

YOUTH PSYCHOSOCIAL MATURITY AND DELINQUENCY

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ABSTRACT

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Adolescence is a critical stage for psychosocial development. Prior criminal justice research on youth psychosocial maturity has examined the associations between temperance, future perspectives, and offending. Few studies, however, have focused on specifically examining the influence of sense of self, self-concept, and work orientation—subcomponents of psychosocial maturity—on offending from adolescence to emerging adulthood. Using data from the Research on Pathways to Desistance study, the current study examines factors that have been overlooked by previous Pathways studies on youth psychosocial maturity and offending. This study explores the predictive value of youth identity, self-reliance, and work orientation on the likelihood of self-reported re-offending in a sample of serious juvenile offenders. Results from this study reveal that youths who scored higher in work orientation during adolescence had lower odds of self-reported re-offending. Identity and self-reliance were not significant predictors of recidivism. These findings emphasize the importance of building work orientation among at-risk youths, which could possibly be incorporated into juvenile workforce development programs. A theoretical implication from this study is that previously overlooked components of psychosocial maturity should be revisited, as it may add to the current understanding of youth psychosocial maturity and its relation to recidivism.

KEY WORDS: Psychosocial maturity, Identity, Self-reliance, Work orientation, Re-offending, Juvenile

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CHAPTER I

INTRODUCTION

Criminal offending is one of the most commonly researched topics in criminal justice. For decades, scholars have studied characteristics of offenders and factors that are associated with the persistence of and desistance from criminal behavior (Contreras, Molina, & Cano, 2011; Loeber, Farrington, & Waschbusch, 1998; Monahan, Steinberg, Cauffman, & Mulvey, 2009, 2013; Panuccio, Christian, Martinez, & Sullivan, 2012; Stouthamer-Loeber & Loeber, 2002; Sweeten & Khade, 2018; Tolan & Thomas, 1995). A large array of criminological and sociological theories, such as Agnew's general strain theory (2013), Hirschi and Gottfredson's (1983) age crime curve, and Gottfredson and Hirschi's (1990) self-control theory, has been offered to help explain offending trends and patterns. While research explaining criminal offending and characteristics among youth offenders has been growing, the extent of research on the persistence of and desistance from juvenile offending lacks in comparison to the amount of research on adult offenders.

One of the most significant frameworks created to help explain youth development is the Psychosocial Maturity Model, founded by Greenberger and Sørensen (1971). The Psychosocial Maturity Model is a comprehensive model that integrates biological, sociological, and psychological perspectives to help researchers and counselors understand the maturational process during adolescence (Greenberger & Sørensen, 1971). As part of this model, the Psychosocial Maturity Inventory (PSMI) was created to measure components of youth maturity. The PSMI has helped researchers and professionals better understand relationships between youth maturity and related

behaviors, such as antisocial behavior (Chassin et al., 2010; Monahan et al., 2009, 2013; Ozkan, 2016; Steinberg, 1990), work orientation (Greenberger & Sørensen, 1973), academic performance (Greenberger, 1982), and interpersonal relationships (Brown, 1990; Steinberg, 1990).

Recently, there has been a growing body of research analyzing longitudinal data to investigate the unique behavioral and social factors associated with developmental patterns of offending among adolescent offenders. Studies in criminology and psychology have found that adults tend to be more emotionally mature than adolescents (Cauffman & Steinberg, 2000; Iselin, DeCoster, & Salekin, 2009; Modecki, 2008; Steinberg & Cauffman, 1996). Likewise, researchers have found variability in offending from adolescence to adulthood. Social science research has established measurable differences in the onset of behavioral problems, as well as the timeline of desistance for serious and non-serious offenders. Serious and chronic offenders display an earlier onset of delinquency, alongside behavior problems from a young age (Stouthamer-Loeber & Loeber, 2002; Tolan & Thomas, 1995). Conversely, juvenile offenders who demonstrate later onset of behavior problems are more likely to desist from antisocial activities after their initial offense (Tolan & Thomas, 1995). Other factors including, but not limited to, youth's environment, cognitive development, and social relationships, are associated with an individual's trajectory of antisocial behavior.

While a growing body of research has focused on examining the development of non-delinquent youths and delinquent youths, more research is needed to make improved recommendations for current policies and programs. Currently, the majority of criminal justice related research has been focused on samples of non-serious and non-violent

youth offenders (e.g. Contreras et al., 2011; Cottle, Lee, & Heilbrun, 2001; Minor, Wells, & Angel, 2008; Ryan, Williams, & Courtney, 2012). While understanding patterns and behaviors of non-serious juvenile offenders is important, additional research is needed to supplement current findings on serious and violent juvenile offenders. One of the areas in need of more research is the relationship between distinct components of the PSMI and juvenile offending. An understanding of this relationship will be able to provide practitioners with the knowledge to tailor their practices with juveniles to help juveniles desist from offending earlier.

Using data from the Research on Pathways to Desistance study, the current study explores the relationship between psychosocial maturity and re-offending among a sample of serious juvenile offenders. The relation between the individual adequacy dimension of the PSMI and youth recidivism is examined. Prior research using the Research on Pathways to Desistance study and the Maturity of Judgement (MOJ) scale has focused on juvenile temperance in relation to recidivism (Chassin et al., 2010; Cruise et al., 2008; Ozkan, 2016). This study will add to the current literature by specifically examining the independent association between subscales of individual adequacy maturity—which are identity, self-reliance, and work orientation—and recidivism among a sample of juvenile offenders.

CHAPTER II

LITERATURE REVIEW

Psychosocial Maturity

Development of a psychosocial maturity model. Many aspects should be considered when learning about and understanding youth development. Adolescent development includes biological, social, and psychological maturation, among other areas of growth when young adults are entering adulthood (Greenberger & Sørensen, 1971). To understand the concept of juvenile psychosocial maturity, learning the concept of psychosocial maturity and its components is important.

The concept of psychosocial maturity has been studied by psychologists for decades (Greenberger, 1982; Greenberger, Josselson, Knerr, & Knerr, 1975; Greenberger, Knerr, Knerr, & Brown, 1974; Greenberger & Sørensen, 1971; Steinberg & Cauffman, 1996), alongside concepts such as self-efficacy (Bandura, 1997; Pajares & Urdan, 2006), self-esteem (Judge & Bono, 2001; Steinberg & Cauffman, 1996), the formation of identity (Berzonsky, 1989; Erikson, 1959; Hamachek, 1988; Marcia, 1980), and other aspects of psychosocial development. In the 1970s, a formal model for measuring and assessing youth psychosocial maturity was conceived. Ellen Greenberger, a developmental psychologist, and Aage Sørensen, a sociologist, collaborated to define a concept of psychosocial maturity that would later be used to evaluate non-academic development in children. The concept of psychosocial maturity was outlined in three contexts: biological, sociological, and psychological (Greenberger & Sørensen, 1971).

The first context, biological maturity, refers to the growing complexity of “structures and functions” of a person over time (Greenberger & Sørensen, 1971, p. 10).

For example, as a child grows older, the brain structure of the child changes simultaneously with the development of his or her cognitive functioning. The next context, sociological maturity, refers to the capacity of a person to effectively contribute to the functions of a social system, in addition to the capacity to cultivate competent social relations. The sociological context includes a person's competency to exchange communication linguistically and symbolically, as well as being able to manage one's own emotional responses between interactions and being able to perform various roles as a member of society. Lastly, the psychological context refers to the development of a person's personality. In this context, maturity develops in definite stages, where successful preceding development may predict proper personality development in successive years (Greenberger & Sørensen, 1971). One example is Erik Erikson's psychosocial development theory (Erikson, 1968). Common themes of personality development have been constructed by various theorists over time. Some of the personality themes include self-acceptance, independence, social feeling, productivity, internalized principles, humanistic values, and identity. In relation to psychosocial maturity models, the psychological context provides an explanation for neurocognitive development relative to personal and relational growth (Greenberger & Sørensen, 1971).

Not long after Greenberger and Sørensen (1971) published a report on a definition of psychosocial maturity, the Psychosocial Maturity Inventory (PSMI) was formulated and tested for construct validity (Greenberger et al., 1975). The PSMI was most suitable for the assessment of youths around ages 11 to 18 and was intended to reflect the three aforementioned capacities. There are three dimensions of the PSMI. Each dimension is composed of three subscales, generating a total of nine subscales in the model. The

subscales are depicted in Figure 1. The dimensions are individual adequacy, interpersonal adequacy, and social adequacy. Individual adequacy measures youth self-reliance, identity, and work orientation, which assesses an individual's sense of self and self-control, self-concept, goals, as well as work outlooks and working skills. Secondly, interpersonal adequacy is comprised of communication skills, enlightened trust, and knowledge of major social roles. These subscales measure the ability of an individual to interpret informative exchanges, effectively communicate, reasonably gauge trust in others, and appropriately fulfill various roles required of the individual. Lastly, social adequacy incorporates aspects of social commitment, openness to sociopolitical change, and tolerance of interpersonal and cultural differences. This last dimension evaluates youths' integration in the community, awareness of sociopolitical objectives, and their desire to be inclusive towards others who are different in their community (Greenberger et al., 1975).

