal consistency ($\alpha = .80$). However, examination of the item-total correlations (see Table A in Appendix H) revealed that deleting the first item on the scale would result in better internal consistency ($\alpha = .82$). This item, "No matter what I do to try to stop, I'm doomed to never be able to stop committing crimes" was subsequently dropped from the scale. Inter-item correlations range from $r = .03$ to $.71$ (see Table B in Appendix H). Scores for the final version of the Personal Agency for Desistance Scale now range from 9-45.

On average, participants scored high on this scale ($M = 39$, $SD = 6.2$; *Median* = 41). The modal score was the total possible score. Thus, the distribution of scores is

strongly negatively skewed. Overall, participants were highly optimistic about their ability to remain crime-free.

Correlations with the Hope Scale ($r = .17, ns, n = 66$) and State Hope Scale ($r = .42, p < .001, n = 69$) provide some support for concurrent validity with present appraisals of hope. State hope, but not trait hope, shows a medium correlation with desistance agency. It may be that the Hope Scale's emphasis on agency throughout one's past as well as present and future makes it less compatible with offenders' hope for future success. Hope scale items such as "I've been pretty successful in life" and "My past experiences have prepared me well for my future" may be inconsistent with offenders' beliefs that they are still able to influence life changes now that they find themselves incarcerated.

The distributions of scores for both Hope scales were similarly negatively skewed. Means were high ($M = 40$ out of 48 for State Hope; $M = 26$ out of 32 for Hope) and elevated compared to post-treatment scores gathered from a sample of sex offenders (40 vs. 34.5; 26 vs. 21.7; Moulden et al., 2005). On average, offenders were consistently optimistic about their abilities to reach their goals.

Crime and Desistance Attribution Style Scale

The questionnaire items of this scale are designed to assess separate attribution dimensions, thus internal consistency was not tested. However, the free response and forced choice questions assessing the internal/external dimension were expected to show consistency. For the crime scenario, the point biserial correlation between the dichotomous free response item and the four-point forced choice scale was small-to-medium ($r = .40$) while the correlation for the desistance scenario was close to null ($r =$

.05). This, along with the following evidence, suggests the participants may have misunderstood the scale or did not find it engaging.

Of all scales assessed in this study, participants avoided the Attribution Style Scale the most; nineteen participants (26% of the total sample) failed to respond to one or more questions on the scale. A majority of the respondents (69% in the Crime scenario; 53% in the Desistance scenario) indicated that the vignette was not similar to a real situation they would face. Several participants wrote in the free-response section: “I would not commit another crime” and left the rest of the responses blank.

Among the participants who did respond, 77.2% provided an external attribution in the free response section of the crime vignette. Common examples of answers provided include “needed money” and “because I was drinking”. Internal attributions included “I was desperate” and “wanted revenge”. Within the desistance vignette, external attribution free responses included “things are going well” and “getting busted”. Internal attributions were more common for the desistance vignette (70.7%) and included “don’t want any trouble” and “because I didn’t want to get in shit”. Some responses were not able to be coded such as “trying to tell buddy that you’re going straight”. Some participant responses indicated a strong familiarity with the vocabulary of in-prison rehabilitation programs. For example, some responses included “don’t want to enter high risk situations”, “I want to live by a good set of principles and a good standard of conduct”, “I want a prosocial-freedom lifestyle” and “unprepared mentally to strive cognitively towards a goal”.

Compared to the 77.2% of participants who gave an external attribution for the crime vignette, only 58.4% indicated in the forced choice that their attribution was

external or somewhat external. Attributions were more likely to be stable or nearly stable for the crime vignette (74%) whereas a situation-specific attribution (57.2%) was endorsed more often than a global attribution (42.9%).

In the desistance vignette forced-choice questions, internal attributions (75.4%) were endorsed more than external (24.6%). Although this is a similar percentage to what was found in the open-ended question, the correlation reported previously reveals that responses were largely unrelated even though the same question was being asked in two ways. Stable or nearly stable attributions were strongly endorsed (90.8%) as were global attributions (70.4%). As stated previously, these percentages are based on a reduced sample size due to omissions.

Change Process Beliefs Scale

Internal consistency for the three-item Change Process Beliefs Scale was less than adequate ($\alpha = .64$). Item-total correlations indicate that deleting the second item would substantially increase alpha (see Table C in Appendix H). When this item is deleted, the two-item scale shows good internal consistency ($\alpha = .83$) with a large correlation between the two items ($r = .72$; see Table D in Appendix H). However, given that the remaining two items essentially ask the same question (whether change is immediate for people in general or for a particular friend), the low internal consistency observed may be an artifact of this similarity and low number of items.

Since the second scale item (Do you agree?: “When someone wants to stop committing crimes, their life goes straight as fast as a light bulb turning on.”) may be tapping a different construct or be unrelated to change beliefs, it was deleted from the scale. Scores on the remaining two-item scale range from 2-8. On average, participants

scored high on this scale ($M = 5.9$, $SD = 2.1$), indicating general agreement with beliefs that change is a process.

Measures of Criminal Attitudes and Associates (MCAA)

Fairly low means were found on the total and subscale scores of the MCAA; for the measures of associates: the Criminal Friends Index ($M = 5.4$ out of 64) and Attitudes toward Associates ($M = 5.3$ out of 10). The remaining 12-item subscales also showed low means: Attitudes toward Violence ($M = 2.6$), Attitudes toward Entitlement ($M = 4.9$) and Antisocial Intent ($M = 3.2$). Total MCAA score showed a mean of 16.0 ($SD = 8.3$). Distributions all showed some evidence of positive skew. Correlations among subscales ranged from $r = .19$ to $.86$.

Crime and Desistance Outcome Expectancies Scales

Negative Crime Outcome Expectancies.

Internal consistency was excellent for negative crime expectancies both when measured for people in general ($\alpha = .89$) and when measured for the individual ($\alpha = .91$; see Tables E and F in Appendix H for item-total correlations). Alphas over .90 can indicate item redundancy, however, suggesting all 19 items may be unnecessary when using these items in the future. Inter-item correlations ranged from null to $r = .66$ (for general scale) or $r = .84$ (for personal scale; see Tables G and H in Appendix H). Means were close to identical for both scales ($M = 69.1$, general scale; $M = 69.5$, personal scale). Both distributions tended to be negatively skewed.

Positive Crime Outcome Expectancies.

Internal consistency was excellent for positive crime expectancies both when measured for people in general ($\alpha = .82$) and when measured for the individual ($\alpha = .90$;

see Tables I and J in Appendix H for item-total correlations). Inter-item correlations ranged from null to $r = .68$ (for general scale) or $r = .76$ (for personal scale; see Tables K and L in Appendix H). While negative crime expectancies tended to be high, positive crime expectancies tended to be low. Means were also similar for the two approaches ($M = 28.0$, general scale; $M = 23.1$ personal scale) and both distributions tended to be positively skewed.

Correlations among the Crime Outcome Expectancies subscales can be found in Table 1. Expected outcomes for offenders in general versus the offender themselves were strongly positively correlated. Negative outcome expectancies are inversely related to positive outcome expectancies; this relationship is stronger for personal expectancies.

Table 1. Inter-correlations among Crime Outcome Expectancies Subscales

Subscales	(G+)	(P-)	(P+)
General Negative Crime Expectancies (G-)	-.29*	.76***	-.33**
General Positive Crime Expectancies (G+)	-	-.35**	.83***
Personal Negative Crime Expectancies (P-)		-	-.56***

* $p < .02$; ** $p < .01$; *** $p < .001$

Negative Desistance Outcome Expectancies.

When assessing general negative expectancies for desistance, internal consistency was good ($\alpha = .78$); however, deleting a single item ("They will have less party times") increased consistency by a fair amount ($\alpha = .81$; see Tables M and N in Appendix H for item-total correlations). Similarly, internal consistency was increased for personal negative expectancies when this same item was deleted ($\alpha = .71$ vs. $\alpha = .67$). Inter-item

correlations range from $r = .04$ to $.61$ (see Tables O and P in Appendix H). All subsequent analyses employ the new six-item scale with possible scores ranging from 6-30. Distributions of scores tended to be positively skewed with the following means; general desistance ($M = 14.9$) and personal desistance ($M = 12.6$).

Positive Desistance Outcome Expectancies.

Internal consistency was excellent for the positive desistance outcome expectancy scales, both for general desistance ($\alpha = .85$) and personal desistance ($\alpha = .86$; see Tables Q and R in Appendix H for item-total correlations). Two item-total correlations fell below the accepted minimum correlation of $.20$; however, the change in alpha that would result was trivial. Thus, these two items were kept in the scale. Inter-item correlations range from null to $r = .73$ (for general scale) to $r = .79$ (for personal scale; see Tables S and T in Appendix H). Distributions of scores tended to be negatively skewed with the following means: general desistance ($M = 62.3$) and personal desistance ($M = 68.1$).

Desistance Effort Expectancies.

Internal consistency was good for the behavioural control expectancy scales, both for general desistance ($\alpha = .74$) and personal desistance ($\alpha = .80$; see Tables U and V in Appendix H for item-total correlations). For the general scale, but not the personal scale, deleting one item increased consistency ($\alpha = .78$). This item, "They won't be able to 'brew' when things don't go well" was deleted from the general desistance scale. This item was flagged as problematic in feedback from offenders; participants indicated they preferred to use the word "stew" rather than "brew" in this context. Inter-item correlations range from null to $r = .54$ (for general scale) to $r = .59$ (for personal scale; see Tables W and X in Appendix H). Distributions for these scales also tended to be

negatively skewed with the following means: general desistance ($M = 47.4$) and personal desistance ($M = 54.0$). On average, participants endorsed these items indicating they view desistance as requiring effort.

Correlations among the Desistance Outcome Expectancy scales are found in Table 2. Participants tend to have similar, but not perfectly correlated, perceptions of outcome expectancies for others compared to themselves; for each of the three subscales, the correlations between the general and personal scales were medium-to-large (range from $r = .52-.63$). Negative outcome expectancies are inversely related to positive outcome expectancies, although this is only statistically significant for the general scale. Greater positive outcome expectancies are consistently and strongly related to greater endorsement of effort expectancies. Although these large correlations may indicate some overlap between these two constructs, when the positive expectancies and effort expectancies were all included in a single scale, internal consistency was poor.

Table 2. Inter-correlations among Desistance Outcome Expectancies Subscales

Subscales	General Desistance		Personal Desistance		
	(+)	(E)	(-)	(+)	(E)
General Desistance					
Negative Expectancies (-)	-.51*	-.22	.63*	-.12	-.03
Positive Expectancies (+)	-	.67*	-.23	.59*	.42*
Effort Expectancies (E)		-	.03	.50*	.52*
Personal Desistance					
Negative Expectancies (-)			-	-.20	-.05
Positive Expectancies (+)				-	.80*

* $p < .001$

Statistical Information on Recidivism Scale (SIR-R1)

Demographic information indicated that only five participants would be lost if the SIR-R1 scale was used to measure risk instead of the SIR-proxy as planned. Thus, SIR-R1 scores were collected for the sample excluding the five Aboriginal participants. Total scores ranged from -15 to +26 with the average score falling at 6.2 points ($SD = 9.6$).

Measures of Criminal and Antisocial Desistance (MCAD)

Total scores on the MCAD ranged from a 13-105; the average score was 73.0 ($SD = 23.4$). All but two of the MCAD subscales were significantly correlated; inter-correlations were all positive and ranged from $r = .19$ to $.90$.

Correlations and Partial Correlations

Correlations among the variables are shown in Table 3. To reduce the amount of data presentation and data interpretation, the general Outcome Expectancy scales are abandoned in favour of the personal scales. As shown in previous tables, correlations indicated a reasonable level of consistency between outcome beliefs in general and for one's self, indicating the value of examining the scales as separate constructs is reduced. More importantly, this research's primary aim is to examine beliefs related to personal identity; thus, it is appropriate to restrict focus to personal outcome expectancies. The correlations shown in Table 3 are reduced when the general scales are used; however, the correlations generally remain in the same direction (for these same correlations using the general scales, see Table Y in Appendix I).

Table 3. Inter-correlations among Desistance, Associates, Outcome Expectancy and Attitude Measures

Scales	Agency	Change	Friend	Assoc	(C-)	(C+)	(D-)	(D+)	(DE)	MCAA ^a
MCAD	.26*	-.06	-.14	-.09	.07	-.03	-.29*	.34**	.32**	-.13
Agency	-	.18	.02	.10	.26*	-.18	-.21	.41**	.46***	-.24*
Change Beliefs		-	.12	.25*	.00	.10	.28*	-.02	.08	.10
Criminal Friend Index			-	.53***	-.29*	.14	-.22	-.02	.06	.11
Attitudes toward Associates				-	-.33**	.21	.07	-.16	-.01	.38**
Personal Crime (C-)					-	-.56***	.03	.31*	.23	-.52***
Personal Crime (C+)						-	.31*	-.13	-.09	.48***
Personal Desistance (D-)							-	-.30*	-.16	.29*
Personal Desistance (D+)								-	.80***	-.30*
Personal Desistance Effort (DE)									-	-.25*

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

^aMCAA = sum of Attitudes toward Violence, Attitudes toward Entitlement and Antisocial Intent subscales

Negative crime outcome expectancies are correlated with positive desistance outcome expectancies. Likewise, positive crime outcome expectancies are correlated with negative desistance outcome expectancies. These correlations are medium in size and remarkably identical. As noted previously, positive and negative crime expectancies are inversely related to each other; the same is true for desistance expectancies. Desistance effort is highly correlated with positive desistance expectancies; however, desistance effort does not relate to either negative or positive crime expectancies.

Beliefs that change is a process are unrelated to desistance effort expectancies. Despite some similarity between the constructs, this suggests these measures are assessing different beliefs. Some participants may believe that effort will result in an instantaneous conversion, or alternatively that a process of change will occur without effort. Beliefs that change is a process were correlated with negative desistance expectancies, however. A greater understanding that change will take time is mildly related to beliefs that negative experiences will occur if desistance is pursued.