The items in the PSMI are measured on a 4-point Likert scale, where a higher score in the response is indicative of higher degree of maturity (Greenberger et al., 1975). Overall, mean scores in the PSMI are expected to increase as children age, which is reflective of a model that is based on the progressive nature of human growth and development (Greenberger et al., 1974, 1975). The validity of the PSMI construct, its internal consistency of subscales (Greenberger et al., 1974), and the meaningfulness of dimensions in the model have been supported by youth evaluation studies (Greenberger et al., 1975). According to two studies testing the criterion validity of the PSMI (Josselson, Greenberger, & McConochie, 1974; Josselson, Greenberger, & McConochie, 1975), there is a high correlation between teachers' perceptions of students and students'

psychosocial maturity scores. Students with higher PSMI scores generally received more favorable ratings from teachers. Researchers have concluded that subscales of the PSMI can be reflected in observable behavior of youths. Thus, the PSMI has been widely utilized in subsequent research on adolescent growth and maturity development, including in recent criminal justice studies (Chassin et al., 2010; Cruise et al., 2008; Davis, Dumas, Wagner, & Merrin, 2016; Dmitrieva, Gibson, Steinberg, Piquero, & Fagan, 2014; Forney & Ward, 2019; Greenberger, 1982; H. Lee, Sullivan, & Barnes, 2018; McCuish, Lussier, & Rocque, 2020; Monahan et al., 2009, 2013; Na & Jang, 2019; Ozkan, 2016; Rocque, Beckley, & Piquero, 2019; Schubert, Mulvey, & Pitzer, 2016; Stone & Rydberg, 2019; Sweenten & Khade, 2018; Turanovic, 2019). The PSMI that has been used as part of the many psychosocial maturity assessments, such as the MOJ scale used in previous Pathways studies, is the PSMI (Form D). PSMI (Form D) includes only individual adequacy subscales (i.e. identity, self-reliance, and work orientation). Because the current study used data from the Research on Pathways to Desistance Study, the PSMI (Form D) is the inventory used in the current study.

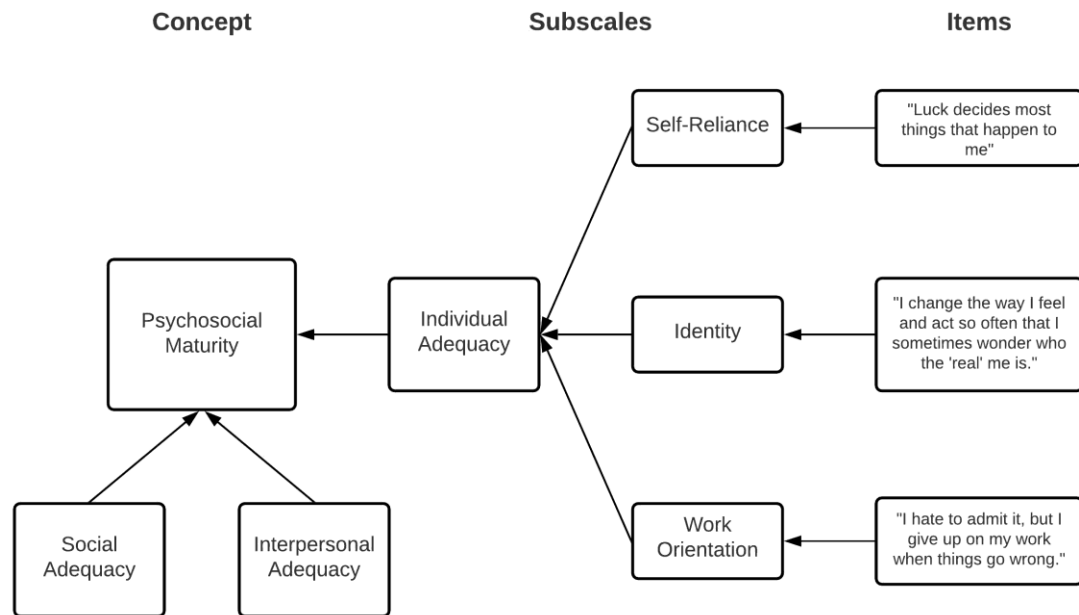


Figure 1. Psychosocial Maturity and Subscales of Individual Adequacy

Adolescent psychosocial maturity. For the purpose of this paper, the literature reviewed will focus on aspects of the individual adequacy dimension of the PSMI since this is what was available and tested. The individual adequacy dimension focuses on self-reliance, identity, and work orientation (Greenberger et al., 1975). As youths mature during adolescence, they develop a sense of self and begin to form opinions and make decisions independent of their parents. Improving our understanding of youths' sense of self will contribute to the existing body of literature on youth decision making and offending.

Researchers have recently argued that the modern treatment of youths in the legal system is mainly based on research accentuating "cognitive differences between adolescents and adults" (Steinberg & Cauffman, 1996, p. 250), but less focus has been placed on psychosocial variables, such as social and emotional factors, which influence

decision making (Scott, Reppucci, & Woolard, 1995; Steinberg & Cauffman, 1996). Building on the need for more research on the development of decision making “from early adolescence through adulthood” (Scott et al., 1995, p. 239), Steinberg and Cauffman (1996) outlined relevant psychosocial factors into three categories: responsibility, temperance, and perspective. The framework of MOJ is comprised of these three categories. The first category, responsibility, generally refers to concepts of “healthy autonomy, self-reliance, and clarity of identity” (Steinberg & Cauffman, 1996, p. 252). The second category, temperance, refers to impulse control, the ability to make moderate rather than extreme choices, the capacity to evaluate the situation before acting, and the ability to make judgements and ask for guidance when necessary. The third category, perspective, refers to the ability to evaluate situations and make appropriate decisions toward broader goals. These categories serve as the basis of adolescent judgement and decision making, although not all three categories may necessarily be present when a person makes decisions (Steinberg & Cauffman, 1996).

When examining factors related to decision making, the responsibility category is the most relevant to individual identity and self-concept. According to Steinberg and Cauffman (1996), the three components of the development of responsibility are autonomy and independence, identity, and ego development. These three components of responsibility overlap with the individual adequacy dimension of the PSMI, which are self-reliance, identity, and work orientation (Monahan et al., 2013). The individual adequacy dimension of the PSMI and the responsibility component of the MOJ are important in understanding adolescent maturation and decision making. The focus on identity and decision making is significant for adolescents and young adults because they

undergo a critical formative period of their identities during this stage (Erikson & Erikson, 1997; Hamachek, 1988). In the next sections, I will discuss the subscales of the individual adequacy dimension of the PSMI and how these concepts overlap with the responsibility factors relevant to adolescent decision making as youths explore their identities and become more independent throughout adolescent development.

Identity

Identity formation during adolescence is important because it is “the first time that physical development, cognitive skills, and social expectations coincide to enable young persons to sort through and synthesize their childhood identifications in order to construct a viable pathway toward their adulthood” (Marcia, 1980, p. 160). Youths during this stage are faced with overwhelming amounts of information from internal and external sources. The newly introduced sense of autonomy allows for youths’ separation from peers and parents to form individuality. It is important for youths to have autonomy and be able to properly develop into their own persons because young adults often face social pressure from peers and family members (Hogan, 1973). The transition from childhood to young adolescence is unique, and the term psychosocial moratorium was coined to describe this specific process. Psychosocial moratorium refers to the transitional period in which adolescents explore their identity before committing to an identity as an adult (Erikson, 1968; Erikson & Erikson, 1997).

When adolescents experience identity confusion during psychosocial moratorium, they may demonstrate behaviors deviant from prosocial expectations of the community (Erikson & Erikson, 1997). The more psychosocially underdeveloped an individual is, the more likely that person is to be unsure about themselves, which brings them to rely on

other people's speculations to form judgements about themselves (Marcia, 1980).

Individuals who are unsure of their identity may behave in manners that cause inconvenience to their community. According to Erikson (1959), "the loss of a sense of identity often is expressed" (p. 129) through opposition and defiance against prosocial roles expected of members in the community. For example, juvenile delinquency can be interpreted as a period of psychosocial moratorium because it is often a period of transition before youths conform to socially acceptable behaviors. Sometimes, however, an individual's identity may be defined early during the period of identity exploration, leading to chronic delinquency either by the individual or by society through corrective institutions (Erikson, 1968).

Other researchers support implications of adolescent identity confusion to juvenile delinquency (Erikson & Erikson, 1997; Hamachek, 1988; Mercer, Crocetti, Branje, Van Lier, & Meeus, 2017). Adolescents who report higher levels of identity confusion are more likely to be linked to delinquency. In one study, researchers determined that "adolescents who are more delinquent than other adolescents are more likely to report increased identity confusion in comparison with the less delinquent adolescents" (Mercer et al., 2017, p. 2188). Similarly, adolescents who reported an increase in delinquency show less commitment to their identity than prior to the increase (Mercer et al., 2017), and youth offenders with a stronger sense of self are associated with less deviant behaviors (Forney & Ward, 2019). Not only are youths who are unsure about their identity more likely to demonstrate antisocial behaviors, but they are also more likely to direct blame towards external sources rather than to reflect on issues (Berzonsky, 1989). The research suggests that youths who are less committed to their

identity are less likely to hold themselves responsible for their behaviors. However, few studies have examined the association between identity and offending in a sample of adjudicated youth, leaving much unknown about whether these findings generalize to this population.

Findings from Mercer and colleagues (2017) correspond with Erikson's (1959; 1968) explanation of the relationship between adolescent identity confusion and delinquency. To explain delinquency that may occur throughout adolescents' psychosocial development, Erikson (1968) and Erikson and Erikson (1997) suggested that youths undergo a critical transition period known as psychosocial moratorium. During psychosocial moratorium, young adults explore and process how they identify as individuals as they mature from childhood. Furthermore, environmental and situational factors may be influential in youths' identity development. Personal experiences and situational demands are likely to shape an individual's identity and perception of the world (Berzonsky, 1989).

To summarize, development of identity and the ego are closely intertwined, but they differ in their contribution to a young person's development of self. Identity development is how individuals identify themselves through self-expression and peer associations. Conversely, ego development focuses more on the process in which an adolescent begins to form individuality apart from family pressures and the ability to understand more complex components of human decision making. Erikson's emphasis on identity development during the adolescence stage (Erikson & Erikson, 1997; Hamachek, 1988), in addition to research relating youths' sense of self to delinquency,

suggest that factors associated with youth identity are vital to evaluations of risks of subsequent delinquency.