Change beliefs are also positively correlated with greater involvement with antisocial peers; interpretation of this correlation is not straightforward, however, it may be that greater involvement in an antisocial subculture comes along with a heightened awareness of the difficulty of change. Using attitudes toward associates as a rough measure of personal criminal identity, it may also be that those who view themselves as more criminal also recognize the greater difficulty they face if they attempt to desist. Greater involvement with criminal peers is also inversely related to negative crime expectancies; as predicted by social learning mechanisms, individuals with close associates who commit crimes are less inclined to view criminal behaviour as costly.

Criminal friends, however, are unrelated to desistance expectancies, whether positive or negative.

Agency beliefs cluster well with beliefs that crime will bring negative outcomes, that desistance will bring positive outcomes and that desistance will involve some degree of effort. Agency is also positively correlated with greater endorsement of desistance factors. Offenders who more easily recognize numerous prosocial support mechanisms in their lives also feel stronger that they are able to desist from crime. Greater endorsement of desistance factors is also correlated with positive desistance expectancies and inversely correlated with negative desistance expectancies. By contrast, desistance factors are unrelated to crime expectancies.

Antisocial attitudes are closely related to most of the other psychological components explored. Stronger endorsement of the MCAA (support for violence and self-serving crime as well as stated intent to commit future crimes) is correlated to positive expectancies for crime and negative expectancies for desistance. Similarly, an inverse relationship is observed between the MCAA and negative expectancies for crime (as well as with positive expectancies for desistance and desistance effort). Antisocial attitudes are also positively correlated to acceptance of criminal friends; however, desistance factors do not show a significant relation to antisocial attitudes. Finally, antisocial attitudes show an inverse relationship with personal agency for desistance, indicating those who endorse attitudes supportive of crime feel little ability to exit crime (or little desire to exit crime).

Given the important association between antisocial attitudes and the other variables, the correlations in Table 3 were re-calculated while controlling for the effect of

the MCAA. These correlations are listed in Table 4. As expected, some of the observed relationships were attenuated by removing the effect of antisocial attitudes.

As seen by comparing the two tables, the relationship between agency and positive expectancies for desistance was reduced by controlling for antisocial attitudes. A greater reduction was seen in the correlation between agency and effort expectancies, indicating that attitudes supportive of criminal behaviour accounts for some of the relationship between beliefs that desistance requires effort and beliefs that this effort is personally available. In other words, thinking that effort is required for desistance and desiring to extend that effort clusters together better when antisocial attitudes are low. On the other hand, the inverse association between agency and negative desistance expectancies was strengthened by holding antisocial attitudes constant, suggesting that agency is more strongly related to beliefs about desistance's costs when antisocial attitudes are not present. Also, antisocial attitudes account for some of the correlation between agency and negative beliefs about crime. In summary, antisocial attitudes make up an important part (but not all) of the relationship between agency beliefs and beliefs supportive of desistance.

In the same vein, controlling for antisocial attitudes attenuated the inverse relationship between the costs of crime and the benefits of crime. The relationship between viewing crime as costly and desistance as beneficial (and vice versa) was also weakened when antisocial attitudes were partialled out. Thus, antisocial attitudes contribute to the strength with which outcome expectancy beliefs cluster together. In other words, beliefs that crime is costly and beliefs that desistance is beneficial are related to each other, but also related to antisocial attitudes.

Table 4. Inter-correlations among Desistance and Personal Outcome Expectancy Measures while Controlling for Antisocial Attitudes (MCAA^a)

Scales	Agency	Change	Friend	Assoc	(C-)	(C+)	(D-)	(D+)	(DE)
MCAD	.16	-.07	-.20	-.12	-.02	.03	-.24	.30*	.20
Agency	-	.27*	.11	.08	.08	-.13	-.27*	.39**	.31*
Change Beliefs		-	.14	.31*	.06	.06	.26*	.02	.12
Criminal Friend Index			-	.49***	-.22	.06	-.23	.04	.08
Attitudes toward Associates				-	-.13	-.05	-.03	-.12	-.04
Personal Crime (C-)					-	-.35**	.19	.11	.02
Personal Crime (C+)						-	.26	.08	.11
Personal Desistance (D-)							-	-.27*	-.07
Personal Desistance (D+)								-	.77***

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

^aMCAA = sum of Attitudes toward Violence, Attitudes toward Entitlement and Antisocial Intent subscales

Some of the relationship between desistance factors and beliefs supportive of desistance is shared by antisocial attitudes. MCAD correlations with the three desistance expectancy scales were all reduced by controlling for attitudes, suggesting desistance beliefs are not completely independent of beliefs about crime. However, the relationship between prosocial activities and desistance beliefs remained significant even when accounting for antisocial attitudes.

The relationship between desistance factors and agency for desistance was also attenuated by accounting for antisocial attitudes. Thus, when the inverse relationship between desistance agency and antisocial attitudes is partialled out, beliefs that desistance is personally attainable are no longer significantly related to the desistance factors available in one's life. Attitudes supportive of crime thus influence the interplay between the external prosocial opportunities and personal beliefs about one's chances for desistance.

While interpretation of this is unclear, the relationship between change beliefs and agency is strengthened by controlling for antisocial attitudes. This suggests that the relationship between beliefs that desistance is a process and beliefs that one can attain desistance is somehow masked by the presence of antisocial attitudes. When beliefs that crime is beneficial (i.e., that short-term gain should be sought) are low, offenders may more readily accept that they are capable of going through an extended process of change. Likewise, the relationship between change beliefs and attitudes toward antisocial associates is strengthened by controlling for antisocial attitudes. If those with more criminal associates have a greater understanding that change will involve time and effort, when the variance in attitudes toward associates shared with antisocial attitudes is

removed, it may be that those who simply know antisocial others (without sharing their attitudes) are even more aware that desistance is a process. In other words, greater beliefs about process occur when one has offender friends from whom they have a different perspective on crime. It may also be that offenders currently in the process of rejecting antisocial attitudes while maintaining criminal associates are more acutely aware that desistance will be an involved process for them. Alternatively, the Change Beliefs Scale is a newly developed two-item scale with a maximum of eight points. Observed variation on this scale may not be convincing as small shifts in scores are magnified but not clearly meaningful. The small sample size used in this study also prohibits persuasive interpretation of this effect.

Finally, the correlations between the measures of antisocial associates and negative crime expectancies are reduced when controlling for antisocial attitudes. As these correlations are no longer significant, this suggests that an important amount of the variation in personal beliefs and attitudes about crime is shared with variation in antisocial associates.

No hypotheses were generated for the relationship between risk for recidivism scores and the desistance scales explored in this study. However, it is suggested by the earlier literature review that within a group of high risk offenders, some will desist while others will not. Thus, risk scores may not differentiate between those primed for desistance and those unready to desist. The correlations shown in Table 5 confirm that risk scores are largely unrelated to the desistance scales. As seen in the table, the two antisocial associates variables are the only variables with significant relationships with risk. Both associates measures show a moderate relationship with risk scores, indicating

higher risk is related to greater number of criminal friends. Other correlations are nonsignificant, but trends show that higher risk tends to be related to beliefs supportive of crime and unsupportive of desistance. Beliefs about agency and change are clearly unrelated to risk.

Correlations seen in Tables 3 and 4 were re-calculated while partialling out risk scores rather than antisocial attitude scores. As seen in Table 6, some of the relationships are slightly attenuated by controlling for risk. Given that antisocial attitudes are an important risk factor, it is unsurprising to see that risk scores tend to interact with the other variables in a similar way as antisocial attitudes (although, the SIR-R1 only measures static risk factors). Similar to antisocial attitudes, risk scores share an important part of the variance between antisocial associates and negative crime expectancies. Both correlations between associates measures and negative crime expectancies are no longer significant when controlling for risk. Controlling for risk also has a small effect on the magnitude of the correlations between desistance factors (MCAD) and desistance expectancies. Also, the relationship between desistance factors and desistance agency is no longer significant when controlling for risk, suggesting prosocial opportunities and beliefs that desistance is personally attainable cluster together better when risk is low.

On the other hand, controlling for risk magnified other correlations. The inverse relationship between agency and expectancies that crime is beneficial (and desistance is costly) was strengthened when risk was partialled out. Similarly, the relationship between agency and change beliefs was also masked by the presence of variation in risk.

Table 5. Correlations among Desistance Scales and Risk Scores (SIR-R1)

Risk Score	MCAD	Agency	Change	Friend	Assoc	(C-)	(C+)	(D-)	(D+)	(DE)	MCAA ^a
SIR-R1	.16	-.01	.00	-.33*	-.45**	.19	-.18	-.09	.21	.10	-.20

* $p < .01$; ** $p < .001$

^aMCAA = sum of Attitudes toward Violence, Attitudes toward Entitlement and Antisocial Intent subscales

Table 6. Inter-correlations among Desistance and Personal Outcome Expectancy Measures while Controlling for Risk (SIR-R1)

Scales	Agency	Change	Friend	Assoc	(C-)	(C+)	(D-)	(D+)	(DE)
MCAD	.17	-.10	-.17	-.11	.05	-.02	-.26	.35*	.26
Agency	-	.28*	.14	-.05	.28*	-.30*	-.35*	.45**	.43**
Change Beliefs		-	.15	.37*	.04	.10	.28*	.07	.15
Criminal Friend Index			-	.46**	-.20	.06	-.21	.06	.09
Attitudes toward Associates				-	-.26	.08	.08	-.24	-.13
Personal Crime (C-)					-	-.53***	-.07	.26	.17
Personal Crime (C+)						-	.39**	-.14	-.12
Personal Desistance (D-)							-	-.33*	-.18
Personal Desistance (D+)								-	.79***

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

It seems that when the effect of offence history (risk) is removed, beliefs that desistance is personally possible fit better with reduced beliefs that crime is worthwhile and greater beliefs that desistance will take time.

As seen when antisocial attitudes are controlled, partialling out risk scores also magnifies the relationship between change beliefs and antisocial associates. As before, removing the variation in associates that is shared with risk scores appears to strengthen the dual belief that one's more antisocial associates will face a multi-step process to desist from crime. The relationship between shared beliefs that crime is beneficial and desistance is costly is also strengthened when controlling for risk. The presence of variation in risk must have previously served to reduce the association between viewing crime as worthy to pursue and desistance as worthy to avoid. Perhaps greater experience with criminal activity serves to cast desistance in a better light even as beliefs supportive of crime remain. Finally, on the other hand, the shared beliefs that crime is costly and desistance is beneficial share some variance with risk scores. The relationship between these two variables was attenuated when risk was controlled. This suggests risk remains an important element in the dual, but slightly different, perceptions of crime and desistance. Offenders' understanding of whether crime or desistance is worth pursuing can be expected to be influenced by the extent of their involvement in crime.

In summary, desistance agency, beliefs supportive of desistance and beliefs unsupportive of crime were all related to readiness to desist. Outcome expectancies were largely still related to readiness to desist when antisocial attitudes and risk were partialled out, however, the correlations were somewhat reduced. The relationship between agency and readiness to desist, on the other hand, was more clearly attenuated by accounting for

risk and attitudes. Absence of antisocial associates was not significantly related to readiness to desist, nor were change beliefs. Overall, desistance attitudes clustered together in a meaningful way and remained relevant when crime acquisition variables were taken into account.

Attribution Style Group Comparisons

As reported previously, interpretation of the attribution style variables is not straightforward due to a smaller sample size and inconsistency between free-response and forced-choice answers. Rather than exploring each attribution element separately (internal/external, global/specific, stable/unstable), following Maruna (2004), profiles were created, dichotomously dividing offenders into those with a set of attributions hypothesized to characterize desisting offenders versus active offenders. Thus, participants reporting internal, stable and global attributions for committing crimes were gathered into a single group whereas participants with any other combination of attributions were grouped together.¹ Only eight participants (16% of the 51 participants who answered the questions) matched this profile hypothesized to be related to lower readiness to desist. These participants show a virtually identical mean on the MCAD ($M = 70.9$ vs. 71.3) and this difference is not significant ($t(49) = 0.05$, *ns*, partial $\eta^2 = .00$). Participants with different attribution style profiles also failed to show significantly different means on the SIR-R1 scale ($t(47) = 0.79$, *ns*, partial $\eta^2 = .01$).

Whereas internal, stable and global attributions for crime are posited to perpetuate criminal activity, the same attribution style profile for desistance behaviours is hypothesized to lead to reduced crime (Maruna, 2004). Twenty-eight participants (43%

¹ The forced-choice question was used to make the profiles rather than the free-response question as more participants answered the forced-choice question.

of 65 participants who answered the questions) gave answers consistent with internal, stable and global attributions for a decision to avoid crime. Compared to participants with another attribution profile, these offenders did not differ on MCAD scores ($t(63) = 0.13$, *ns*, partial $\eta^2 = .00$) or SIR-R1 scores ($t(57) = 1.42$, *ns*, partial $\eta^2 = .03$). Given the exploratory nature of this research and the method for measuring this construct, clear conclusions regarding these findings are not evident. Tentatively, it is suggested that attribution style may be orthogonal to desistance and risk factors, raising the possibility that attribution cognitions may add incrementally to our understanding of desistance cognitions. It remains to be seen whether attribution style relates to any variables important for desistance, especially recidivism outcome. Primarily, future research should refine the measurement of attribution style, making the scale more palpable for participants as well as re-phrasing the items to clarify their objectives.

Group Differences

Hypotheses were further tested by dichotomously splitting the desistance variables along their medians. For each variable, two groups were created, one group comprised of those who scored above the median and the other group comprised of those who scored below the median. These groups were compared on readiness to desist (MCAD) scores and risk (SIR-R1) scores. For each dependent variable, family-wise error rate was maintained at $\alpha = .05$ with Tukey's HSD test.

Those who scored high versus low on the Personal Agency for Desistance Scale showed no differences on the MCAD ($M = 72.7$ vs. 75.7 ; $t(67) = 0.54$, *ns*, partial $\eta^2 = .00$). MCAD means were also highly similar and nonsignificant on the Change Beliefs Scale ($M = 74.8$ vs. 77.0 ; $t(59) = 0.37$, *ns*, partial $\eta^2 = .00$). Similarly, those with higher

versus lower scores on the measures of antisocial associates show no significant differences on desistance factors, whether measured by the Criminal Friend Index ($M = 76.4$ vs. 70.6 ; $t(67) = 1.02$, *ns*, partial $\eta^2 = .02$) or the Attitudes toward Associates subscale of the MCAA ($M = 74.4$ vs. 72.5 ; $t(68) = 0.33$, *ns*, partial $\eta^2 = .00$).

Those who did not endorse expectancies as strongly on the Negative Crime Outcome Expectancies Scale also had a lower mean on the MCAD ($M = 69.5$) compared to those who did endorse expectancies ($M = 79.5$). This difference was not significant ($t(65) = 1.83$, *ns*, partial $\eta^2 = .05$); however, effect size indicates a medium effect. The difference in MCAD means was also not significant on the Positive Crime Outcome Expectancies Scale ($M = 75.8$ vs. 72.5 ; $t(65) = 0.60$, *ns*, partial $\eta^2 = .01$). For the Desistance scales, those above the median on the Negative Outcome Expectancies Scale ($M = 65.7$) showed fewer desistance factors than those below the median ($M = 79.7$). Although this difference only approached significance ($t(66) = 2.57$, $p = .09$, partial $\eta^2 = .09$), effect size indicates this is a medium effect. Similarly, those scoring above the median on the Positive Desistance Outcome Expectancies Scale had a larger MCAD mean ($M = 77.5$) than those scoring below the median ($M = 68.1$). This difference is also not significant ($t(66) = 1.68$, *ns*, partial $\eta^2 = .04$) although the effect size indicates a small-to-medium effect. Finally, above-median scorers on the Desistance Effort Expectancies Scale had a higher average MCAD score ($M = 79.3$) when compared to below-median scorers ($M = 67.4$). Effect size suggests a medium effect even though this difference is not significant ($t(66) = 2.13$, *ns*, partial $\eta^2 = .06$). In summary, results suggest groups created by dividing the sample by the median scores on the outcome expectancy scales account for a small portion of variance in readiness to desist (only as

much as 9% of variance in the case of the Negative Desistance Outcome Expectancies Scale).

Mean risk scores failed to significantly discriminate between those who scored above the median on the Personal Agency for Desistance Scale ($M = 6.6$) and those who scored below the median ($M = 5.3$; $t(62) = 0.52$, *ns*, partial $\eta^2 = .00$). Similarly, the difference in SIR-R1 means observed between above-median scorers on the Change Beliefs Scale ($M = 5.9$) and below-median scorers ($M = 4.0$) was not significant ($t(55) = 0.76$, *ns*, partial $\eta^2 = .01$). However those reporting more antisocial associates on the Criminal Friend Index were shown to be characterized by higher risk ($M = 9.1$) than those below the median on the index ($M = 1.5$). This difference is significant ($t(61) = 3.33$, $p = .01$, partial $\eta^2 = .15$) and the effect size is large. The median-split on the other measure of antisocial associates, the MCAA subscale Attitudes toward Associates, also showed a mean difference indicating higher risk offenders have more criminal friends ($M = 7.7$ vs. 3.2); however, this difference was not significant and the effect size was medium ($t(62) = 1.79$, *ns*, partial $\eta^2 = .05$).

Risk score means were identical for those above and below the median on the Negative Crime Expectancies Scale ($M = 5.6$ vs. 5.6 ; $t(59) = 0.02$, *ns*, partial $\eta^2 = .00$). On the other hand, the median-split groups on the Positive Crime Expectancies Scale did show difference in risk means ($M = 7.8$ vs. 3.4). Although this difference is not significant, it does show a medium effect size ($t(59) = 1.88$, *ns*, partial $\eta^2 = .06$). Risk score means were not different for those above and below the median on the Negative Desistance Expectancies Scale ($M = 7.1$ vs. 4.3 ; $t(60) = 1.15$, *ns*, partial $\eta^2 = .02$). Finally, similar results were found for the median split on both the Positive Desistance

Expectancies Scale ($M = 5.1$ vs. 6.2 ; $t(60) = 0.49$, *ns*, partial $\eta^2 = .00$) and the Desistance Effort Expectancies Scale ($M = 5.3$ vs. 6.1 ; $t(60) = 0.30$, *ns*, partial $\eta^2 = .00$). In summary, these results suggest, like the correlations explored above, that only antisocial associates are reliably related to risk scores while the desistance variables were unrelated to risk. However, the Positive Crime Expectancies Scale did show a medium effect.

Multiple Regression Analysis

An exploratory hierarchical linear regression was performed using readiness to desist as the dependent variable. Due to small sample size, it was only reasonable for four independent variables to be entered into the regression. The variables that showed the strongest zero-order correlations with the MCAD were chosen along with the MCAA in order to control for antisocial attitudes. As seen in Table 3, the variables that are significantly correlated with readiness to desist are desistance agency and the three desistance outcome expectancy variables. In order to avoid multicollinearity, the Desistance Effort Expectancies Scale was excluded from the regression analysis due to its high correlation with the Positive Desistance Outcome Expectancies Scale. Thus, antisocial attitudes were entered in the first regression block followed by three desistance variables entered simultaneously in the second block (i.e., desistance agency, positive desistance outcome expectancies and negative desistance outcome expectancies).

The resulting models and their parameters are shown in Table 7. Antisocial attitudes alone accounted for 2% of the variance in MCAD score. After controlling for attitudes, the second model is shown to account for more variance (18%); however, none of the desistance variables reach significance. The Negative Desistance Outcome Expectancies Scale does approach significance, suggesting beliefs that attempts to give

Table 7. Desistance Factors Regressed upon Readiness to Desist (MCAD) while Controlling for Antisocial Attitudes

	Variable	Zero-Order <i>r</i>					<i>B</i>	<i>SE B</i>	β
		Agency	(D-)	(D+)	MCAA ^a	MCAD			
Model 1	MCAA ^a					-.13	-.49	.40	-.15
								$R^2 = .02$	
Model 2	MCAA ^a					-.13	.05	.41	.02
	(D+)				-.30*	.34**	.43	.29	.20
	(D-)			-.30*	.29*	-.29*	-1.29	.68	-.24 [†]
	Agency		-.21	.41**	-.24*	.26*	.54	.47	.15
								$R^2 = .18$	
	<i>Mean</i>	39.0	12.6	68.1	10.7	73.0			
	<i>SD</i>	4.2	4.2	10.6	7.0	23.4			

* $p < .05$; ** $p < .01$

^aMCAA = sum of Attitudes toward Violence, Attitudes toward Entitlement and Antisocial Intent subscales

[†] $p = .06$

up crime will be unpleasant or harmful may help predict poorer awareness of the factors in one's life that will help them desist. Though highly tentative, given that offenders tend to exaggerate their ability and determination to stay crime-free (e.g., Dhimi et al., 2006; the elevated means on desistance agency, hope, etc. observed in this study), it may not simply be confidence in desistance that discriminates those who go on to be successful. Rather, offenders primed for desistance may be those who are not only confident about desistance, but also harbor no doubts whether desistance truly will be beneficial.

Discussion

That desisting offenders are able to pursue new skills, attain greater self-control and sustain prosocial activity despite facing the adversity of negative labeling, the stress of removing habits and the discontinuity of a changing narrative suggests these offenders (in contrast to active offenders) are characterized by confidence and perseverance. Indeed, resilience in the face of setbacks and difficulties requires strong positive self-perceptions (Kosterman et al., 2005). This study represents one of the first attempts to quantitatively measure variation in self-perception beliefs hypothesized to be related to desistance. As a result, this study is able to provide a portrait of how identity beliefs interact with each other in an offender sample.

Despite employing new measures with theory-derived items, the scale items developed for this research, in general, formed internally consistent scales. Four scales were more consistent when a single item was dropped from each measure, but with these few exceptions, all of the items correlated well with the other items hypothesized to be part of the same construct. This highlights the value of detailed construct development such as found within Maruna's (2001) in-depth narrative research. In addition,

concurrent validity was confirmed for the Personal Agency for Desistance Scale when compared to two measures of hope. Similarly, outcome expectancy attitudes about crime and desistance were all significantly correlated with an established measure of antisocial attitudes (MCAA) with each measure relating to antisocial attitudes in the expected direction. Thus, the measures used in this study show promise for contributing to our understanding of criminal attitudes, specifically attitudes during the waning stages of the criminal career.

Two of the measures show promise but still require further development. The Crime and Desistance Attribution Style Questionnaire was adapted directly from an established attribution style measure, however, further refinement may be necessary in order to engage offender participants and accurately measure their implicit attributions. Also, the Change Beliefs Scale was reliably related to negative desistance expectancies and attitudes toward antisocial associates suggesting beliefs about how people change may inform other attitude constructs. This scale, however, should be developed beyond its two items to help expand our understanding of its relation to other measures.

The desistance factors that were studied were generally confirmed to cluster together as hypothesized by desistance theory. Four constructs correlated particularly well: beliefs supportive of desistance, beliefs unsupportive of crime, endorsement of desistance self-efficacy and recognition of factors helpful for staying crime-free. As hypothesized, these relationships converge in a way that suggests some offenders are cognitively primed to resist crime and make prosocial life changes upon release. These relationships were somewhat attenuated by controlling for antisocial attitudes and risk to re-offend, suggesting some important overlap with antisocial attitudes which predict

persistence in crime. Still, it is notable that desistance expectancies showed small-to-medium correlations with antisocial attitudes whereas crime expectancies showed stronger medium-to-large correlations. In addition, four of the six correlations between crime expectancies and desistance expectancies were not significant. This suggests that attitudes toward desistance may form a separate construct from attitudes toward crime, allowing the possibility that some offenders may simultaneously view both crime and desistance as beneficial (or costly). Given that desistance is a process, it may be that offenders in transition experience periods of contradictory attitudes as they restructure their decisional balance.

Not all desistance factors were strongly related, however. Constructs that correlated weakly or did not correlate at all may suggest either poor measurement or inadequate theoretical understanding of the structure of desistance variables. For example, measures of criminal associates did not strongly relate to the other constructs. It may be that participants in this sample scored uniformly low on number of antisocial associates or it may be that the effect of associates is more closely tied to criminal identity rather than desistance identity. Finally, this study did not provide much support for reliable differences on readiness to desist between dichotomous groups scoring high versus low on the desistance beliefs. Groups split along the median did not differ on the number of factors they were aware of in their lives that helped them stay crime-free. In addition, only negative desistance outcome expectancies approached significance in predicting desistance supports. Together, these results may suggest that many offenders are realistically aware that they have few supports in their life, but continue to be optimistic about their chances of desisting. Overall, this offender sample showed strong

optimism about their abilities to desist; consistently high scores were observed on the hope and agency scales. These offenders' distributions of scores were positively skewed showing a general confidence in desistance ability (as also seen in Dhami et al., 2006).

The results from this study lend support for the model presented previously in Figure 1. As described above, the hypothesized group of desistance factors did generally associate together. In addition, as shown in the figure, this cluster of desistance factors is indeed unrelated to risk factors. Correlations between desistance factors and risk to re-offend were uniformly nonsignificant (with the exception of measures of antisocial associates). This suggests the separation between risk factors and desistance factors as shown in the model may be supported by further testing. It is hypothesized that the additional value added to the model by these desistance factors may provide additional predictive validity to the established risk factors when examining the later stages of criminal careers. In that desistance factors are independent of risk, it is possible that these constructs will be complementary to risk. Given that the data suggest that desistance beliefs cluster together in reliable ways consistent with desistance theory, there is cause for optimism that these measures may contribute to prospectively identifying those offenders who are entering a transition period and moving toward desistance.

Just as the offenders who strongly endorsed the desistance factors in this study are hypothesized to be primed for desistance, it is hypothesized that the present research is situated to prospectively identify whether these identity components truly contribute to the offenders' readiness to desist. Behaviour-specific attitudes and self-efficacy are key predictors of future behaviour (Ajzen, 1991), thus, by measuring desistance attitudes and self-efficacy, this research is primed to examine the measures' predictive validity for

desistance behaviours. While it is beyond the scope of this present study, further research can extend these observed variables by following participants' subsequent criminal activity. It is hypothesized that offenders showing greater responsiveness to desistance will be more likely successful in the community for longer periods of time. It may also be that important interactions exist between the variables. For example, positive desistance outcome expectancies alone may be weakly related to recidivism outcome whereas these attitudes may be strongly related to outcome when paired with desistance agency. Indeed, profiles of desistance beliefs should be investigated in addition to the simple effects of each variable on its own.

Looking further ahead, if it can be determined which offenders are moving toward desistance by measuring the types of variables explored in this study, parole supervision and aftercare may reasonably be structured differently for those showing commitment to change versus those who show no commitment. Whereas it would be strategic to manage and limit offenders without desistance-supportive beliefs, it is important that those offenders ready to desist be provided with reasonable opportunities to engage in activities that will foster their prosocial identity. For example, volunteerism can be a method that assists offenders in adapting to a prosocial life (Burnett & Maruna, 2006; Kosterman et al., 2005).

In summary, tracking changes in offender's identity from antisocial to prosocial using valid measures is tentatively shown to be a fruitful exercise. It also bears noting that the formation of a new identity may itself be a process, suggesting cohesion between the desistance process and identity re-construction. It may be that individuals take time to adapt their beliefs, attitudes and behaviours to their desired identity. Individuals may

try new attitudes “on for size” before attempting to engage in the behaviours attached to their new identity, or alternately, new behaviours may be explored in order to test if they can comfortably fit into the individual’s attitude structure. Identities are self-formed but are also developed through interaction with others by observing the effects of one’s self-perceptions against an audience; this notion of reflected appraisal highlights the importance of the broader social and interpersonal context within which the offender must learn to desist (Burnett & Maruna, 2006; Felson, 1985; Harding, 2003). On the other hand, if identifying with a new prosocial identity creates excessive cognitive dissonance and is perceived to be too difficult, an offender may question whether the “ex-offender” identity is truly one of his possible selves (Showers, Limke, & Zeigler-Hill, 2004). While agency is hypothesized to be important for desistance, it is likely to be beneficial only if the environment reflects and confirms that attempts to desist are having the desired effect (Ajzen & Fishbein, 1971). If prosocial identity formation is indeed a process, measurement must allow for inconsistency between crime and desistance beliefs, while also respecting that identity beliefs may change between measurement periods. Also, desistance theory may need to account for different offenders taking different paths to the same prosocial identity. As suggested above, some offenders may begin desistance by adopting prosocial attitudes (possibly lower risk offenders) whereas others may begin desistance when an external event provides opportunity to engage in prosocial living (possibly higher risk offenders).