Self-Reliance

Constructs such as self-reliance, locus of control, and self-efficacy are often used to assess the capacity of a young person to behave and make judgements independently (Steinberg & Cauffman, 1996). Children at a young age generally follow their parents' attitudes and guidelines when forming their decisions and judgements. As children grow into young adolescence and young adulthood, they become more autonomous in their attitudes, beliefs, behaviors, and reasoning.

The concept of self-reliance involves the individual's strengthened "sense of control", drive to complete tasks, and the diminishing need for individuals to seek validation from others (Greenberger, 1982, p. 159). Youth development of autonomy and self-reliance is important because these developments are concurrent with youths' identity developments. As youths become more independent and autonomous during adolescence, they also grow to be more emotionally aware and gain an understanding of individuality and differences between people (Loevinger, 1976). The ability to understand decisions made by others helps young adolescents understand and differentiate their personal values and rationales apart from the people around them. One study emphasized that adolescents place high values in autonomy and self-reliance, where 75% to 80% of adolescents "indicate that making their own decisions is 'extremely important' (rather than 'somewhat important' or 'not important at all')" (Greenberger, 1982, p. 182).

Additionally, youths' development of autonomy and individuality indicate that they are shifting roles and the source from which they reference their decision making. As children grow into their adolescence and early adulthood, they spend more time interacting with their peers than their parents (Brown, 1990). Moreover, multiple studies examining adolescents' use of time find that youths generally spend roughly twice as much time with their peers than with their parents (Barnes, Hoffman, Welte, Farrell, & Dintcheff, 2007; Montemayor, 1982). Much of the time, young adults are readjusting their reference groups to form decisions either from their parents or their peers. During the time spent with peers, adolescents are learning socialization and forming their individual identities (Constanzo & Shaw, 1966), exploring the roles they play, as well as the values with which they identify.

Conceptually, self-reliance aligns closely with Gottfredson and Hirschi's (1990) concept of self-control. As adolescents become more self-reliant, they tend to be able to differentiate their personal values from the values of their peer groups (Constanzo & Shaw, 1966; Greenberger, 1982). Under the self-control theory, adolescents with higher self-control were less likely to associate with deviant peers and engage in delinquent group activities (Gottfredson & Hirschi, 1990). In this sense, youths who possess higher levels of self-control would also be more likely to be self-reliant, and therefore, can make judgement responsibly without being heavily influenced by the decision of their peers.

Work Orientation

The last dimension on individual adequacy is work orientation. In general, work orientation is the degree to which individuals are self-sufficient (Greenberger, 1982; Greenberger & Sørensen, 1973) and can care for themselves over time. According to

Greenberger and Sørensen (1973), work orientation describes three personal characteristics: “(1) general task or work skills; (2) standards of competent task performance; (3) capacity to experience pleasure in work” (p. 26). The steady development of all three areas within work orientation is important to an individual’s sense to partake in his or her functioning roles and to find pleasure in participating and contributing to their community.

The development of a person’s work orientation begins as early as childhood. For example, the work of a child involves going to school to learn skills (Greenberger & Sørensen, 1973) and form social interactions. Skills such as reading comprehension, mathematical calculations, and general knowledge are pertinent to more formal success and roles later in the child’s life. Additionally, learning skills to develop the ability to focus on tasks, task completion, and overcome challenges that arise are crucial to work performance regardless of the task at any life stage. One can assume that along with work orientation, other aspects of maturity, such as the ability to form and maintain functional interpersonal relationships (Greenberger & Sørensen, 1973), self-reliance (Greenberger & Steinberg, 1980; Steinberg, Greenberger, Vaux, & Ruggiero, 1981), and self-esteem (Mortimer & Staff, 2004) develop as well.

Prior studies have focused on comparing developmental outcomes of adolescents who have worked part-time jobs and those adolescents who have not worked part-time jobs. In one such study, Greenberger and Steinberg (1980) reported there are benefits to adolescents working part-time jobs while in school. Some of these include the development of work-related responsibilities, growth in self-reliance, learning skills of effective communication, building interpersonal relationships, and learning about

business and financial-related practices and concepts. Compared with adolescents who do not work part-time jobs, adolescents who work are likely to develop “enhanced work orientation that is reflected in a greater ability to persist at a task and to derive pleasure from doing a job well” (Greenberger & Steinberg, 1980, p. 3). Having legitimate employment helps youths develop working skills and a sense of responsibility, and it furthers their overall maturity.

In another study, researchers asserted that adolescents who have experienced work stressors to be less likely to experience lowered self-esteem, reduced sense of self-efficacy, and symptoms of depressed moods when encountering work-related stress in early adulthood (Mortimer & Staff, 2004). In contrast, adolescents “who experience[d] relatively little work stress” were more likely to experience “diminish[ed] self-esteem and self-efficacy and heighten[ed] depressed mood” when they encountered work stressors in early adulthood (Mortimer & Staff, 2004, p. 1063). According to Mortimer and Staff (2004), adolescents who had opportunities to be exposed to work stressors and had the capability of learning coping mechanisms to handle those challenges were better equipped to handle challenges in their adulthood compared to adolescents who were not employed prior to adulthood. Early exposure to work stressors has the potential to build resilience in young adults against future work stressors (Mortimer & Staff, 2004).

Further, adolescent perceptions of their parents’ work and their degree of success may play influential roles in their expectations of future work. Lee and Profeli (2015) acknowledged that adolescents’ anticipation of work in the future can be predicted by how successful they perceive their parents to be in their lives as a family. This prediction may be because youths who translate their perception of how well their parents are

managing their involvement in family functions to their understanding of how well their parents are doing at work. In this manner, “youth[s] who viewed work as a positive experience were more likely to be engaged cognitively and emotionally in school work” (Lee & Profeli, 2015, p. 157). However, “there was no negative effect on school engagement when youth[s] held more negative views regarding work” (Lee & Profeli, 2015, p. 157). In sum, young people’s perceptions of their parents have the potential to impact their work ethic and work orientation in the long term.

Although part-time jobs can enhance adolescent work orientation and working skills, young adolescents have more opportunities for exposure to deviant influences at their part-time employments. Having to split time between attending high school, part-time employment, and maintaining a social life are not without its risks. Greenberger and Steinberg’s (1980) findings contradicted Agnew’s general strain theory. Agnew’s (2013) general strain theory argued that individuals lacking adequate financial resources may be more likely to cope with stress by resorting to unconventional methods of obtaining resources. Following Agnew’s (2013) theory, one would assume that adolescents who work part-time jobs would be less likely to be involved in delinquent behavior because a portion of their free time would be occupied and that they would not be lacking in financial resources. On the contrary, Greenberger and Steinberg (1980) revealed that there was “no evidence... that working deters delinquency” among adolescents (p. 4). In fact, young adults who work part-time jobs are more likely to engage in deviant behaviors than their peers who do not work (Bachman, Johnston, & O’Malley, 1961; K. Lee, Lewis, Kataoka, Schenke, & Vandell, 2018).

Overall, work orientation in adolescents increases during high school (Greenberger, 1982), and adolescents can benefit from enhanced work orientation from being employed part-time, more so when compared with their non-working peers (Greenberger & Steinberg, 1980; K. Lee et al., 2018; Steinberg et al., 1981; Vice President's Task Force on Youth Employment, 1980). Many high school students work to earn a disposable income for personal entertainments and material items, although other reasons for working may include to help family with financial matters, develop working skills, and save money for higher education (Kablaoui & Pautler, 1991). Additionally, working part-time has been associated with increased risks of acquainting with deviant peers, exposure to delinquent activities (Bachman et al., 1961; K. Lee et al., 2018; Tanner & Krahn, 1991; Vice President's Task Force on Youth Employment, 1980), and socialization "into poor work habits" in unstructured, under-supervised, and adult-like environments (Staff & Uggen, 2003, p. 266). However, more recent research indicates that risks of delinquency is reduced when adolescents work in age-appropriate, structured, and rewarding jobs (Staff & Uggen, 2003; Wadsworth, 2006), as well as having a school-work balance and being provided with opportunities to develop work skills (Staff & Uggen, 2003).

Early work experience helps adolescents develop coping skills for work stressors, and it helps adolescents become more resilient in the face of work challenges in later adulthood (Mortimer & Staff, 2004). A strong work orientation helps with a person's future roles in becoming self-sufficient and partaking in the larger goal of social cohesion and social functions (Greenberger & Sørensen, 1973; K. Lee et al., 2018; Steinberg et al., 1981). While employment is one aspect to help adolescents develop work orientation (K.

Lee et al., 2018; Vice President's Task Force on Youth Employment, 1980), structured extracurricular activities can also help develop adolescents' work orientation (K. Lee et al., 2018). Therefore, extracurricular commitments can lead to various behavioral and developmental outcomes, depending on how individuals perceive and manage their experiences.

Juvenile Recidivism

Included in developmental and criminal justice research, youth psychosocial maturity has been largely studied to help researchers better understand young offenders' deviant trajectories in relations to their physical, psychological, emotional, and social development. Prior psychosocial maturity and identity literature has established that youths who score higher in psychosocial maturity are more likely to report higher levels of academic achievement (Greenberger, 1982), in addition to being perceived more positively by adults and their peers (Caprara, Barbaranelli, Pastorelli, & Cervone, 2004; Greenberger et al., 1975). Much of the criminal justice literature on adolescent psychosocial maturity and delinquency has shown a negative relationship between psychosocial maturity and likelihood of re-offending (Chassin et al., 2010; Cruise et al., 2008; Forney & Ward, 2019; H. Lee et al., 2018; McCuish et al., 2020; Monahan et al., 2009, 2013; Ozkan, 2016; Rocque et al., 2019; Schubert et al., 2016; Sweeten & Khade, 2018).