Limitations and Future Directions

While maintaining optimism about the above conclusions, certain limitations of the present research should be noted. The scales developed for this research are

innovative, connected to theory and show good internal consistency, but the psychometric properties have not been extensively tested. Further testing with a larger sample is warranted and further refinement of the scales should be considered prior to employing them in future research. Additionally, if a larger sample is attained, factor analysis or cluster analysis would add to our understanding of the interconnection between these variables. Broadly, many of the conclusions in the present analysis are limited by a small sample size.

Specifically, some of the scales could be extended. As noted, the two-item Change Beliefs Scale is limited in its ability to fully assess beliefs about the change process. Additional items could be created and tested such as, “People who want to stop committing crimes usually try to make a few changes at a time” or “Giving up crime means slowly changing what you think and changing what you do.” Scale items created for this study were constructed to relate to crime in general rather than specific types of crime. While this allowed participants to imagine whatever criminal activity is most attractive to them when completing the items, in some cases participants may have interpreted items to be irrelevant if they felt these items were asking about crimes they were not tempted to commit. In the future, scales could be preceded by asking offenders to vividly imagine what crime they might be likely to commit before answering the items, or alternately, specific crimes could be written into the scales and divided among different types of offenders. Another way to extend the outcome expectancy scales would be to specifically assess the value participants place on each outcome. In this study it was roughly assumed that outcome expectancies fell across a positive versus negative dimension, but variance may be lost by not also assessing the subjective value of

each outcome (i.e., “How satisfied/dissatisfied would you be if this outcome happened to you?”; Brown, 2002; Jones & McMahon, 1994).

Attitudes toward behaviours best predict behavioural outcome when the attitudes are measured in a short time frame before the behaviour is enacted (Ajzen & Fishbein, 1969). The measures taken in this study may be limited in their real-life applicability as all of the participants were incarcerated and had no immediate opportunity to put their attitudes to the test. In addition, many of the participants are scheduled to be incarcerated for an extended period of time. As Harris (1975) demonstrated, outcome expectancies for crime vary throughout the prison term, with offenders adjusting their beliefs depending upon whether they can anticipate living in prison or in the community. Thus, variation in outcome expectancy beliefs may be due to time until release rather than individual differences. Future research should attempt to control for length of sentence remaining. In the same vein, future research may benefit from measuring offenders’ identity beliefs more than once. If these beliefs can be expected to change throughout the prison term, this should be partialled out; however, it is also of benefit to gather information on whether changes in attitudes (rather than degree of attitude) can add prospective predictive validity.

Finally, this study is limited in its inability to test the predictive validity of the desistance constructs it examined. Much of the value of the present research lies in its application to future research. Laying an empirical foundation for future desistance research is an important first step, however, only follow-up will be able to determine whether these self-perceptions are related to future outcome and relevant for the criminal justice system.

References

- Abrams, L. S. (2007). From corrections to community: Youth offenders' perceptions of the challenges of transition. *Journal of Offender Rehabilitation, 44*, 31-53.
- Ajzen, I. (1971). Attitudinal vs. normative messages: An investigation of the differential effects of persuasive communications on behavior. *Sociometry, 34*, 263-280.
- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes, 50*, 179-211.
- Ajzen, I. & Fishbein, M. (1969). The prediction of behavioral intentions in a choice situation. *Journal of Experimental Social Psychology, 5*, 400-416.
- Ajzen, I. & Fishbein, M. (1970). The prediction of behavior from attitudinal and normative variables. *Journal of Experimental Social Psychology, Vol. 6*, 466-487.
- Ajzen, I. & Fishbein, M. (1972). Attitudes and normative beliefs as factors influencing behavioral intentions. *Journal of Personality and Social Psychology, 21*, 1-9.
- Ajzen, I. & Fishbein, M. (1973). Attitudinal and normative variables as predictors of specific behavior. *Journal of Personality and Social Psychology, 27*, 41-57.
- Ajzen, I. & Fishbein, M. (1977). Attitude-behavior relations: A theoretical analysis and review of empirical research. *Psychological Bulletin, 84*, 888-918.
- Ajzen, I. & Fishbein, M. (2004). Questions raised by a reasoned action approach: Comment on Ogden (2003). *Health Psychology, 23*, 431-434.
- Amodeo, M., Kurtz, N., & Cutter, H. S. (1992). Abstinence, reasons for not drinking, and life satisfaction. *International Journal of the Addictions, 27*, 707-716.

- Andrews, D. A. (1980). Some experimental investigations of the principles of differential association through deliberate manipulations of the structure of service systems. *American Sociological Review*, 45, 448-478.
- Andrews, D. A., & Bonta, J. (2003). *The psychology of criminal conduct* (3rd ed.). Cincinnati, OH: Anderson.
- Armitage, C. J. & Conner, M. (2001). Efficacy of the theory of planned behaviour: A meta-analytic review. *British Journal of Social Psychology*, 40, 471-499.
- Ayers, C. D., Williams, J. H., Hawkins, J. D., Peterson, P. L., & Abbott, R. D. (1999). Assessing correlates of onset, escalation, deescalation, and desistance of delinquent behavior. *Journal of Quantitative Criminology*, 15, 277-306.
- Babinski, L. M., Hartsough, C. S., & Lambert, N. M. (2001). A comparison of self-report of criminal involvement and official arrest records. *Aggressive Behavior*, 27, 44-54.
- Bandura, A. (1989). Human agency in social cognitive theory. *American Psychologist*, 44, 1175-1184.
- Bandura, A., Adams, N. E., & Beyer, J. (1977). Cognitive processes mediating behavioral change. *Journal of Personality and Social Psychology*, 35, 125-139.
- Barbaree, H. E., Blanchard, R., Langton, C. M. (2003). The development of sexual aggression through the life span: The effect of age on sexual arousal and recidivism among sex offenders. *Annals New York Academy of Sciences*, 989, 59-71.
- Barnett, A., Blumstein, A., & Farrington, D. P. (1987). Probabilistic models of youthful criminal careers. *Criminology*, 25, 83-107.

- Becker, H. S. (1964). Personal change in adult life. *Sociometry*, 27, 40-53.
- Benda, B. B. (2001). Factors that discriminate between recidivists, parole violators, and nonrecidivists in a 3-year follow-up of boot camp graduates. *International Journal of Offender Therapy and Comparative Criminology*, 45, 711-729.
- Benda, B. B. (2003). A test of three competing theoretical models of delinquency using structural equation modeling. *Journal of Social Service Research*, 29, 55-91.
- Benda, B. B. (2005). Gender differences in life-course theory of recidivism: A survival analysis. *International Journal of Offender Therapy and Comparative Criminology*, 49, 325-342.
- Benda, B. B., & Corwyn, R. F. (2002). The effect of abuse in childhood and in adolescence on violence among adolescents. *Youth and Society*, 33, 339-365.
- Bilic, B. (2005). The theory of planned behaviour and health behaviours: Critical analysis of methodological and theoretical issues. *Hellenic Journal of Psychology*, 2, 243-259.
- Blatier, C. (2000). Locus of control, causal attributions and self-esteem: A comparison between prisoners. *International Journal of Offender Therapy and Comparative Criminology*, 44, 97-110.
- Blokland, A. A. J., Nagin, D., & Nieuwbeerta, P. (2005). Life span offending trajectories of a Dutch conviction cohort. *Criminology*, 43, 919-954.
- Blokland, A. A. J. & Nieuwbeerta, P. (2005). The effects of life circumstances on longitudinal trajectories of offending. *Criminology*, 43, 1203-1240.
- Blumstein, A. & Cohen, J. (1987). Characterizing criminal careers. *Science*, 237, 985-991.

- Bottoms, A., Shapland, J., Costello, A., Holmes, D., & Muir, G. (2004). Towards desistance: Theoretical underpinnings for an empirical study. *Howard Journal of Criminal Justice*, 43, 368-389.
- Brezina, T. (2000). Delinquent problem-solving: An interpretive framework for criminological theory and research. *Journal of Research in Crime and Delinquency*, 37, 3-30.
- Brown, S. L. (2002). *The dynamic prediction of criminal recidivism: A three-wave prospective study*. Unpublished doctoral dissertation, Queen's University, Kingston, Ontario, Canada.
- Brown, R., Killian, E., & Evans, W. P. (2003). Familial functioning as a support system for adolescents' postdetention success. *International Journal of Offender Therapy and Comparative Criminology*, 47, 529-541.
- Burnett, R. & Maruna, S. (2006). The kindness of prisoners: Strengths-based resettlement in theory and in action. *Criminology & Criminal Justice: An International Journal*, 6, 83-106.
- Burnett, R. & McNeill, F. (2005). The place of the officer-offender relationship in assisting offenders to desist from crime. *Probation Journal*, 52, 221-242.
- Bushway, S. D., Piquero, A. R., Broidy, L. M., Cauffman, E., & Mazerolle, P. (2001). An empirical framework for studying desistance as a process. *Criminology*, 39, 491-516.
- Bushway, S. D., Thornberry, T. P., & Krohn, M. D. (2003). Desistance as a developmental process: A comparison of static and dynamic approaches. *Journal of Quantitative Criminology*, 19, 129-153.

- Caldwell, R. M., Wiebe, R. P., & Cleveland, H. H. (2006). The influence of future certainty and contextual factors on delinquent behavior and school adjustment among African American adolescents. *Journal of Youth and Adolescence*, 35, 591-602.
- Campbell, M. A., Porter, S., & Santor, D. (2004). Psychopathic traits in adolescent offenders: An evaluation of criminal history, clinical, and psychosocial correlates. *Behavioral Sciences and the Law*, 22, 23-47.
- Cernkovich, S. A. & Giordano, P. C. (2001). Stability and change in antisocial behavior: The transition from adolescence to early adulthood. *Criminology*, 39, 371-410.
- Colvin, M., Cullen, F. T., & Vander Ven, T. (2002). Coercion, social support, and crime: An emerging theoretical consensus. *Criminology*, 40, 19-42.
- Conner, M. & Armitage, C. J. (1998). Extending the theory of planned behavior: A review and avenues for further research. *Journal of Applied Social Psychology*, 28, 1429-1464.
- Day, A., Howells, K., Heseltine, K., & Casey, S. (2003). Alcohol use and negative affect in the offence cycle. *Criminal Behaviour and Mental Health*, 13, 45-58.
- DeLisi, M. (2006). Zeroing in on early arrest onset: Results from a population of extreme career criminals. *Journal of Criminal Justice*, 34, 17-26.
- Dhami, M. K., Mandel, D. R., Loewenstein, G., & Ayton, P. (2006). Prisoners' positive illusions of their post-release success. *Law and Human Behavior*, 30, 631-647.
- Escarela, G., Francis, B., & Soothill, K. (2000). Competing risks, persistence and desistance in analyzing recidivism. *Journal of Quantitative Criminology*, 16, 385-414.

- Ezell, M. E. (2007a). The effect of criminal history variables on the process of desistance in adulthood among serious youthful offenders. *Journal of Contemporary Criminal Justice*, 23, 28-49.
- Ezell, M. E. (2007b). Examining the overall and offense-specific criminal career lengths of a sample of serious offenders. *Crime & Delinquency*, 53, 3-37.
- Fagan, A. A. (2005). The relationship between adolescent physical abuse and criminal offending: Support for an enduring and generalized cycle of violence. *Journal of Family Violence*, 20, 279-290.
- Farrall, S. (2005). On the existential aspects of desistance from crime. *Symbolic Interaction*, 28, 367-386.
- Farrall, S. & Maruna, S. (2004). Desistance-focused criminal justice policy research: Introduction to a special issue on desistance from crime and public policy. *Howard Journal of Criminal Justice*, 43, 358-367.
- Farrington, D. P., Gallagher, B., Morley, L., St. Ledger, R. J., & West, D. (1988). Are there any successful men from criminogenic backgrounds? *Psychiatry*, 51, 116-130.
- Farrington, D. P. & West, D. J. (1993). Criminal, penal and life histories of chronic offenders: Risk and protective factors and early identification. *Criminal Behaviour and Mental Health*, 3, 492-523.
- Fazel, S., Sjöstedt, G., Långström, N., & Grann, M. (2006). Risk factors for criminal recidivism in older sexual offenders. *Sexual Abuse: Journal of Research and Treatment*, 18, 159-167.

- Felson, R.B. (1985). Reflected appraisal and the development of self. *Social Psychology Quarterly*, 48, 71-78.
- Flynn, P. M., Joe, G. W., Broome, K. M., Simpson, D. D., & Brown, B. S. (2003). Looking back on cocaine dependence: Reasons for recovery. *The American Journal on Addictions*, 12, 398-411.
- Francis, B., Soothill, K., & Piquero, A. R. (2007). Estimation issues and generational changes in modeling criminal career length. *Crime & Delinquency*, 53, 84-105.
- Gendreau, P., Little, T., & Goggin, C. (1996). A meta-analysis of the predictors of adult offender recidivism: What works! *Criminology*, 34, 575-607.
- Giancola, P. R., Parrott, D. J., & Roth, R. M. (2006). The influence of difficult temperament on alcohol-related aggression: Better accounted for by executive functioning? *Addictive Behaviors*, 31, 2169-2187.
- Giordano, P. C., Cernkovich, S. A., & Holland, D. D. (2003). Changes in friendship relations over the life course: Implications for desistance from crime. *Criminology*, 41, 293-327.
- Gomez-Smith, Z. & Piquero, A. R. (2005). An examination of adult onset offending. *Journal of Criminal Justice*, 33, 515-525.
- Gottfredson, M. & Hirschi, T. (1986). The true value of lambda would appear to be zero: An essay on career criminals, criminal careers, selective incapacitation, cohort studies, and related topics. *Criminology*, 24, 213-234.
- Gottfredson, M., & Hirschi, T. (1995). National crime control policies. *Society*, 32, 30-37.