Although Erikson's framework for the development of psychosocial maturity includes descriptions of growth expected at different age groups, age itself does not define the maturity level of individuals (Cruise et al., 2008). Literature on adolescent delinquency and recidivism has indicated patterns of psychosocial maturity levels and

antisocial behaviors (Cruise et al., 2008; Dmitrieva et al., 2014; H. Lee et al., 2018; Monahan et al., 2009, 2013; Ozkan, 2016; Rocque et al., 2019; Schubert et al., 2016). Several researchers have observed patterns between adolescents' psychosocial maturity levels and substance use (Adalbjarnardottir, 2002; Chassin et al., 2010). Substance use has been established as one of the most significant predictors of juvenile recidivism in both genders (Scott & Brown, 2018). In one study based on a sample of serious juvenile male offenders, researchers asserted that increased utilization of alcohol or marijuana among adolescents over time could predict later decrease in levels of maturity, reducing the adolescent's maturity level below what is expected of his age (Chassin et al., 2010).

Furthermore, a study examining alcohol use among Icelandic youths was explained through the psychosocial developmental framework, which explains the development of human competency to differentiate and make connections between perspectives of self and others (Adalbjarnardottir, 2002). Although many of the study participants were not delinquent, qualitative data revealed that participants' peers who fell to patterns of heavy drinking were more likely to be involved in other substance use. Compared with individuals with lower levels of psychosocial maturity, adolescents who developed higher levels of psychosocial maturity were associated with less heavy drinking as they got older. However, adolescents with lower levels of psychosocial maturity were more likely to drink heavily regardless of age (Adalbjarnardottir, 2002). The capability of adolescents to develop high levels of psychosocial maturity could be a protective factor against antisocial conducts.

Other researchers who focused on adolescent psychosocial maturity and re-offending primarily included information on patterns of maturity development over time.

Much of the literature on juvenile psychosocial maturity and recidivism reflect the general concept that maturity continues to develop across an individual's life span and could be influenced by socioenvironmental factors (Adalbjarnardottir, 2002; Greenberger & Sørensen, 1971; Monahan et al., 2013). In a study examining the relationship between desistance and psychosocial maturity among serious juvenile offenders, researchers noted that adolescents continue to develop impulse and aggression control, the ability to think about consequences, the ability to "take personal responsibility for their actions, and [the] resist[ance to] the influence of peers" (Monahan et al., 2013, p. 1103) between the age of 14 and 25. Delinquent youths continue to develop their psychosocial maturity into their mid-20s, which is consistent with the maturity development trajectory of non-delinquent youths (Monahan et al., 2013).

Generally, researchers have indicated that the level of psychosocial maturity in adolescents is a better predictor of delinquency than their age (Cruise et al., 2008). Youths who desist from delinquency earlier "exhibit higher levels of psychosocial maturity in adolescence compared to those who desist later" (Monahan et al., 2013, p. 1103; *see also*, Monahan et al., 2009; Sweeten & Khade, 2018). In addition, Monahan and colleagues (2013) noted that adolescents who demonstrate persistence of delinquency into their early adulthood typically are characterized with "lower levels of psychosocial maturity in adolescence" (p. 1103) and "deficits in the development of psychosocial maturity compared to other antisocial youth[s]" (p. 1103). Clearly, differences exist in psychosocial development between youths who desist and youths who persist in antisocial behaviors. Even though developmental differences are present during adolescence, most youth offenders generally age out of delinquent behaviors and

continue to develop their psychosocial maturity as they get older (Hanson, 2002; Monahan et al., 2009, 2013). In fact, research indicates that maturity development trajectories of youth offenders are comparable to normal, non-offending youths (Monahan et al., 2009, 2013).

The capability of youths to take responsibilities and adhere to prosocial expectations are also important measures of psychosocial growth. In a study conducted in Spain, researchers revealed that young offenders who do not re-offend are generally committed to their court established orders, such as attending regularly planned visits with staff from the juvenile justice system and following curfews, which are important factors in preventing young offenders from recidivating (Contreras et al., 2011). Further, in line with other studies (*see* Baglivio et al, 2018; Mowen & Boman, 2018; Panuccio et al., 2012), Contreras and colleagues (2011) addressed the importance of positive family involvement in helping youths desist from antisocial behaviors. Conversely, re-offenders are typically characterized by “external locus of control, high scores in search of sensations, low self-control, low tolerance to frustration and low internalization of rules[,]” (Contreras et al., 2011, p. 84) which may eventually lead to “involvement in high risk behaviors[,]... antisocial and criminal behaviors[,]” and re-offense (Contreras et al., 2011, p. 84). Compared with youth offenders who desist from antisocial behavior, some juveniles who persist in criminal offending are associated with lower levels of psychosocial maturity (Monahan et al., 2013; Sweeten & Khade, 2018).

Prior research using the Research on Pathways to Desistance study have examined relationships between various psychosocial maturity factors and juvenile recidivism (Chassin et al., 2010; Forney & Ward, 2019; H. Lee et al., 2018; McCuish et

al., 2020; Monahan et al., 2009, 2013; Ozkan, 2016; Rocque et al., 2019; Schubert et al., 2016; Sweeten & Khade, 2018). More specifically, researchers using the Research on Pathways to Desistance study have used the MOJ scale outlined by Cauffman and Steinberg (2000) to measure adolescent psychosocial maturity and decision making in relation to delinquent behaviors (Chassin et al., 2010; Dmitrieva et al., 2014; H. Lee et al., 2018; Monahan et al., 2009, 2013; Ozkan, 2016; Rocque et al., 2019); the three elements of the MOJ model are temperance, perspective, and responsibility (Cauffman & Steinberg, 2000). In this model, temperance is related to impulse control, and perspective refers to “the ability [of individuals] to foresee short- and long-term consequences and make decisions within a larger context” (Ozkan, 2016, p. 19). To date, researchers have reported that temperance and perspective are significantly associated with re-offending and delinquent behaviors (Dmitrieva et al., 2014; H. Lee et al., 2018; Ozkan, 2016), as well as shorter lengths of time in-between re-offenses (Ozkan, 2016).

Although researchers using the Research on Pathways to Desistance study have explored factors of the MOJ in relation to youth recidivism, such as temperance and perspective (H. Lee et al., 2018; Ozkan, 2016), fewer studies have focused on the responsibility factor of the MOJ scale. The lack of research may have been due to previous findings of weak association between the responsibility domain and juvenile re-offending (Ozkan, 2016), as well as the heavy focus on self-control and criminal offending (Gottfredson & Hirschi, 1990; Monahan et al., 2009; Piquero et al., 2007). Recently, however, the responsibility factor has been linked to adolescent decision making, delinquency, and prosocial development (Cruise et al., 2008; H. Lee et al., 2018; McCuish et al., 2020). Moreover, when subscales of the PSMI (identity, self-reliance,

and work orientation) were examined separately, researchers have reported that individuals who scored high on identity, self-reliance, and work orientation, generally have higher levels of maturity in other areas, such as temperance and resistance to peer influence (McCuish et al., 2020). Additionally, changes in self-reliance and work orientation scores “influenced change in maturation components... that were important for offending” (McCuish et al., 2020, p. 490). Overall, literature on youth identity (Erikson, 1959; Erikson & Erikson, 1997; McCuish et al., 2020; Mercer et al., 2017; Sweeten & Khade, 2018), self-reliance (Greenberger et al., 1975; McCuish et al., 2020), and work orientation (Greenberger & Sørensen, 1973; K. Lee et al., 2018; McCuish et al., 2020; Staff & Uggen, 2003) has suggested positive development in these areas to be associated with maturity, social integration, and desistance from criminal behaviors.

Research Questions

This study will build upon previous studies on juvenile psychosocial development using the Research on Pathways to Desistance study. The Research on Pathways to Desistance study was chosen because the study has standardized measures from the PSMI (Form D) and self-reported delinquency data over time. The MOJ scale (Cauffman & Steinberg, 2000) is a composite score comprised from standardized scores from the PSMI (Greenberger et al., 1975), Future Outlook Inventory ([FOI] Cauffman & Woolard, 1999), Weinberger Adjustment Inventory ([WAI] Weinberger & Schwartz, 1990), and Resistance to Peer Influence ([RPI] Steinberg & Monahan, 2007). Previous researchers have used the MOJ scale (Cauffman & Steinberg, 2000) to examine overall adolescent psychosocial maturity (Monahan et al., 2009, 2013; Rocque et al., 2019), or to examine

the three domains of MOJ separately (Dmitrieva et al., 2014; H. Lee et al., 2018; Monahan et al., 2009; Ozkan, 2016), in relation to various antisocial behaviors.

The focus of this study is on youths and young adults. According to Erikson's psychosocial development model, individuals in their adolescence stage—between ages 12 and 20—undergo a critical identity formation period (Hamachek, 1988). Prior juvenile delinquency studies using the MOJ scale have focused on the temperance and perspective aspects of psychosocial maturity (Dmitrieva et al., 2014; H. Lee et al., 2018; Ozkan, 2016), but few studies have examined the responsibility domain (Dmitrieva et al., 2014; Ozkan, 2016), which focuses on the development of sense of self relevant to the adolescence stage (Steinberg & Cauffman, 1996).