- Gretton, H. M., Hare, R. D., & Catchpole, R. E. H. (2004). Psychopathy and offending from adolescence to adulthood: A 10-year follow-up. *Journal of Consulting and Clinical Psychology, 72*, 636-645.
- Haggård, U., Gumpert, C. H., & Grann, M. (2001). Against all odds: A qualitative follow-up study of high risk violent offenders who were not reconvicted. *Journal of Interpersonal Violence, 16*, 1048-1065.
- Hagger, M. S., Chatzisarantis, N. L. D., & Biddle, S. J. H. (2002). A meta-analytic review of the theories of reasoned action and planned behavior in physical activity: Predictive validity and the contribution of additional variables. *Journal of Sport & Exercise Psychology, 24*, 3-32.
- Harding, D. J. (2003). Jean Valjean's dilemma: The management of ex-convict identity in the search for employment. *Deviant Behavior, 24*, 571-595.
- Hare, R. D. (1999). *Without conscience: The disturbing world of the psychopaths among us*. New York: The Guilford Press.
- Hare, R. D., McPherson, L. M., & Forth, A. E. (1988). Male psychopaths and their criminal careers. *Journal of Consulting and Clinical Psychology, 56*, 710-714.
- Harpur, T. J. & Hare, R. D. (1994). Assessment of psychopathy as a function of age. *Journal of Abnormal Psychology, 103*, 604-609.
- Harris, A. R. (1975). Imprisonment and the expected value of criminal choice: A specification and test of aspects of the labeling perspective. *American Sociological Review, 40*, 71-87.
- Hoffman, P. B. & Beck, J. L. (1984). Burnout: Age at release from prison and recidivism. *Journal of Criminal Justice, 12*, 617-623.

- Horney, J., Osgood, D. W., & Marshall, I. H. (1995). Criminal careers in the short-term: Intra-individual variability in crime and its relation to local life circumstances. *American Sociological Review*, 60, 655-673.
- Hser, Y. I., Anglin, M. D., Grella, C. E., Longshore, D., & Prendergast, M. L. (1997). Drug treatment careers: A conceptual framework and existing research findings. *Journal of Substance Abuse Treatment*, 14, 543-558.
- Hussong, A. M., Curran, P. J., Moffitt, T. E., Caspi, A., & Carrig, M. M. (2004). Substance abuse hinders desistance in young adults' antisocial behavior. *Development and Psychopathology*, 16, 1029-1046.
- Jones, B. T. & McMahon, J. (1994). Negative alcohol expectancy predicts post-treatment abstinence survivorship: The whether, when and why of relapse to a first drink. *Addiction*, 89, 1653-1665.
- Kaplan, H. B. & Lin, C. H. (2005). Deviant identity, negative self-feelings, and decreases in deviant behavior: The moderating influence of conventional social bonding. *Psychology, Crime & Law*, 11, 289-303.
- Kazemian, L. (2007). Desistance from crime: Theoretical, empirical, methodological, and policy considerations. *Journal of Contemporary Criminal Justice*, 23, 5-27.
- Kazemian, L. & Farrington, D. P. (2006). Exploring residual career length and residual number of offenses for two generations of repeat offenders. *Journal of Research in Crime and Delinquency*, 43, 89-113.
- Kosterman, R., Hawkins, J. D., Abbott, R. D., Hill, K. G., Herrenkohl, T. I., & Catalano, R. F. (2005). Measures of positive adult behavior and their relationship to crime and substance use. *Prevention Science*, 6, 21-33.

- Kruttschnitt, C., Uggen, C., & Shelton, K. (2000). Predictors of desistance among sex offenders: the interaction of formal and informal social controls. *Justice Quarterly*, 17, 61-87.
- Laub, J. H., Nagin, D. S., & Sampson, R. J. (1998). Trajectories of change in criminal offending: Good marriages and the desistance process. *American Sociological Review*, 63, 225-238.
- Lemmon, J.H. (2006). The effects of maltreatment recurrence and child welfare services on dimensions of delinquency. *Criminal Justice Review*, 31, 5-32.
- Levesque, D. A. (1998). *Violence desistance among battering men: Existing interventions and the application of the transtheoretical model of change*. Unpublished doctoral dissertation, University of Rhode Island, Kingston, Rhode Island, United States.
- Loeber, R., Stouthamer-Loeber, M., van Kammen, W., & Farrington, D. P. (1991). Initiation, escalation and desistance in juvenile offending and their correlates. *Journal of Criminal Law and Criminology*, 82, 36-82.
- Luckenbill, D. F., & Best, J. (1981). Careers in deviance and respectability: The analogy's limitations. *Social Problems*, 29, 197-206.
- Luthar, S. S., Cicchetti, D., & Becker, B. (2000). The construct of resilience: A critical evaluation and guidelines for future work. *Child Development*, 71, 543-562.
- MacKenzie, D. L. & de Li, S. (2002). The impact of formal and informal social controls on the criminal activities of probationers. *Journal of Research in Crime and Delinquency*, 39, 243-276.

- Mann, R. E., Webster, S. D., Schofield, C., & Marshall, W. L. (2004). Approach versus avoidance goals in relapse prevention with sexual offenders. *Sexual Abuse: Journal of Research and Treatment*, 16, 65-75.
- Manzoni, P., Brochu, S., Fischer, B., & Rehm, J. (2006). Determinants of property crime among illicit opiate users outside of treatment across Canada. *Deviant Behavior*, 27, 351-376.
- Martinson, R. (1974). What works? Questions and answers about prison reform. *Public Interest*, 35, 22-54.
- Maruna, S. (1997). Going straight: Desistance from crime and life narratives of reform. *Narrative Study of Lives*, 5, 59-93.
- Maruna, S. (2001). *Making good: How ex-convicts reform and rebuild their lives*. Washington, DC: American Psychological Association.
- Maruna, S. (2004). Desistance from crime and explanatory style: A new direction in the psychology of reform. *Journal of Contemporary Criminal Justice*, 20, 184-200.
- Maruna, S., & LeBel, T. P. (2003). Welcome home? Examining the reentry court concept from a strengths-based perspective. *Western Criminology Review*, 4, 91-107.
- Maruna, S., LeBel, T. P., Mitchell, N., & Naples, M. (2004). Pygmalion in the reintegration process: Desistance from crime through the looking glass. *Psychology, Crime & Law*, 10, 271-281.
- Maruna, S. & Mann, R. E. (2006). A fundamental attribution error? Rethinking cognitive distortions. *Legal and Criminological Psychology*, 11, 155-177.

- Maruna, S. & Roy, K. (2007). Amputation or reconstruction? Notes on the concept of "knifing off" and desistance from crime. *Journal of Contemporary Criminal Justice*, 23, 104-124.
- Maruna, S., Wilson, L., & Curran, K. (2006). Why God is often found behind bars: Prison conversions and the crisis of self-narrative. *Research in Human Development*, 3, 161-184.
- Massoglia, M. (2006). Desistance or displacement? The changing patterns of offending from adolescence to young adulthood. *Journal of Quantitative Criminology*, 22, 215-239.
- Massoglia, M. & Uggen, C. (2007). Subjective desistance and the transition to adulthood. *Journal of Contemporary Criminal Justice*, 23, 90-103.
- Maume, M. O., Ousey, G. C., & Beaver, K. (2005). Cutting the grass: A reexamination of the link between marital attachment, delinquent peers and desistance from marijuana use. *Journal of Quantitative Criminology*, 21, 27-53.
- McCorkel, J., Harrison, L. D., & Inciardi, J. A. (1998). How treatment is constructed among graduates and dropouts in a prison therapeutic community for women. *Journal of Offender Rehabilitation*, 27, 37-59.
- McMurran, M., Tyler, P., Hogue, T., Cooper, K., Dunseath, W., & McDaid, D. (1998). Measuring motivation to change in offenders. *Psychology, Crime & Law*, 4, 43-50.
- McNeill, F. (2004). Desistance, rehabilitation and correctionalism: Developments and prospects in Scotland. *Howard Journal of Criminal Justice*, 43, 420-436.

- Meisenhelder, T. (1977). An exploratory study of exiting from criminal careers. *Criminology*, 15, 319-334.
- Merrill, J. C., Alterman, A., Cacciola, J., & Rutherford, M. (1999). Prior treatment history and its impact on criminal recidivism. *Journal of Substance Abuse Treatment*, 17, 313-319.
- Mills, J. F., & Kroner, D. G. (2001). *Measures of Criminal Attitudes and Associates: User Guide*. Kingston, ON: Pittsburgh Institution.
- Mills, J. F., Kroner, D. G., & Forth, A. E. (2002). Measures of criminal attitudes and associates (MCAA): Development, factor structure, reliability, and validity. *Assessment*, 9, 240-253.
- Mills, J. F., Kroner, D. G., & Hemmati, T. (2004). The measures of criminal attitudes and associates (MCAA): The prediction of general and violent recidivism. *Criminal Justice and Behavior*, 31, 717-733.
- Morizot, J. & Le Blanc, M. (2007). Behavioral, self, and social control predictors of desistance from crime: A test of launch and contemporaneous effect models. *Journal of Contemporary Criminal Justice*, 23, 50-71.
- Motiuk, L., & Nafekh, M. (2001). Using reintegration potential at intake to better identify safe release candidates [Electronic version]. *Forum on Corrections Research*, 13, 11-13.
- Moulden, H. M. & Marshall, W. L. (2005). Hope in the treatment of sexual offenders: The potential application of hope theory. *Psychology, Crime & Law*, 11, 329-342.

- Moulden, H. M., Marshall, L. E., & Marshall, W. L. (2005). *The effectiveness of a preparatory program for sexual offenders*. Unpublished manuscript, University of Ottawa.
- Murrie, D. C., Cornell, D. G., Kaplan, S., McConville, D., & Levy-Elkon, A. (2004). Psychopathy scores and violence among juvenile offenders: A multi-measure study. *Behavioral Sciences and the Law*, 22, 49-67.
- Nafekh, M. (2003). Using proxy measures for correctional research [Electronic version]. *Forum on Corrections Research*, 15, 41-43.
- Nagin, D. S., Farrington, D. P., & Moffitt, T. E. (1995). Life-course trajectories of different types of offenders. *Criminology*, 33, 111-139.
- Nagin, D. S. & Land, K. C. (1993). Age, criminal careers, and population heterogeneity: specification and estimation of a nonparametric, mixed Poisson model. *Criminology*, 31, 327-362.
- Nagin, D. S. & Tremblay, R. E. (2005). Developmental trajectory groups: Fact or a useful statistical fiction? *Criminology*, 43, 873-904.
- Norcross, J. C., Ratzin, A. C., & Payne, D. (1989). Ringing in the New Year: The change processes and reported outcomes of resolutions. *Addictive Behaviors*, 14, 205-212.
- Nuffield, J. (1989). The 'SIR Scale': Some reflections on its applications. *Forum on Corrections Research*, 1, 19-22.
- Osborn, S. G., & West, D. J. (1980). Do young delinquents really reform? *Journal of Adolescence*, 3, 99-114.

- Oyserman, D. & Markus, H. (1990a). Possible selves in balance: Implications for delinquency. *Journal of Social Issues*, 46, 141-157.
- Oyserman, D. & Markus, H. R. (1990b). Possible selves and delinquency. *Journal of Personality and Social Psychology*, 59, 112-125.
- Oyserman, D., Bybee, D., & Terry, K. (2006). Possible selves and academic outcomes: How and when possible selves impel action. *Journal of Personality and Social Psychology*, 91, 188-204.
- Oyserman, D., Bybee, D., Terry, K., & Hart-Johnson, T. (2004). Possible selves as roadmaps. *Journal of Research in Personality*, 38, 130-149.
- Peterson, C., Semmel, A., Baeyer, C.V., Abramson, L.Y., Metalsky, G.I., & Seligman, M.E.P. (1982). The attributional style questionnaire. *Cognitive Therapy and Research*, 6, 287-300.
- Petras, H., Schaeffer, C. M., Ialongo, N., Hubbard, S., Muthén, B., Lambert, S. F., Poduska, J., & Kellam, S. (2004). When the course of aggressive behavior in childhood does not predict antisocial outcomes in adolescence and young adulthood: An examination of potential explanatory variables. *Development and Psychopathology*, 16, 919-941.
- Phillips, H.K., Gray, N.S., MacCulloch, S.I., Taylor, J., Moore, S.C., Huckle, P., & MacCulloch, M.J. (2005). Risk assessment in offenders with mental disorders: Relative efficacy of personal demographic, criminal history and clinical variables. *Journal of Interpersonal Violence*, 20, 833-847.

- Piquero, A. R. (2000). Assessing the relationships between gender, chronicity, seriousness, and offense skewness in criminal offending. *Journal of Criminal Justice*, 28, 103-115.
- Piquero, A. R., Blumstein, A., Brame, R., Haapanen, R., Mulvey, E. P., & Nagin, D. S. (2001). Assessing the impact of exposure time and incapacitation on longitudinal trajectories of criminal offending. *Journal of Adolescent Research*, 16, 54-74.
- Piquero, A. R., Brame, R., & Lynam, D. (2004). Studying criminal career length through early adulthood among serious offenders. *Crime & Delinquency*, 50, 412-435.
- Piquero, A. R., Brame, R., & Moffitt, T. E. (2005). Extending the study of continuity and change: Gender differences in the linkage between adolescent and adult offending. *Journal of Quantitative Criminology*, 21, 219-243.
- Piquero, A. R., & Chung, H. L. (2001). On the relationship between gender, early onset, and the seriousness of offending. *Journal of Criminal Justice*, 29, 189-206.
- Piquero, A. R., Moffitt, T. E., & Wright, B. E. (2007). Self-control and criminal career dimensions. *Journal of Contemporary Criminal Justice*, 23, 72-89.
- Porter, S., Birt, A., & Boer, D. P. (2001). Investigation of the criminal and conditional release profiles of Canadian federal offenders as a function of psychopathy and age. *Law and Human Behavior*, 25, 647-661.
- Prochaska, J. O., DiClemente, C. C., & Norcross, J. C. (1992). In search of how people change: Applications to addictive behaviors. *American Psychologist*, 47, 1102-1114.

- Prochaska, J. O., DiClemente, C. C., Velicer, W. F., Ginpil, S., & Norcross, J. C. (1985). Predicting change in smoking status for self-changers. *Addictive Behaviors, 10*, 395-406.
- Rex, S. (1999). Desistance from offending: experiences of probation. *Howard Journal of Criminal Justice, 38*, 366-383.
- Rutter, M. (1985). Resilience in the face of adversity: Protective factors and resistance to psychiatric disorder. *British Journal of Psychiatry, 147*, 598-611.
- Sampson, R. J. & Laub, J. H. (1990). Crime and deviance over the life course: The salience of adult social bonds. *American Sociological Review, 55*, 609-627.
- Sampson, R. J. & Laub, J. H. (1992). Crime and deviance in the life course. *Annual Review of Sociology, 18*, 63-844.
- Sampson, R. J. & Laub, J. H. (2005a). A life-course view of the development of crime. *Annals of the American Academy of Political and Social Science, 602*, 12-45.
- Sampson, R. J. & Laub, J. H. (2005b). When prediction fails: From crime-prone boys to heterogeneity in adulthood. *Annals of the American Academy of Political and Social Science, 602*, 73-79.
- Shover, N. (1983). The later stages of ordinary property offender careers. *Social Problems, 31*, 208-218.
- Shover, N. & Thompson, C. Y. (1992). Age, differential expectations, and crime desistance. *Criminology, 30*, 89-104.
- Showers, C. J., Limke, A., & Zeigler-Hill, V. (2004). Self-structure and self-change: Applications to psychological treatment. *Behavior Therapy, 35*, 167-184.

- Simons, R. L., Stewart, E. A., Gordon, L. G., Conger, R. D., & Elder, G. H. (2002). Explaining stability and change in antisocial behavior from adolescence to young adulthood. *Criminology*, 40, 401-434.
- Smith, C. A., Ireland, T. O., & Thornberry, T. P. (2005). Adolescent maltreatment and its impact on young adult antisocial behavior. *Child Abuse and Neglect*, 29, 1099-1119.
- Snyder, C. R., Harris, C., Anderson, J. R., Holleran, S. A., Irving, L. M., Sigmon, S. T., Yoshinobu, L., Gibb, J., Langelle, C., & Harney, P. (1991). The will and the ways: Development and validation of an individual-differences measure of hope. *Journal of Personality and Social Psychology*, 60, 570-585.
- Snyder, C. R., Simpson, S. C., Ybasco, F. C., Borders, T. F., Babyak, M. A., & Higgins, R. L. (1996). Development and validation of the State Hope Scale. *Journal of Personality and Social Psychology*, 70, 321-335.
- Storey, J.E., & Serin, R.C (2006). *Crime desistance and the process of change in male offenders*. Unpublished undergraduate dissertation, Carleton University, Ottawa, Ontario, Canada.
- Stouthamer-Loeber, M., Wei, E., Loeber, R., & Masten, A. S. (2004). Desistance from persistent serious delinquency in the transition to adulthood. *Development and Psychopathology*, 16, 897-918.
- Sykes, G. M. & Matza, D. (1957). Techniques of neutralization: A theory of delinquency. *American Sociological Review*, 22, 664-670.
- Taylor, S. E. (1983). Adjustment to threatening events: A theory of cognitive adaptation. *American Psychologist*, 38, 1161-1173.

- Thornton, D. (2006). Age and sexual recidivism: A variable connection. *Sexual Abuse: Journal of Research and Treatment*, 18, 123-135.
- Tolan, P. (1988). Socioeconomic, family and social stress correlates of adolescent antisocial and delinquent behavior. *Journal of Abnormal Child Psychology*, 16, 317-331.
- Trotter, C. (1990). 'Probation can work': A research study using volunteers. *Australian Social Work*, 43, 13-18.
- Trotter, C. (1996). The impact of different supervision practices in community corrections: Cause for optimism. *Australian and New Zealand Journal of Criminology*, 29, 29-46.
- Uggen, C. (1999). Ex-offenders and the conformist alternative: A job quality model of work and crime. *Social Problems*, 46, 127-151.
- Uggen, C. (2000). Work as a turning point in the life course of criminals: A duration model of age, employment, and recidivism. *American Sociological Review*, 65, 529-546.
- Uggen, C. & Kruttschnitt, C. (1998). Crime in the breaking: Gender differences in desistance. *Law & Society Review*, 32, 339-366.
- Uggen, C. & Piliavin, I. (1998). Asymmetrical causation and criminal desistance. *Journal of Criminal Law and Criminology*, 88, 1399-1422.
- Waldorf, D. (1983). Natural recovery from opiate addiction: Some social-psychological processes of untreated recovery. *Journal of Drug Issues*, 13, 237-280.

- Walters, G. D. (2002). Developmental trajectories, transitions, and nonlinear dynamical systems: A model of crime deceleration and desistance. *International Journal of Offender Therapy and Comparative Criminology*, 46, 30-44.
- Walters, G. D. (2003a). Predicting institutional adjustment and recidivism with the psychopathy checklist factor scores: A meta-analysis. *Law and Human Behavior*, 27, 541-558.
- Walters, G. D. (2003b). Changes in criminal thinking and identity in novice and experienced inmates: Prisonization revisited. *Criminal Justice and Behavior*, 30, 399-421.
- Walters, G. D. (2004). Changes in positive and negative crime expectancies in inmates exposed to a brief psychoeducational intervention: further data. *Personality and Individual Differences*, 37, 505-512.
- Ward, T., Day, A., Howells, K., & Birgden, A. (2004). The multifactor offender readiness model. *Aggression and Violent Behavior*, 9, 645-673.
- Warr, M. (1998). Life-course transitions and desistance from crime. *Criminology*, 36, 183-216.
- Webb, T. L. & Sheeran, P. (2006). Does changing behavioral intentions engender behavior change? A meta-analysis of the experimental evidence. *Psychological Bulletin*, 132, 249-268.
- Welte, J. W., Barnes, G. M., Hoffman, J. H., Wieczorek, W. F., & Zhang, L. (2005). Substance involvement and the trajectory of criminal offending in young males. *American Journal of Drug and Alcohol Abuse*, 31, 267-284.

- West, W.G. (1996). The short term careers of serious thieves. In D.F. Greenberg (ed.), *Criminal careers* (pp. 169-190). Brookfield, VT, US: Dartmouth Publishing Company Limited.
- Wolfgang, M. E. (1983). Delinquency in two birth cohorts. *American Behavioral Scientist*, 27, 75-86.

Appendix A: The Personal Agency for Desistance Scale

Personal Agency for Desistance Scale

How much do you agree or disagree with the following statements?:

strongly disagree/disagree/neither agree nor disagree/agree/strongly agree

- *1. "No matter what I do to try to stop, I'm doomed to never be able to stop committing crimes." (R)
2. "Things have been bad for me in the past, but I can work to turn things around and live a crime-free life if I want to."
3. "I feel helpless when I try to stop myself from committing crimes; the world always somehow forces me to keep going back to crime." (R)
4. "When my goal is to stop committing crimes, I'm in charge of whether I reach that goal or not."
5. "I have recently been able to learn how to stay away from crime and do things I never thought I'd be able to do."
6. "There are people in my life who respect me for the steps I've taken to keep myself away from crime."
7. "When I get involved in doing things and hanging out with people that keep me away from crime, I feel like I'm part of something powerful."
8. "When I try to stop myself from doing crime, there are too many things that stop me from doing what I'm trying to do." (R)
9. "I'm smart enough to be able to learn skills and anything else I need to learn to help me live a crime-free life."
10. "When I was committing crimes, I was good at getting what I wanted. Now that I'm trying to go straight, I believe I can be good at this, too."

(R) – reversed coded

* Deleted item

Appendix B: The Trait Hope and State Hope Scales

The Hope Scale

Directions: Read each item carefully. Using the scale shown below, please select the number that best describes YOU and put that number in the blank provided.

1 = Definitely False 2 = Mostly False 3 = Mostly True 4 = Definitely True

- ___ 1. I can think of many ways to get out of a jam. (Pathways)
- ___ 2. I energetically pursue my goals. (Agency)
- ___ 3. I feel tired most of the time. (Filler)
- ___ 4. There are lots of ways around any problem. (Pathways)
- ___ 5. I am easily downed in an argument. (Filler)
- ___ 6. I can think of many ways to get the things in life that are most important to me. (Pathways)
- ___ 7. I worry about my health. (Filler)
- ___ 8. Even when others get discouraged, I know I can find a way to solve the problem. (Pathways)
- ___ 9. My past experiences have prepared me well for my future. (Agency)
- ___ 10. I've been pretty successful in life. (Agency)
- ___ 11. I usually find myself worrying about something. (Filler)
- ___ 12. I meet the goals that I set for myself. (Agency)

The State Hope Scale

Directions: Read each item carefully. Using the scale shown below, please select the number that best describes *how you think about yourself right now* and put that number in the blank provided. *Please take a few moments to focus on yourself and what is going on in your life at this moment. Once you have this "here and now" set, go ahead and answer each item according to the following scale: 1 = Definitely False; 2 = Mostly False; 3 = Somewhat False; 4 = Slightly False; 5 = Slightly True; 6 = Somewhat True; 7 = Mostly True; and 8 = Definitely True.*

- ___ 1. If I should find myself in a jam, I could think of many ways to get out of it.
- ___ 2. At the present time, I am energetically pursuing my goals.
- ___ 3. There are lots of ways around any problem that I am facing now.
- ___ 4. Right now I see myself as being pretty successful.
- ___ 5. I can think of many ways to reach my current goals.
- ___ 6. At this time, I am meeting the goals that I have set for myself.

Appendix C: The Crime and Desistance Attribution Style Questionnaire

The Crime and Desistance Attribution Style Questionnaire

Directions:

Please think hard about the situations I'm about to tell to you and really imagine that they are happening to you. (There is one event on this page and another event on the next page.) If it did happen to you, why do you think it happened? While there may be many reasons something happens, I want you to pick only one – tell me the *major* reason this event happened to you.

Event:

You get a job and you really need the money. After you get the job, you remember that you won't get your first paycheck until you've worked for two weeks. You go out that weekend and end up committing a crime.

Questions:

1. Why do you think you committed the crime? (Write the reason in the blank.)

 2. Is the reason due to something about you or to something about other people or situations?

1 = <i>entirely about me</i>	2 = <i>mostly about me</i>
3 = <i>mostly about the situation</i>	4 = <i>entirely about the situation</i>
 3. In the future when you commit another crime, will it again be for this same reason?

1 = <i>entirely for this reason</i>	2 = <i>mostly for this reason</i>
3 = <i>mostly for another reason</i>	4 = <i>entirely for another reason</i>
 4. Is this reason something that just explains whether you commit crimes or is it also the reason behind other things that happen in your life?

1 = <i>only affects me in situations where I commit crimes</i>
2 = <i>affects me when I commit crimes and in some other situations</i>
3 = <i>affects me in most situations</i>
4 = <i>affects me in every situation</i>
 5. How similar is this to a real situation you might be in?

1 = <i>not at all similar</i>	3 = <i>mostly similar to a real situation</i>
2 = <i>somewhat like a real situation</i>	

Event:

You really need money and go looking for a job. At the first place you look for a job, the boss gives you a job that pays more money than you thought you would get paid. Your buddy comes over that night and tells you to come along with him to a place where you're pretty sure you'll get into trouble, but you tell him no.

Questions:

1. Why do you think you said "no" to your buddy? (Write the reason in the blank.)

2. Is the reason due to something about you or to something about other people or situations?
1 = *entirely about me* 2 = *mostly about me*
3 = *mostly about the situation* 4 = *entirely about the situation*

3. In the future when you decide to not go somewhere that might get you into trouble, will it again be for this same reason?
1 = *entirely for this reason* 2 = *mostly for this reason*
3 = *mostly for another reason* 4 = *entirely for another reason*

4. Is this reason something that just explains whether you avoid places that might get you into trouble or is it also the reason behind other things that happen in your life?
1 = *only affects me in situations where I commit crimes*
2 = *affects me when I commit crimes and in some other situations*
3 = *affects me in most situations*
4 = *affects me in every situation*

5. How similar is this to a real situation you might be in?
1 = *not at all similar* 3 = *mostly similar to a real situation*
2 = *somewhat like a real situation*

Revised from: Peterson, C., Semmel, A., Baeyer, C.V., Abramson, L.Y., Metalsky, G.I., & Seligman, M.E.P. (1982). The attribution style questionnaire. *Cognitive Therapy and Research*, 6, 287-300.

Appendix D: The Change Process Beliefs Scale

Change Process Beliefs Scale

Directions: Read each question carefully and answer in the way that YOU think. There are no wrong answers.

In your view, when someone tries to stop committing crimes, does it happen all at once, or does it take several steps before they can finally stop committing crimes?

1 = <i>all at once</i>	2 = <i>close to all at once</i>
3 = <i>it takes a little while</i>	4 = <i>it takes many steps to stop committing crimes</i>

*Do you agree with the following statement?: "When someone wants to stop committing crimes, their life goes straight as fast as a light bulb turning on."

1 = <i>strongly disagree</i>	2 = <i>disagree</i>
3 = <i>agree</i>	4 = <i>strongly agree</i>

Think about a friend you know who used to commit crimes but changed his life and stopped committing crimes. In your opinion, how long did it take your friend to turn his life around and go straight?

1 = <i>all at once</i>	2 = <i>close to all at once</i>
3 = <i>it took a little while</i>	4 = <i>it took many steps for him to stop committing crimes</i>

* Deleted item

Appendix E: The Measures of Criminal Attitudes and Associates (MCAA)

MCAA – Part A

Instructions: Consider the 4 adults you spend the most time with in the community, when you answer Part 1.

No names please of the people you are referring to. Then answer the questions to the best of your knowledge.

1.

How much of your free time do you spend with person #1?

Less than 25% 25% - 50% 50-75% 75%-100%

Has person #1 ever committed a crime? Yes No

Does person #1 have a criminal record? Yes No

Has person #1 ever been to jail? Yes No

Has person #1 tried to involve you in a crime? Yes No

Part B

Attitudes toward Associates Subscale

Statements are rated dichotomously (Agree/Disagree)

I have a lot in common with people who break the law. (+)

None of my friends have committed crimes. (-)

I know several people who have committed crimes. (+)

I would not steal, and I would hold it against anyone who does. (-)

I always feel welcomed around criminal friends. (+)

Most of my friends don't have criminal records. (-)

I have friends who have been to jail. (+)

None of my friends has ever wanted to commit a crime. (-)

I have committed a crime with friends. (+)

I have friends who are well known to the police. (+)

Attitudes Towards Violence Subscale

Statements are rated dichotomously (Agree/Disagree)

It's understandable to hit someone who insults you.

Child molesters get what they have coming.