Despite the lack of emphasis on the responsibility domain, several studies have supported factors such as identity (Erikson, 1959; Erikson & Erikson, 1997; McCuish et al., 2020; Mercer et al., 2017; Sweeten & Khade, 2018), self-reliance (Greenberger et al., 1975; McCuish et al., 2020), and work orientation (Greenberger & Sørensen, 1973; K. Lee et al., 2018; McCuish et al., 2020; Staff & Uggen, 2003), to contribute to the development of youth maturity and delinquent behaviors. The responsibility domain is measured by the PSMI (Greenberger et al., 1975) and RPI (Steinberg & Monahan, 2007). This study will focus on subscales of the PSMI (Greenberger et al., 1975), which are elements of individual adequacy as defined by Greenberger and colleagues (1975). The focus on PSMI subscales and their relationships with juvenile criminal offending can help practitioners better understand the development of adolescent sense of self and desistance from crime. Moreover, it is possible that psychosocial maturity levels will vary among a sample of serious and violent juvenile offenders because prior research has documented

psychosocial maturity differences in the Research on Pathways to Desistance study (Monahan et al., 2009, 2013), as well as in other juvenile study samples (Piquero et al., 2007; Sweeten & Khade, 2018). Generally, juvenile offenders have the same psychosocial maturation trajectory as non-offending youths (Monahan et al., 2009).

Additionally, there has not been a Research on the Pathways to Desistance study that accounted for the parent-child relationship variable using the Quality of Parental Relationships Inventory (Conger, Ge, Elder, Lorenz, & Simons, 1994), while exclusively examining PSMI measures in relation to juvenile re-offending. I will use the PSMI to focus on the individual adequacy dimension of psychosocial maturity, which includes subscales of self-reliance, identity, and work orientation (Greenberger et al., 1975), and its relation to youth re-offending.

The following research questions will be examined in relation to Erikson's framework for the development of psychosocial maturity (Erikson & Erikson, 1997):

1. Is identity associated with self-reported re-offending?
2. Is self-reliance associated with self-reported re-offending?
3. Is work orientation associated with self-reported re-offending?

CHAPTER III

METHODOLOGY

Data

The data for this project was retrieved from the Inter-university Consortium for Political and Social Research (ICPSR). The source of data comes from the Research on Pathways to Desistance [Maricopa County, AZ, and Philadelphia County, PA]: Subject Measures, 2000-2010 (ICPSR 29961) (Mulvey, 2016). The Research on Pathways to Desistance is a longitudinal study of 1,354 serious youth offenders adjudicated in juvenile and adult court systems between years 2000 and 2003. In this study, adolescents who were found guilty of committing a serious offense between ages 14 and prior to turning 18 were included in the study. Participants in the Research on Pathways to Desistance were followed for seven years past the enrollment period. Using computer assisted interviews, data were collected after the baseline throughout 10 follow-up interviews at six, 12, 18, 24, 30, 36, 48, 60, 72, and 84 months after the baseline interview. The current study used a combination of public and restricted data. Access to restricted data for this study was granted by the ICPSR and approved by the Institutional Review Board (IRB) at Sam Houston State University (see Appendices A and B).

The present study included data from the baseline wave to the 48-month follow-up interview. This time frame included participants with an average age of 16 years at the baseline wave to 20 years at the 48-month follow-up, which falls within the adolescence stage in Erikson's psychosocial development model (Hamachek, 1988). To create a uniform sample, participants with missing data at any follow-up periods were excluded, resulting in an analytic sample of 569 participants ($n = 569$).

Dependent Variable

The dependent variable for the current study is self-reported offending after the initial adjudication, measured by the frequency of offending reported at each follow-up interview. At each follow-up interview, respondents were asked about the frequency of their offending during the recall period. Although self-report data relies on the memory and integrity of the respondent, it can often capture more information about re-offending than official arrest data (Dunford & Elliott, 1984; National Institute of Justice, 2008).

The frequency of offending came from the Self-Reported Offending (SRO) measure, which was adopted from a prior study to measure youth involvement in illegal and antisocial events (Huizinga, Esbensen, & Weiher, 1991). The frequency score represents the number of offenses committed during the recall period based on 22 items, asking about participants' involvement in different serious or violent criminal acts, including breaking and entering, selling drugs, and if they had killed someone. For this study, a self-reported offending binary variable was created, which indicated whether a participant had reported re-offending during any of the follow-up periods based on the 22 items under SRO, where 1 indicated the participant reported at least one offense and 0 indicated the participant reported zero offense across 48 months.

Independent Variables

Individual adequacy. The main independent variables for this study are subscales from the individual adequacy dimension of psychosocial maturity, measured by the PSMI (Form D). The PSMI focuses on the individual adequacy dimension of psychosocial maturity defined by Greenberger and colleagues (1975), which reflects “the capacity to function effectively on one’s own” (p. 128). The subscales in this dimension

include work orientation, identity, and self-reliance (Greenberger, 1982). There are 30 items in the PSMI; each subscale includes 10 items that are relevant to each subscale. All items are measured on a 4-point Likert scale in the following order: (1) Strongly Agree, (2) Slightly Agree, (3) Slightly Disagree, and (4) Strongly Disagree. All except for one item in the PSMI were reverse coded. Respondents associated with more responsible behaviors scored higher on the PSMI.

For the purpose of this study, individual scores from PSMI subscales will be examined. Previous research has shown good validity for PSMI subscales (Greenberger et al., 1975). The self-reliance subscale largely measures respondents' ability to make independent decisions and sense of internal control. Self-reliance includes items such as "Luck decides most things that happen to me." The identity subscale measures concepts such as self-esteem, sense of self, and thoughts about future goals. The identity subscale includes items such as "I change the way I feel and act so often that I sometimes wonder who the 'real' me is." Lastly, the work orientation subscale measures how respondents feel about completion of tasks. Under the work orientation subscale, items such as "I hate to admit it, but I give up on my work when things go wrong" are included. To calculate the mean score for each of these subscales, respondents must answer eight of the 10 items. The scores of each subscale were averaged across the baseline to the 48-months follow-up period to generate a measure of participants' averaged PSMI subscale scores over time.

Control Variables

Several control variables will be included in the analysis. The first group of control variables were related to participants' demographic characteristics, including

race, gender, and age collected at the baseline interview. Based on previous literature, racial discrepancies in juvenile offending were acknowledged (Hawkins, Laub, & Lauritsen, 1998; Lipsey & Derzon, 1998; Shelden & Chesney-Lind, 1993). Shelden and Chesney-Lind (1993) noted that racial differences in offending patterns among juvenile male offenders were present. In the current study, the racial categories include White, Black, Hispanic, and Other. Also, researchers have reported gender differences in psychosocial maturity levels (Caprara, Regalia, & Bandura, 2002; Greenberger, 1982) and patterns of antisocial behavior (Lipsey & Derzon, 1998; Minor et al., 2008; Ryan et al., 2014; Scott & Brown, 2018; Shelden & Chesney-Lind, 1993). Further, researchers stated that age differences were relevant to psychosocial development (Constanzo & Shaw, 1996; Greenberger et al., 1975; Steinberg & Cauffman, 1996) and antisocial behavioral patterns (Hanson, 2002; Minor et al., 2008).

The second group of control variables were related to participants' offense history, in particular their early onset behavior problems, age at first arrest, whether they were confined to a correctional facility, and peer delinquency at the baseline interview. Researchers have been consistent in noting relations between early onset behavior in youth offenders, mostly regardless of gender, and their subsequent antisocial behaviors (Stouthamer-Loeber & Loeber, 2002; Tolan & Thomas, 1995; White, Moffitt, Earls, Robins, & Silva, 1990), as well as youth psychosocial maturity development and early onset behavioral problems (Cruise et al., 2008). Early onset of behavior problems was measured at the baseline interview with a set of five questions. These items accounted for the presence of early onset behavioral problems before age 11. Questions in this measure included whether the respondent was caught for cheating, disturbing class,

stealing, fighting, and being drunk or stoned prior to age 11. A total count of troubling behaviors was combined into a summary variable representing the number of early onset behavior problems of the respondent. Another variable was the age at first arrest. Adolescents' age at first arrest has been linked to the degree of "seriousness and chronicity of delinquency" (Loeber et al., 1998, p. 20), as well as the likelihood to recidivate (Cottle et al., 2001). In this study, the age at first arrest was based on self-report data. Further, I controlled for participants' status of confinement at the baseline interview. Young offenders who were not confined to an institution may have had more opportunities to be involved in deviant activities. A binary variable was created to indicate whether the participant was held in a correctional facility, where 1 indicated confinement and 0 indicated no confinement; this will allow for a better understanding of characteristics of youths who persisted or desisted from delinquency.

Another control variable in the second group is peer delinquency. Prior studies have indicated that associating with peers who were involved with antisocial and illegal activities can be a high-risk factor in youth delinquent activities and recidivism (Cottle et al., 2001; Mowen & Boman, 2018; Ozkan, 2016; Scott & Brown, 2018; Shapiro, Smith, Malone, & Collaro, 2010). The Research on Pathway to Desistance study measured peer delinquency in two dimensions: antisocial behavior and antisocial influence. For this study, the antisocial behavior dimension is used to assess the extent of delinquent activity among peers. Nine of the 12 items must be answered to yield a valid average rating of prevalence of peers who take part in the behaviors described in this section. The antisocial behavior section included items such as "How many of your friends have sold drugs?" and "How many of your friends have hit or threatened to hit someone?" Peer

delinquency was measured on a 5-point Likert scale, where (1) None of them, (2) Very few of them, (3) Some of them, (4) Most of them, and (5) All of them. Higher mean ratings indicate respondents' higher degree of association with peers involved in antisocial behavior.

The last control variable in the second group is employment. Prior research indicated that youth employment may either be a risk factor (Bachman et al., 1961; D'Amico, 1984; Staff & Uggen, 2003; Tanner & Krahn, 1991; Vice President's Task Force on Youth Employment, 1980; Wensveen, Palmen, Blokland, & Meeus, 2017) or a protective factor (K. Lee et al., 2018; Staff & Uggen, 2003; Wadsworth, 2006) against youth delinquency. The employment item used in this study asked participants whether they were employed currently or before coming to the facility at the baseline interview. The employment variable is dichotomous, where 0 indicated the participant was not employed and 1 indicated the participant was employed.

The final group of control variables were related to parent-child relations at the baseline interview, measured by the Quality of Parental Relationships Inventory (Conger et al., 1994). The scale assessed the affective relationship between parents and adolescents. Prior research emphasized the relationship between family conflict and youth delinquency (Mowen & Boman, 2018; Ryan et al., 2012; Steinberg, 1990). This scale included four subscales that measured degrees of the mother's and father's warmth and hostility toward the adolescent. The scale was comprised of 42 items, in which 21 items measured mother-child relationship, and the remaining 21 items measured father-child relationship. Items regarding parental warmth toward the child included: "Act supportive and understanding toward you?" and "Help you do something that was

important?” Items regarding parental hostility toward the child include: “Threaten to hurt you physically?” and “Insult or swear at you?” Items in this scale were measured on a 4-point Likert scale: (1) Always, (2) Often, (3) Sometimes, and (4) Never. Items measuring parental warmth toward the child were reverse coded, which meant that higher scores reflected a more supportive and nourishing relationship between the parent and child. Likewise, higher scores on the hostility scale reflect a more hostile and antagonistic relationship between the parent and child. Prior studies using the Research on Pathways to Desistance study did not include parent-child relation variables when examining the relationship between psychosocial maturity and re-offending.

Analytic Plan

The analysis was carried out in a series of sequential steps. In the first step of the analysis, descriptive information was reported for the analytic sample. In the second step of the analysis, correlations coefficients were calculated between key independent and dependent variables to assess the strength of bivariate associations. Pearson correlation coefficients were calculated when examining relations between identity, self-reliance, and work orientation, while Point-Biserial correlations were calculated for relations between individual adequacy subscales and re-offending. The third and final step in the analysis focused on estimating multivariate binary logistic regressions to examine the effect of identity, self-reliance, and work orientation on self-reported re-offending from 6 months to 48 months after accounting for control variables.

CHAPTER IV

RESULTS

Descriptive Statistics

Table 1 provides the descriptive statistics for each of the variables used in the analysis. From the 6-month follow-up interview to the 48-month follow-up interview, 86.80% of participants reported having engaged in self-reported re-offending. The gender composition of this sample was 87.30% males and 12.70% females. Ethnicity in this sample included 37.80% Hispanic, 32.70% black, 25.00% white, and 4.60% other ethnicities. The average age of this sample was 15.92 years old ($SD = 1.13$), and the average age at first arrest was 13.98 ($SD = 1.88$). Additionally, 29.00% of participants were employed either prior to or at the time of the baseline interview, and 71.00% of participants were unemployed either prior to or at the time of the baseline interview.

Table 1. Descriptive Statistics

Dependent Variables	Mean/%	SD	Minimum	Maximum
General				
Offense	86.80%	-	-	-
No Offense	13.20%	-	-	-
Independent Variables				
Identity	3.27	0.37	2.13	4.00
Self-Reliance	3.21	0.37	2.04	4.00
Work Orientation	2.90	0.36	1.95	3.88
Control Variables				
Gender				
Male	87.30%	-	-	-
Female*	12.70%	-	-	-
Ethnicity				
White*	25.00%	-	-	-
Black	32.70%	-	-	-
Hispanic	37.80%	-	-	-
Other	4.60%	-	-	-

Facility Type				
Confinement	45.90%	-	-	-
No Confinement*	54.10%	-	-	-
Parent-Child Relationship				
Mother's Warmth	3.16	0.70	1.00	4.00
Mother's Hostility	1.61	0.43	1.00	3.75
Father's Warmth	2.72	0.89	1.00	4.00
Father's Hostility	1.51	0.48	1.00	4.00
Age	15.92	1.13	14	18
Age at First Arrest	13.98	1.88	5	18
Early Onset Behavior	1.48	1.16	0	5
Peer Delinquency	2.35	0.89	1	5
Employment				
Employed	29.00%	-	-	-
Unemployed*	71.00%	-	-	-

Notes: *reference category.

Bivariate Correlations

Table 2 presents the correlation matrix between subscales of individual adequacy and self-reported re-offending. The matrix shows that there were strong positive relationships between individual adequacy subscales. There was a significant correlation between identity and self-reliance ($r = 0.86, p < 0.001$), identity and work orientation ($r = 0.80, p < .001$), and self-reliance and work orientation ($r = 0.89, p < 0.001$). There was a significant correlation between identity and self-reported re-offending ($r_{pb} = -0.13, p = 0.001$), self-reliance and self-reported re-offending ($r_{pb} = -0.10, p = 0.012$), and work orientation and self-reported re-offending ($r_{pb} = -0.17, p < 0.001$). Overall, there were positive and large correlations between individual adequacy subscales and negative correlations between self-reported re-offending and individual adequacy subscales, which prompted the examination of how each subscale was independently associated with re-offending after controlling for confounding influences.

Table 2. Bivariate Correlations

	1.	2.	3.	4.
1. Self-Reported Re-Offending	-			
2. Identity	-0.133**	-		
3. Self-Reliance	-0.106*	0.864**	-	
4. Work Orientation	-0.170**	0.808**	0.782**	-

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

Binary Logistic Regression Models

Table 3 presents the results from the estimated binary logistic regression equations. The first three logistic regression models examined the effect of different components of individual adequacy on self-reported re-offending, while controlling for other variables. Model 1 examined the effect of identity on self-reported re-offending. The results showed that identity was not a significant predictor of re-offending ($OR = .504, p = 0.080$). However, other variables significantly predicted re-offending in this model. Compared to female juvenile offenders, males were 2.58 times ($p = 0.009$) more likely to re-offend. Further, the odds that Hispanic offenders reported re-offending were lower than white offenders ($OR = .298, p = 0.004$). Other variables that significantly predicted re-offending were mother's hostility, early onset behavior, and peer delinquency. The odds of re-offending increased by 3.18 times ($p = 0.016$) per unit increase in mother's hostility, 1.77 times ($p < 0.001$) per unit increase in early onset behavior, and 1.87 times ($p = 0.003$) per unit increase in peer delinquency.

Model 2 examined the effect self-reliance on self-reported re-offending. Results from this model showed that self-reliance was not significantly associated with the odds of re-offending ($OR = .647, p = 0.277$). Model 3 examined the effect of work orientation on the odds of re-offending. Results from this model revealed that higher levels of work orientation decreased the odds of re-offending ($OR = .444, p = 0.046$).

Table 3. Binary Logistic Regressions with Covariates Predicting Self-Reported Offending

Variables	Model 1 (Identity)			Model 2 (Self-Reliance)			Model 3 (Work Orientation)		
Independent Variables	b	SE	Exp(b)	b	SE	Exp(b)	b	SE	Exp(b)
Identity	-0.685	0.392	0.504	-	-	-	-	-	-
Self-Reliance	-	-	-	-0.436	0.401	0.647	-	-	-
Work Orientation	-	-	-	-	-	-	-0.813	0.408	0.444*
Control Variables									
Male	0.951	0.364	2.588**	0.921	0.368	2.512*	0.940	0.366	2.560**
Black	-0.693	0.423	0.500	-0.713	0.424	0.490	-0.705	0.423	0.494
Hispanic	-1.209	0.417	0.298**	-1.216	0.416	0.296**	-1.204	0.419	0.300**
Other (Race)	-0.995	0.685	0.370	-1.014	0.685	0.363	-0.961	0.693	0.383
Confinement	0.471	0.318	1.601	0.458	0.318	1.582	0.473	0.319	1.605
Mother's Warmth	0.027	0.252	1.027	-0.001	0.252	0.999	0.040	0.250	1.041
Mother's Hostility	1.160	0.482	3.189*	1.144	0.478	3.139*	1.115	0.480	3.050*
Father's Warmth	-0.125	0.198	0.883	-0.127	0.198	0.881	-0.123	0.199	0.885
Father's Hostility	-0.144	0.405	0.866	0.162	0.404	0.850	-0.164	0.407	0.849
Age	-0.101	0.146	0.904	-0.100	0.146	0.904	-0.084	0.147	0.920
Age at First Arrest	-0.185	0.107	0.831	-0.187	0.107	0.829	-0.192	0.107	0.825
Early Onset Behavior	0.573	0.160	1.774***	0.579	0.160	1.784***	0.564	0.160	1.758***
Peer Delinquency	0.630	0.211	1.877**	0.659	0.209	1.934**	0.612	0.211	1.845**
Employed	0.040	0.327	1.041	0.022	0.326	1.022	0.063	0.328	1.065
-2 loglikelihood		-344.326			-346.266			-343.422	
Cox & Snell R^2		0.160			0.157			0.161	
N		569			569			569	

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

CHAPTER V

DISCUSSION & CONCLUSION

This study examined the relationship between unique aspects of psychosocial maturity and re-offending in an at-risk sample of youth. Specifically, my research questions focused on how identity, self-reliance, and work orientation were associated with self-reported re-offending among serious and violent juveniles during adolescence. Although previous Pathways studies have established relationships between psychosocial maturity and delinquency using the MOJ scale (Chassin et al., 2010; Dmitrieva et al., 2014; H. Lee et al., 2018; Monahan et al., 2009, 2013; Ozkan, 2016; Rocque et al., 2019), few studies have specifically examined individual components of individual adequacy using the PSMI (Forney & Ward, 2019; McCuish et al., 2020) to assess whether components uniquely or similarly predict recidivism.