Sometimes you have to fight to keep your self-respect.

Someone who makes you really angry shouldn't complain if they get hit.

People who get beat up usually had it coming.

It is reasonable to fight someone who cheated you.

It's not wrong to hit someone who puts you down.

There is nothing wrong with beating up a child molester.

It's not wrong to fight to save face.

Someone who makes you very angry deserves to be hit.

There is nothing wrong with beating up someone who asks for it.
It's all right to fight someone if they stole from you.

Attitudes Towards Entitlement Subscale

Statements are rated dichotomously (Agree/Disagree)

Stealing to survive is understandable.
Taking what is owed you is not really stealing.
I should be allowed to decide what is right and wrong.
A person should decide what they deserve out of life.
I should be treated like anyone else no matter what I've done.
A lack of money should not stop you from getting what you want.
A hungry man has the right to steal.
A person is right to take what is owed them, even if they have to steal it.
Only I can decide what is right and wrong.
Only I should decide what I deserve.
No matter what I've done, it's only right to treat me like everyone else.
It's wrong for a lack of money to stop you from getting things.

Antisocial Intent Subscale

Statements are rated dichotomously (Agree/Disagree)

I am not likely to commit a crime in the future. (-)
I would keep any amount of money I found. (+)
I could see myself lying to the police. (+)
In certain situations I would try to outrun the police. (+)
I would be open to cheating certain people. (+)
I could easily tell a convincing lie. (+)
Rules will not stop me from doing what I want. (+)
I would not enjoy getting away with something wrong. (-)
I would run a scam if I could get away with it. (+)
For a good reason, I would commit a crime. (+)
I will not break the law again. (-)
I would be happy to fool the police. (+)

Appendix F: The Crime and Desistance Outcome Expectancies Scales

General Crime Outcome Expectancies Scale

Directions:

The following statements describe things or situations that could happen to people who decide to commit more crimes. If someone decides to commit more crimes, how likely do you think these things or situations would be?

Please rate each statement on how much chance there is that the following situations will occur if someone decides to commit a crime.

1 = *not at all likely* 2 = *fairly low likelihood* 3 = *about average likelihood*
4 = *fairly high likelihood* 5 = *completely likely*

1. They will get hurt or killed
2. They will feel bad about themselves or guilty
3. They will get a good amount of money or become wealthy
4. They will go to prison
5. They will have a better life
6. They will hurt or disappoint their family (parents, wife, kids, etc)
7. They will feel closer to their friends
8. They will hurt or kill someone
9. They will have to be separated from their family
10. They will disappoint God
11. They will get more respect
12. They will lose their job or get penalized at work somehow
13. They will get away without being caught
14. They will lose friends
15. They will lose respect from others
16. They will feel a good thrill or excitement
17. They will get addicted to something (alcohol, drugs, gambling, etc)
18. They will get a worse criminal record than before
19. They will get more women
20. They will feel bad about themselves (depressed, angry, etc)
21. They will be able to get the revenge they want
22. They won't have to bother trying to make it in a real job
23. They will ruin or destroy their life
24. They will be looked down on by society
25. They will feel better about themselves
26. They will get hurt, raped or somehow harmed in prison
27. They will lose money or other important things
28. They will be able to help people they love
29. They will get what they want
30. They will become less sensitive to things that are wrong
31. They will have to spend time with criminals
32. They won't have to worry about things anymore

Personal Crime Outcome Expectancies Scale

Directions:

These statements describe things or situations that could happen to YOU if you decide to commit more crimes. If you decide to commit more crimes, how likely do you think these things or situations would be?

Please rate each statement on how much chance there is that the following situations will occur if YOU decide to commit a crime.

1 = *not at all likely* 2 = *fairly low likelihood* 3 = *about average likelihood*
4 = *fairly high likelihood* 5 = *completely likely*

1. You will get hurt or killed
2. You will feel bad about yourself or guilty
3. You will get a good amount of money or become wealthy
4. You will go to prison
5. You will have a better life
6. You will hurt or disappoint your family (parents, wife, kids, etc)
7. You will feel closer to your friends.
8. You will hurt or kill someone
9. You will have to be separated from your family
10. You will disappoint God
11. You will get more respect
12. You will lose your job or get penalized at work somehow
13. You will get away without being caught
14. You will lose friends
15. You will lose respect from others
16. You will feel a good thrill or excitement
17. You will get addicted to something (alcohol, drugs, gambling, etc)
18. You will get a worse criminal record than before
19. You will get more women
20. You will feel bad about yourself (depressed, angry, etc)
21. You will be able to get revenge you want
22. You won't have to bother trying to make it in a real job
23. You will ruin or destroy your life
24. You will be looked down on by society
25. You will feel better about yourself
26. You will get hurt, raped or somehow harmed in prison
27. You will lose money or other important things
28. You will be able to help people you love
29. You will get what you want
30. You will become less sensitive to things that are wrong
31. You will have to spend time with criminals
32. You won't have to worry about things anymore

General Desistance Outcome Expectancies Scale

Directions:

The following statements describe things or situations that could happen to people who decide to *no longer* commit crimes. If someone decides to no longer commit crimes, how likely do you think these things or situations would be?

Please rate each statement on how much chance there is that the following situations will occur if someone decides to never commit another crime.

1 = *not at all likely* 2 = *fairly low likelihood* 3 = *about average likelihood*
4 = *fairly high likelihood* 5 = *completely likely*

1. They won't worry about arrest and prison again
2. They will be able to fix problems easier
3. They will be 'there' for important people like family (parents, wife, kids, etc)
4. They won't be able to give up, even when things seem hopeless
5. They won't make any more victims
6. They will be honest with themselves and others
7. They won't be able to 'brew' when things don't go well *
8. They won't achieve their goals
9. They won't be worried about checking their behavior/thinking patterns/emotions
10. They will have less party times *
11. They will deal with anger, frustration or boredom in different and 'slower' ways
12. They will no longer have violence as an option to deal with people
13. They will feel more negative about life
14. Their problems with important others (friends, family, etc) will take care of themselves
15. Their work and money problems will disappear
16. They will feel lonely and at 'odds' with people, at least for a while
17. Their problems will get fixed without aggressive behaviour or violence
18. Their problems will get bigger
19. They will feel proud of accomplishments
20. Even on bad days, they will have to stay responsible for all their actions
21. They will live on lower income, at least for a while
22. They will find problems will become easier to handle
23. They will need to always stop and think about situations or decisions before doing anything
24. They will learn how to use money more responsibly
25. They will no longer be able to do illegal things to fix problems
26. They will develop better skills at solving daily hassles
27. They will fix problems without committing crimes
28. They will give up friends who commit crimes
29. They will deal better with people (co-workers, boss, etc)
30. They won't be able to use old ways of dealing with problems
31. They will have better physical health

- 32. They will have to put effort into getting out of feeling angry or upset when feeling that way
- 33. They will have a better group of friends and acquaintances
- 34. They will have a healthier lifestyle
- 35. They will give up alcohol or drugs
- 36. They will become better at having positive relationships with people
- 37. They won't be able to deal any better with daily hassles

* Deleted item

Personal Desistance Outcome Expectancies Scale

Directions:

The following statements describe things or situations that could happen to YOU if you decide to *no longer* commit crimes. If YOU decide to no longer commit crimes, how likely do you think these things or situations would be?

Please rate each statement on how much of a chance there is that the following situations will occur if YOU decide to never commit another crime.

1 = *not at all likely* 2 = *fairly low likelihood* 3 = *about average likelihood*
4 = *fairly high likelihood* 5 = *completely likely*

1. You won't worry about arrest and prison again
2. You will be able to fix problems easier
3. You will be 'there' for important people like my family (parents, wife, kids, etc)
4. You won't be able to give up, even when things seem hopeless
5. You won't make any more victims
6. You will be honest with yourself and others
7. You won't be able to 'brew' when things don't go well
8. You won't achieve your goals
9. You won't be worried about checking your behavior/thinking patterns/emotions
10. You will have less party times *
11. You will deal with anger, frustration or boredom in different and 'slower' ways
12. You will no longer have violence as an option to deal with people
13. You will feel more negative about life
14. Your problems with important others (my friends, family, etc) will take care of themselves
15. Your work and money problems will disappear
16. You will feel lonely and at 'odds' with people, at least for a while
17. Your problems will get fixed without aggressive behaviour or violence
18. Your problems will get bigger
19. You will feel proud of accomplishments
20. Even on bad days, you will have to stay responsible for all your actions
21. You will live on lower income, at least for a while
22. You will find problems will become easier to handle
23. You will need to always stop and think about situations or decisions before doing anything
24. You will learn how to use money more responsibly
25. You will no longer be able to do illegal things to fix problems
26. You will develop better skills at solving daily hassles
27. You will fix problems without committing crimes
28. You will give up friends who commit crimes
29. You will deal better with people (co-workers, boss, etc)
30. You won't be able to use old ways of dealing with problems

- 31. You will have better physical health
- 32. You will have to put effort into getting out of feeling angry or upset when feeling that way
- 33. You will have a better group of friends and acquaintances
- 34. You will have a healthier lifestyle
- 35. You will give up alcohol or drugs
- 36. You will become better at having positive relationships with people
- 37. You won't be able to deal any better with daily hassles

* Deleted item

Appendix G: The Measures of Criminal and Antisocial Desistance (MCAD)

Measures of Criminal and Antisocial Desistance (MCAD) v. 3

Instructions

The following statements are possible reasons why people do NOT do crime. As you know there are times when people are crime free. Read each statement and indicate whether the statement is true or not true of you as a reason why YOU were crime free for a period of time. The statements are positive and may appear that people COULD agree with most of the statements. But there are many areas covered. So NO ONE could agree with most of the statements. If you agree with the statement, press the number 1. If you disagree with the statement, press the number 2. For this test, please keep your two fingers of your main hand lightly on the 1 and 2.

1. I was grateful for what I had
2. I did sports more than once a week
3. I had more lifestyle options
4. I had long-term goals
5. I was able to renew positive friendships
6. I was more likely to accept correction
7. It was easier to manage my emotions
8. Someone took a strong interest in me
9. There was more help available
10. I lived by my personal rules
11. I did activities with my family even when I wanted to do something else
12. I was more accepting of authority
13. My story had more meaning
14. My comfort level increased with those who did not do crime
15. I went to someone for help
16. It was easier for me to change from loud to quiet
17. Was involved with a sports team
18. I was more likely to receive direction
19. It was easier for me to care for others
20. I was involved in a family role that became a pattern
21. I had more ways to solve problems
22. My life was moving forward
23. My friends influenced me to do more positive behaviors
24. I accepted someone else's control over me
25. For the most part, I felt good
26. Strong ties to my family
27. I lived where there were more positive activities to do
28. I was more thankful for my situation
29. I had a satisfying job
30. I listened to the suggestions of others
31. My long-term goals were clear to me
32. I attended a weekly sport
33. There were more situations in which I took advice
34. I felt more rested

35. I put up with a boring routine
36. I was more conscientious of my "little" behaviors
37. Attending regular group activities
38. I felt a part of a community
39. I felt close to family members
40. I had internal calm
41. I had a hobby
42. I had more self-control over what I did
43. I was regularly going to a club
44. My free time had purpose
45. Being around positive people was less annoying
46. My thoughts and behaviors were more consistent
47. Involved in a small group
48. I was more responsible with others
49. I participated in family activities
50. I had more spiritual beliefs
51. I sought out positive friends
52. I had more self-control over my thoughts
53. I was more consistent with my behaviors from week to week
54. I had a stronger connection to my past
55. Strong commitment to one person
56. I had more self-control over my behaviors
57. I discussed plans with my family
58. I accepted my social position
59. I did more positive activities
60. I was more honest with the people around me
61. I did sports once a week
62. Socially, I knew my place
63. My routine guided most of my behaviors
64. I was more likely to overlook the faults in others
65. I accepted help from others
66. My social life was more defined
67. My family life was stable
68. I "let go" of the wrong things done to me
69. I felt positive about my social skills
70. My social role was clear to me
71. I attended a weekly team sport
72. I could forgive others
73. How I lived was better organized
74. There were more situations that I admitted I was wrong
75. I had a close relationship with more than one person
76. I would let my family know how I felt
77. There were more times that I owned up to my mistakes
78. I was spending money on proper things
79. I stuck to a routine with my friends
80. I could tell the truth in more situations

81. I belonged to a prosocial club
82. I put up with the faults in my friends and family
83. There were more times that I acknowledged my shortcomings
84. I did not need extra money
85. I had a simple social routine
86. There were more settings that I owned up to my wrong behavior
87. My family situation was stable
88. My positive friends were more important than my criminal friends
89. I had a routine with my friends
90. I was cautious of what I did for excitement
91. My work pattern was stable
92. A friend would ask me uncomfortable questions
93. I paid more attention to following the law
94. I did more routine behaviors
95. I could trust a friend
96. I did better at managing my leisure time
97. I was in a daily routine
98. I was connected with a respected friend
99. I was frequently involved in social activities
100. I had a routine job
101. I felt more connected to others
102. I regularly volunteered
103. I knew that I was valued by my friends
104. My days were structured
105. I sensed that my friends liked me
106. I was able to change my friends

Appendix H: Scale Inter-item Correlations and Item-total Correlations

Table A. Inter-item Correlations for Personal Agency for Desistance Scale

Scale Items	Corrected Item-Total Correlation	Cronbach's α If Item is Deleted
Item 1*	.09	.82
Item 2	.42	.79
Item 3	.31	.80
Item 4	.56	.79
Item 5	.59	.77
Item 6	.71	.76
Item 7	.63	.77
Item 8	.46	.79
Item 9	.46	.79
Item 10	.61	.77

* Deleted item

Note: 10-item scale Cronbach α is .80

Table B. Inter-item Correlations for Personal Agency for Desistance Scale

Scale Items	2	3	4	5	6	7	8	9	10
Item 1*	.07	.06	.13	-.03	.05	.00	.30	.02	-.03
Item 2	-	.31	.38	.25	.27	.21	.24	.36	.30
Item 3		-	.29	.16	.30	.21	.25	.06	.14
Item 4			-	.36	.47	.48	.25	.51	.22
Item 5				-	.47	.45	.34	.56	.51
Item 6					-	.71	.33	.42	.61
Item 7						-	.32	.29	.55
Item 8							-	.03	.40
Item 9								-	.31