The first research question focused on assessing whether identity was associated with self-reported re-offending. As reported in Table 3, identity did not significantly predict re-offending. Although Model 1 indicated that the odds of re-offending generally decreased for adolescents who scored higher in identity, it was not a significant predictor of re-offending. This result contradicts Forney and Ward's (2019) findings. Using the identity subscale from the PSMI, Forney and Ward's (2019) findings asserted that youths with stronger identities were less likely to engage in delinquency. However, the lack of a significant relationship between identity and re-offending in this study may be due to the general upward trend of psychosocial maturity in adolescents (Monahan et al., 2009; 2013). Sweeten and Khade (2018), also using the identity subscale from the PSMI, reported that although youths who desisted from criminal behaviors displayed positive

changes in identity, youths who persisted also demonstrated growth in their identity. The continuation of growth in identity formation among adolescents, whether prosocial or antisocial, might explain why identity was not a significant predictor of re-offending in the current study.

The second research question addressed whether self-reliance was associated with self-reported re-offending. Self-reliance was referred to as the capacity of a young adult to make independent judgements (Steinberg & Cauffman, 1996) and the diminishing need for individuals to seek validation from others, including parents, teachers, and peers (Greenberger, 1982). In Model 2, self-reliance was an insignificant and negative predictor of re-offending. This finding was supported by prior research, which asserted that higher levels of self-reliance was associated with the ability to commit to prosocial responsibilities and desist from criminal behaviors (McCuish et al., 2019). Adolescents who are self-reliant generally can differentiate their personal values from their peer groups' values (Constanzo & Shaw, 1966; Greenberger, 1982).

Other related concepts, such as self-control and self-efficacy, also have similar association with youth delinquency. Under the self-control theory, there is a negative relationship between adolescents' levels and association with deviant peers and behaviors (Gottfredson & Hirschi, 1990). Similarly, youths with higher levels of self-control would also be more likely to be self-reliant, which allows them to make decisions without being heavily influenced by their peers. Self-efficacy, another closely related construct (Steinberg & Cauffman, 1996), which Bandura (1997) defined as one's belief to execute and achieve goals, may also aid in explaining the relationship between self-reliance and re-offending. Prior research asserted that youths with higher levels of self-efficacy were

associated with higher prosocial aspirations and shorter stay in residential placement (Cuevas, Wolff, & Baglivio, 2017), higher academic achievement and higher likelihoods of resisting from delinquent associations (Caprara et al., 2004), and fewer mental health problems (Muris, 2002). Therefore, youths who possess high levels of self-efficacy may also be more self-reliant, leading to individuals' belief and successful achievement of prosocial goals. It would be interesting to see future research examine the relationship between level of self-reliance, individual's prosocial or antisocial identities, and likelihood of re-offending.

The third research question addressed whether work orientation was associated with self-reported re-offending. Unlike the other two individual adequacy components, work orientation was a significant independent predictor of re-offending. In Model 3, youths who scored higher in work orientation demonstrated a lower likelihood of re-offending. McCuish and colleagues (2019) also reported negative relationships between the work orientation subscale from the PSMI and self-reported offending in their Pathways study. The current study showed that serious juvenile offenders who reported higher characteristics of persevering in tasks completion were more likely to desist from self-reported re-offenses. Juveniles who value their ability and perseverance to complete tasks may be less likely to be distracted by shorter, more antisocial means of achieving their goals. The negative relationship between work orientation and offending also falls in line with other studies. Greenberger and Sørensen (1973) stated that a higher score in work orientation may indicate an individual's sense to partake in roles in participating and contributing to society. In later studies, researchers also found that individuals with traits and responsibilities related to work orientation were more likely to be associated

with prosocial behaviors and identities that encourage deterrence from criminal behaviors (K. Lee et al., 2018; Staff & Uggen, 2003; Wadsworth, 2006; Wensveen et al., 2017).

Conversely, lack of characteristics related to work orientation were associated with increased likelihood of individuals to participate in financial or nonfinancial criminal activities (Wadsworth, 2006). Thus, individuals who place more value in their contribution to the society are more likely to lead a prosocial identity and lifestyle (McCuish et al., 2019; Staff & Uggen, 2003; Wadsworth, 2006; Wensveen et al., 2017).

Among control variables, male juvenile offenders were consistently and significantly more likely than female juvenile offenders to re-offend. This pattern was also supported by previous research on violent (Ryan, Abrams, & Huang, 2014) and general juvenile offenders (Cottle & Lee, 2001; Huang, Ryan, & Herz, 2012; Minor et al., 2008). Several other control variables were significant in predicting self-reported re-offending. Across all three regression models in this study, race, mother's hostility, early onset behavior, and peer delinquency were significant predictors of juvenile recidivism. Hispanic youth offenders generally had lower odds of re-offending than their white counterparts—this finding calls for additional research about the Hispanic minority group in juvenile justice settings. Previous researchers noted there to be a lack of existing research on Hispanic youth offenders, despite the group's higher likelihood of being overrepresented in the juvenile justice system and associated with higher reduction in re-offending than their white youth counterparts (Behnken, Bort, & Borbon, 2017).

Mother's hostility was also a significant predictor of self-reported re-offending. Juveniles in this sample who reported hostility from their mothers had higher odds of engaging re-offenses. Juvenile re-offending had been associated with mother's hostility

in previous studies, where youths who experienced higher levels of hostility from their mothers were more likely to recidivate and engage in delinquency (Castellani et al., 2014; Thomas et al., 2017). Research also supported that maternal hostility was associated with decreased odds of desistance from aggressive offenses (Dunkley, Gardner, Bernard, & Harris, 2020). Further, mothers' perception of their children's delinquency may contribute to mother-child hostility, removing the benefit of warm-mother child relationship as a protective factor against youth recidivism (Cavanagh & Cauffman, 2016).

Early onset behavior was a significant predictor, where participants who scored higher in early onset behavior were associated with higher odds of re-offending. Across all three regression models, early onset behavior proved to be a significant predictor of re-offending, even at statistically low significance levels. The findings from this study supported prior research linking early onset behavior to persistence in serious crimes and delinquency (Stouthamer-Loeber & Loeber, 2002; Tolan & Gorman-Smith, 1998; Tolan & Thomas 1995).

Finally, participants with higher ratings of peer delinquency were consistently associated with increased odds of re-offending. The positive relationship between peer delinquent associations and recidivism has been well established in criminal justice literature (Cottle et al., 2001; Mowen & Boman, 2018; Ozkan, 2016; Shapiro et al., 2010). It is possible that delinquent youths may collaborate with each other to create more opportunities and efficiency when committing crimes, which encourages the continuance of antisocial behavior and keep offenders on the delinquent pathway (McGloin & Stickle, 2011).

Limitations

This study was not without its limitations. First, generalizability of this study's findings is limited. The study sample only included serious juvenile offenders who were adjudicated in two counties in Arizona and Pennsylvania. Thus, the findings of this study may not be generalized to serious youth offenders outside of the survey regions. Further, the sample was mostly comprised of male participants, which might limit the findings to providing information about juvenile females.

Another limitation to this study was missing data. The analytic sample included only participants with valid data for all variables used in this study. The exclusion of participants with missing data from the baseline interview to the 48-month follow-up interview may affect the generalizability of findings to the Pathways sample. Additionally, there may have been differences between participants with and without missing data that may have limited the understanding of relationships between PSMI components and re-offending among serious youth delinquents.

Finally, this study used binary logistic regressions to examine relationships between PSMI components and self-reported re-offending. Due to the nature of the analysis, the extent of youth re-offending was not examined. The scope of this study only investigated the average scores of PSMI components of juveniles and whether different components of individual adequacy were predictive of self-reported re-offending.

Conclusion

This study addressed relationships between components of individual adequacy and juvenile re-offending that have been overlooked in previous Pathways studies

because the responsibility domain had poor association with delinquent behaviors. Upon analyses of identity, self-reliance, and work orientation as predictors of self-reported re-offending during juvenile offenders' adolescence period, work orientation prevailed as a significant predictor of re-offending when examined alone. The findings of this study revealed that increase in work orientation scores were predictive of lower odds of self-reported re-offending. Identity and self-reliance were not significant predictors of re-offending across models. Results from this study may contribute to the existing research on psychosocial maturity and re-offending among serious juvenile offenders in the following ways.

The significant role in which work orientation plays in youth psychosocial maturity and re-offending may generate policy implications for juvenile justice programs. For example, workforce development programs aimed at building juveniles' education, work skills, and social skills, may help youths adjust to contributing to society in prosocial manners (Wilson, 2000). Greenberger (1982) stated that work orientation increases during adolescence, and adolescents can generally benefit from being employed part-time (Greenberger & Steinberg, 1980; K. Lee et al., 2018; Steinberg et al., 1981; Vice President's Task Force on Youth Employment, 1980) as long as adolescents work in age-appropriate, structured, and rewarding jobs (Staff & Uggen, 2003; Wadsworth, 2006) and are provided with opportunities to develop work skills (Staff & Uggen, 2003). Otherwise, unstructured, under-supervised, lack of opportunities for growth, and adult-like environments may socialize youths into developing disreputable work habits, in addition to increasing risks of being involved with deviant peers and activities (Bachman et al., 1961; K. Lee et al., 2018; Staff & Uggen, 2003; Tanner & Krahn, 1991; Vice

President's Task Force on Youth Employment, 1980). A strong work orientation helps a person become self-sufficient and cohesive in societal functions (Greenberger & Sørensen, 1973; K. Lee et al., 2018; Steinberg et al., 1981). Therefore, such workforce development programs may help youth offenders become better equipped to partake in societal functions and reduce likelihood of recidivism.