* Deleted item

Table C. Inter-item Correlations for
Change Beliefs Scale

Scale Items	Corrected Item-Total Correlation	Cronbach's α If Item is Deleted
Item 1	.62	.26
Item 2*	.19	.83
Item 3	.61	.33

* Deleted item

Note: 3-item scale Cronbach α is .64

Table D. Inter-item Correlations for Change Beliefs Scale

Scale Items	2*	3
Item 1	.21	.72
Item 2*	-	.15

* Deleted item

Table E. Item-Total Correlations for General Negative Crime Outcome Expectancies Scale

Scale Items	Corrected Item-Total Correlation	Cronbach's α If Item is Deleted
Item 1	.49	.88
Item 2	.19	.89
Item 4	.62	.88
Item 6	.54	.88
Item 8	.52	.88
Item 9	.70	.88
Item 10	.31	.90
Item 12	.64	.88
Item 14	.65	.88
Item 15	.66	.88
Item 17	.55	.88
Item 18	.72	.88
Item 20	.33	.89
Item 23	.57	.88
Item 24	.62	.88
Item 26	.49	.88
Item 27	.63	.88
Item 30	.21	.89
Item 31	.64	.88

Table F. Item-Total Correlations for Personal Negative Crime Outcome Expectancies Scale

Scale Items	Corrected Item-Total Correlation	Cronbach's α If Item is Deleted
Item 1	.56	.91
Item 2	.75	.90
Item 4	.59	.91
Item 6	.58	.91
Item 8	.50	.91
Item 9	.63	.91
Item 10	.42	.92
Item 12	.61	.91
Item 14	.76	.90
Item 15	.76	.90
Item 17	.44	.91
Item 18	.64	.91
Item 20	.78	.90
Item 23	.75	.90
Item 24	.69	.91
Item 26	.49	.91
Item 27	.61	.91
Item 30	.00	.92
Item 31	.60	.91

Table G. Inter-item Correlations for General Negative Crime Outcome Expectancies Scale

Scale Items	2	4	6	8	9	10	12	14	15	17	18	20	23	24	26	27	30	31
Item 1	.07	.47	.25	.52	.12	.22	.31	.36	.31	.14	.37	.23	.16	.43	.40	.26	.14	.49
Item 2	-	.16	.25	.13	.07	.08	-.01	.17	.11	.19	.20	.63	.03	.00	.11	.06	-.15	.09
Item 4		-	.43	.38	.43	.32	.60	.33	.28	.20	.43	.11	.20	.57	.30	.54	.21	.59
Item 6			-	.25	.44	.29	.42	.30	.43	.25	.62	.13	.35	.28	.13	.46	.23	.31
Item 8				-	.44	.19	.35	.30	.44	.26	.36	.36	.39	.32	.44	.24	-.03	.22
Item 9					-	.36	.57	.55	.61	.51	.51	.18	.56	.50	.41	.53	.20	.42
Item 10						-	.26	.33	.16	.41	.31	-.04	.23	.09	.04	.10	.08	.09
Item 12							-	.39	.37	.46	.48	.21	.52	.47	.35	.39	.13	.54
Item 14								-	.66	.53	.56	.36	.53	.45	.26	.47	.07	.35
Item 15									-	.47	.61	.37	.51	.41	.39	.50	.14	.36
Item 17										-	.48	.30	.42	.22	.25	.34	.08	.28
Item 18											-	.34	.38	.41	.26	.64	.20	.58
Item 20												-	.23	.17	.07	.29	-.30	.19
Item 23													-	.53	.37	.26	.10	.30
Item 24														-	.42	.56	.27	.64
Item 26															-	.27	.35	.51
Item 27																-	.25	.71
Item 30																	-	.30

Table I. Item-Total Correlations for General Positive Crime Outcome Expectancies Scale

Scale Items	Corrected Item-Total Correlation	Cronbach's α If Item is Deleted
Item 3	.53	.81
Item 5	.50	.81
Item 7	.35	.82
Item 11	.56	.81
Item 13	.44	.81
Item 16	.28	.83
Item 19	.56	.81
Item 21	.46	.81
Item 22	.25	.84
Item 25	.66	.80
Item 28	.47	.81
Item 29	.70	.79
Item 32	.47	.81

Table J. Item-Total Correlations for Personal Positive Crime Outcome Expectancies Scale

Scale Items	Corrected Item-Total Correlation	Cronbach's α If Item is Deleted
Item 3	.68	.89
Item 5	.77	.89
Item 7	.73	.89
Item 11	.66	.89
Item 13	.65	.90
Item 16	.61	.90
Item 19	.70	.89
Item 21	.60	.90
Item 22	.38	.91
Item 25	.57	.90
Item 28	.69	.89
Item 29	.73	.89
Item 32	.45	.90

Table K. Inter-item Correlations for General Positive Crime Outcome Expectancies Scale

Scale Items	5	7	11	13	16	19	21	22	25	28	29	32
Item 3	.31	.02	.12	.37	.32	.17	.12	.32	.42	.43	.68	.38
Item 5	-	.23	.37	.21	-.03	.45	.23	.09	.46	.65	.28	.34
Item 7		-	.40	.27	.18	.41	.33	.04	.20	.10	.21	.13
Item 11			-	.30	.00	.57	.53	.18	.55	.38	.30	.23
Item 13				-	.33	.13	.29	-.07	.49	.30	.60	.01
Item 16					-	.07	.19	.10	.20	.04	.40	.15
Item 19						-	.34	.28	.52	.30	.31	.39
Item 21							-	-.04	.39	.30	.36	.27
Item 22								-	.19	.04	.31	.43
Item 25									-	.37	.49	.33
Item 28										-	.37	.17
Item 29											-	.41

Table M. Item-total Correlations for General Negative Desistance Outcome Expectancies Scale

Scale Items	Corrected Item-Total Correlation	Cronbach's α If Item is Deleted
Item 8	.51	.75
Item 10*	.26	.81
Item 13	.56	.73
Item 16	.60	.72
Item 18	.59	.73
Item 21	.50	.75
Item 37	.54	.74

* Deleted item

Note: 7-item scale Cronbach $\alpha = .78$

Table N. Item-total Correlations for Personal Negative
Desistance Outcome Expectancies Scale

Scale Items	Corrected Item-Total Correlation	Cronbach's α If Item is Deleted
Item 8	.30	.66
Item 10*	.17	.71
Item 13	.49	.62
Item 16	.64	.55
Item 18	.58	.61
Item 21	.29	.67
Item 37	.40	.64

* Deleted item

Note: 7-item Cronbach $\alpha = .67$

Table O. Inter-item Correlations for General Negative Desistance Outcome Expectancies Scale

Scale Items	10*	13	16	18	21	37
Item 8	.04	.46	.34	.42	.39	.46
Item 10*	-	.09	.53	.15	.20	.07
Item 13		-	.32	.61	.32	.53
Item 16			-	.39	.49	.28
Item 18				-	.27	.54
Item 21					-	.36

* Deleted item

Table P. Inter-item Correlations for Personal Negative Desistance Outcome Expectancies Scale

Scale Items	10*	13	16	18	21	37
Item 8	.07	.49	.22	.35	.05	.14
Item 10*	-	-.06	.30	.04	.19	.03
Item 13		-	.50	.60	.02	.39
Item 16			-	.57	.30	.39
Item 18				-	.23	.40
Item 21					-	.21

* Deleted item

Table Q. Item-total Correlations for General Positive
Desistance Outcome Expectancies Scale

Scale Items	Corrected Item-Total Correlation	Cronbach's α If Item is Deleted
Item 1	.25	.85
Item 2	.68	.83
Item 3	.71	.83
Item 5	.17	.86
Item 6	.63	.83
Item 9	-.21	.87
Item 14	.48	.84
Item 15	.42	.84
Item 19	.41	.85
Item 22	.51	.84
Item 26	.46	.84
Item 29	.72	.83
Item 31	.62	.83
Item 33	.52	.84
Item 34	.47	.84
Item 35	.58	.84
Item 36	.76	.83

Table R. Item-total Correlations for Personal Positive
Desistance Outcome Expectancies Scale

Scale Items	Corrected Item-Total Correlation	Cronbach's α If Item is Deleted
Item 1	.20	.87
Item 2	.68	.84
Item 3	.45	.85
Item 5	.19	.86
Item 6	.52	.85
Item 9	.18	.87
Item 14	.30	.86
Item 15	.35	.86
Item 19	.54	.85
Item 22	.59	.85
Item 26	.77	.84
Item 29	.65	.84
Item 31	.70	.84
Item 33	.57	.85
Item 34	.72	.84
Item 35	.50	.85
Item 36	.69	.84

Table T. Inter-item Correlations for Personal Positive Desistance Outcome Expectancies Scale

Scale Items	2	3	5	6	9	14	15	19	22	26	29	31	33	34	35	36
Item 1	.13	.25	.33	.12	.05	.12	.20	.28	.20	.01	.17	.07	-.08	.16	-.04	-.01
Item 2	-	.41	.08	.56	.13	.17	.25	.45	.62	.72	.43	.49	.41	.48	.48	.55
Item 3		-	.44	.26	.26	.27	.33	.80	.11	.27	.10	.18	.10	.22	.09	.15
Item 5			-	.09	.11	.06	.02	.33	-.16	.06	.18	.18	-.08	.31	-.04	-.08
Item 6				-	.02	.11	.12	.28	.48	.56	.32	.39	.45	.27	.33	.61
Item 9					-	.22	.23	.25	.02	.10	.00	.17	.05	.12	-.05	-.01
Item 14						-	.46	.31	.13	.12	.10	.19	.06	.16	.05	.17
Item 15							-	.33	.18	.22	.13	.27	.04	.29	-.01	.08
Item 19								-	.25	.37	.21	.22	.21	.27	.19	.28
Item 22									-	.66	.50	.39	.62	.47	.47	.72
Item 26										-	.67	.64	.70	.64	.69	.78
Item 29											-	.76	.47	.79	.51	.65
Item 31												-	.51	.78	.53	.61
Item 33													-	.55	.62	.84
Item 34														-	.46	.57
Item 35															-	.65

Table U. Item-total Correlations for General Effort
Expectancies for Desistance Scale

Scale Items	Corrected Item-Total Correlation	Cronbach's α If Item is Deleted
Item 4	.43	.72
Item 7*	-.04	.78
Item 11	.52	.70
Item 12	.45	.71
Item 17	.35	.72
Item 20	.35	.72
Item 23	.35	.72
Item 24	.58	.70
Item 25	.28	.73
Item 27	.44	.72
Item 28	.33	.73
Item 30	.40	.72
Item 32	.45	.71

* Deleted item

Note: 13-item Cronbach α = .74

Table V. Item-total Correlations for General Effort Expectancies for Desistance Scale

Scale Items	Corrected Item-Total Correlation	Cronbach's α If Item is Deleted
Item 4	.47	.78
Item 7	.40	.79
Item 11	.61	.76
Item 12	.54	.77
Item 17	.21	.80
Item 20	.36	.79
Item 23	.31	.79
Item 24	.40	.78
Item 25	.53	.77
Item 27	.19	.80
Item 28	.39	.78
Item 30	.55	.77
Item 32	.56	.77

Table W. Inter-item Correlations for General Effort Expectancies for Desistance Scale

Scale Items	7*	11	12	17	20	23	24	25	27	28	30	32
Item 4	.11	.54	.23	.24	.24	.03	.21	.15	.14	.20	.08	.32
Item 7*	-	.08	.03	.01	.06	-.07	-.11	.05	-.08	-.11	-.06	-.19
Item 11		-	.46	.26	.24	.13	.39	-.01	.26	.20	.06	.34
Item 12			-	.32	.16	.33	.39	.11	.28	.13	.15	.14
Item 17				-	.01	.00	.41	.03	.45	.13	.11	.09
Item 20					-	.29	.20	.23	.20	.08	.27	.24
Item 23						-	.35	.29	-.02	.02	.54	.41
Item 24							-	.29	.38	.37	.28	.36
Item 25								-	.12	.24	.24	.09
Item 27									-	.41	.21	.27
Item 28										-	.22	.29
Item 30											-	.53

* Deleted item

Table X. Inter-item Correlations for Personal Effort Expectancies for Desistance Scale

[illegible]

Appendix I: Inter-correlations among Desistance, Associates, General Outcome
Expectancy and Attitude Measures

Table Y. Inter-correlations among Desistance, Associates, General Outcome Expectancy and Attitude Measures

Scales	Agency	Change	Friend	Assoc	(C-)	(C+)	(D-)	(D+)	(DE)	MCAA ^a
MCAD	.26*	-.06	-.14	-.09	.19	-.02	-.10	.12	.29*	-.13
Agency	-	.18	.02	.10	.20	-.12	-.21	.23	.17	-.24*
Change Beliefs		-	.12	.25*	-.06	.14	.03	.09	.17	.10
Criminal Friend Index			-	.53***	-.17	.02	-.18	-.03	-.04	.11
Attitudes toward Associates				-	-.31*	.15	-.06	-.09	-.02	.38**
General Crime (C-)					-	-.29*	.02	.17	.25	-.45***
General Crime (C+)						-	.21	-.14	-.03	.37**
General Desistance (D-)							-	-.58***	-.30*	.23
General Desistance (D+)								-	.66***	-.33**
General Desistance Effort (DE)									-	-.31*

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

^aMCAA = sum of Attitudes toward Violence, Attitudes toward Entitlement and Antisocial Intent subscales

Appendix J: Experiment Informed Consent Form

Potential risk: None of the questions we will ask you are meant to make you feel uncomfortable, but because we will be asking you questions about yourself, your friends and what you think about crime, you may feel some discomfort. Please remember that you do not have to participate in this study, that you may choose not to answer any question you do not wish to answer and you may quit the study at any point you wish.

Signatures

I have read the above form and understand the conditions of my participation. My participation in this study is voluntary and if for any reason, at any time, I wish to leave the experiment I may do so without having to give an explanation. Furthermore, I am also aware that the data gathered in this study are confidential with respect to my personal identity. My signature indicates that I agree to participate in this study.

Participant's Name: _____ Participant's Signature: _____

Researcher's Name: _____ Researcher's Signature: _____

Date: _____

Appendix K: Experiment Debriefing Form