Additionally, findings of this study may have important theoretical implications. Much of the prior research on youth psychosocial maturity has focused on temperance and re-offending outcomes (Cruise et al., 2008; Dmitrieva et al, 2014; H. Lee et al., 2018; Monahan et al., 2009; Ozkan, 2016; Piquero et al., 2007; Schubert et al, 2016). Few studies, however, have examined individual components of individual adequacy (Forney & Ward, 2019; McCuish et al., 2020). The current study demonstrated that expanding current understanding about individual psychosocial maturity variables, such as identity, self-reliance, and work orientation, may introduce new information about youth psychosocial maturity and recidivism. Additional juvenile research may be needed to examine psychosocial maturity subscales that have not been commonly studied in the past. Research focused on individual components of psychosocial maturity may help uncover more specific areas of youth psychosocial maturity development that influence youth recidivism outcomes, in which can improve recommendations for current juvenile justice programs.

The findings of the current study prompt for additional research. It would be interesting to examine the influence of delinquent peers and the development of individual adequacy components in relation to juvenile re-offending. Another area for

future research may include examining the effect of parental warmth and hostility on the development of individual adequacy in relation to re-offending.

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APPENDIX A



Date: Oct 5, 2019 3:15 PM CDT

TO: Beverly Liu Erin Orrick

FROM: SHSU IRB

PROJECT TITLE: Motivation to Succeed and Its Relations to Juvenile Behavioral Outcomes

PROTOCOL #: IRB-2019-277

SUBMISSION TYPE: Initial

ACTION: Approved

DECISION DATE: October 4, 2019

ADMINISTRATIVE CHECK-IN DATE: October 4, 2020

EXPEDITED REVIEW CATEGORY: 7. Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies.

Greetings,

The above-referenced submission has been reviewed by the IRB and it has been Approved. Because this study received expedited review and the IRB determined that a renewal submission is not needed, this decision does not necessarily expire; however, you will be receiving an email notification on the anniversary of this study approval, which will be on October 4, 2020 (**NOTE:** please review the reminder information below regarding Study Administrative Check-In). This study approval is based on an appropriate risk/benefit ratio and a project design wherein the risks have been minimized. All research must be conducted in accordance with this approved submission.

Since Cayuse IRB does not currently possess the ability to provide a "stamp of approval" on any recruitment or consent documentation, it is the strong recommendation of this office to please include the following approval language in the footer of those recruitment and consent documents: IRB-2019-277/October 4, 2019/October 4, 2020.

Please remember that informed consent is a process beginning with a description of the project and insurance of participant understanding followed by a signed consent form. Informed consent must continue throughout the project via a dialogue between the researcher and research participant. Federal regulations require each participant receive a copy of the signed consent document.

Modifications: Please note that any revision to previously approved materials must be approved by this committee prior to initiation. Please submit a Modification Submission through [Cayuse IRB](#) for this procedure.

Incidents: All UNANTICIPATED PROBLEMS involving risks to subjects or others and SERIOUS and UNEXPECTED adverse events must be reported promptly to this office. Please submit an Incident Submission through [Cayuse IRB](#) for this procedure. All Department of Health and Human Services and sponsor reporting requirements should also

be followed.

Study Administrative Check-In: Based on the risks, this project does not require renewal. Rather, you are required to administratively check in with the IRB on an annual basis. October 4, 2020 is the anniversary of the review of your protocol. The following are the conditions of the IRB approval for IRB-2019-277 Motivation to Succeed and Its Relations to Juvenile Behavioral Outcomes.

1. When this project is finished or terminated, a **Closure submission** is required.
2. Changes to the approved protocol require prior board approval (**NOTE:** see the directive above related to **Modifications**).
3. Human subjects training is required to be kept current at citiprogram.org by renewing training every 5 years.

Please note that all research records should be retained for a minimum of three years after the completion of the project. If you have any questions, please contact the Sharla Miles at 936-294-4875 or irb@shsu.edu. Please include your protocol number in all correspondence with this committee.

Sincerely,

Donna M. Desforges, Ph.D.
Chair, Committee for the Protection of Human Subjects
PHSC-IRB



Date: Oct 12, 2020 12:19 PM CDT

TO: Beverly Liu Eric Connolly

FROM: SHSU IRB

PROJECT TITLE: Motivation to Succeed and Its Relations to Juvenile Behavioral Outcomes

PROTOCOL #: IRB-2019-277

SUBMISSION TYPE: Renewal

ACTION: Approved

DECISION DATE: October 6, 2020

ADMINISTRATIVE CHECK-IN DATE: October 6, 2021

EXPEDITED REVIEW CATEGORY: 5. Research involving materials (data, documents, records, or specimens) that have been collected, or will be collected solely for nonresearch purposes (such as medical treatment or diagnosis).

Restart 2020 (COVID-19 update): The IRB has released specific guidelines for easing or transitioning existing IRB-approved studies or any new study subject to IRB oversight to in-person data collection. Please be advised, before ANY in-person data collection can begin, you must have IRB approval specifically for the conduct of this type of research. Please see the IRB response page for COVID-19 [here](#).

ATTENTION RESEARCHERS! Effective Monday, July 27, 2020, the IRB has revised its online office hours to 12-2 on Zoom Monday through Thursday. These will be permanent office hours. To access Zoom during the IRB's office hours, click [here](#). Just in case, here is the meeting ID: 712-632-8951. **SEE YOU ON ZOOM FROM 12-2 MONDAY-THURSDAY!**

Greetings,

The above-referenced submission has been reviewed by the IRB and it has been Approved. This study received expedited review, and the IRB determined that a renewal submission is needed, but only in the form of an administrative check-in submission. You will receive an email notification on the anniversary of this study approval, which will be on October 6, 2021. This study approval is based on an appropriate risk/benefit ratio and a project design wherein the risks have been minimized. All research must be conducted in accordance with this approved submission.

Modifications: Please note that any revision to previously approved materials must be approved by this committee prior to initiation. Please submit a Modification Submission through [Cayuse IRB](#) for this procedure.

Incidents: All UNANTICIPATED PROBLEMS involving risks to subjects or others and SERIOUS and UNEXPECTED adverse events must be reported promptly to this office. Please submit an Incident Submission through [Cayuse IRB](#) for this procedure. All Department of Health and Human Services and sponsor reporting requirements should also be followed.

Administrative Check-In procedure. This means you are required to administratively check in with the IRB on an annual basis. October 6, 2021 is the anniversary of the review of your protocol. **To get started with your next Administrative Check-In procedure, you will submit a Renewal Submission through [Cayuse IRB](#). A reminder email will be sent to you on the anniversary of your most recent approval of *Motivation to Succeed and Its Relations to Juvenile Behavioral Outcomes*.**

Please note that all research records should be retained for a minimum of three years after the completion of the project. If you have any questions, please contact the Sharla Miles at 936-294-4875 or irb@shsu.edu. Please include your protocol number in all correspondence with this committee.

Sincerely,

Chase Young, Ph.D.
Chair, IRB
Hannah R. Gerber, Ph.D.
Co-Chair, IRB

APPENDIX B

12/14/2019

ICPSR\NAHDAP restricted data request #31472 - Liu, Beverly

ICPSR\NAHDAP restricted data request #31472

Arun Mathur <arun@umich.edu>

Thu 11/21/2019 2:14 PM

To: Liu, Beverly <cxl032@SHSU.EDU>; Claire Cepuran <clairece@umich.edu>;

Dear Dr. Liu,

Your request for access to restricted data from the Research on Pathways to Desistance (Maricopa County, AZ and Philadelphia County, PA): Subject Measures - Scales, 2000-2010 (ICPSR 36800) has been approved. Here is a temporary [link](#) from which you can download the files. Once you have done so please move them to wherever specified in your Data Protection Plan prior to emailing me back for the decryption password.

Be aware you cannot download the file after the password has been provided.

Best regards,

--

Arun Mathur
Data Services Project Manager
ICPSR
734-647-2200

Liu, Beverly

From: jenkoski@umich.edu
Sent: Friday, June 26, 2020 4:10 PM
To: Liu, Beverly
Cc: Liu, Beverly; jenkoski@umich.edu
Subject: [NAHDAP (IDARS studies) Access Request:31472] Youth Psychosocial Maturity and Delinquency Modifications Approved

Dear Beverly Liu;

Your data access request for Youth Psychosocial Maturity and Delinquency has been approved, as modified. If you requested additional datasets as part of this modification, we will contact you shortly with instructions for accessing these data.

Please contact Jennifer Wilke (jenkoski@umich.edu) if you have any difficulty with this process.

Thank you,
Jennifer Wilke
Inter-university Consortium for Political and Social Research University of Michigan

APPENDIX C

Appendix C. Collinearity Statistics

Variables	Unstandardized Coefficients		Standardized Coefficients Beta	t	Collinearity Statistics	
	b	SE			Tolerance	VIF
Identity	-0.068	0.077	-0.076	-0.882	0.204	4.895
Self-Reliance	0.099	0.076	0.110	1.309	0.217	4.610
Work Orientation	-0.111	0.066	-0.121	-1.684	0.292	3.422
Gender	0.159	0.042	0.157	3.775***	0.883	1.132
Ethnicity	-0.043	0.016	-0.111	-2.672**	0.882	1.134
Age	-0.014	0.013	-0.046	-1.066	0.800	1.250
Mother's Warmth	-0.003	0.023	-0.006	-0.123	0.653	1.533
Mother's Hostility	0.077	0.036	0.100	2.175*	0.714	1.400
Father's Warmth	-0.009	0.018	-0.025	-0.530	0.701	1.427
Father's Hostility	-0.005	0.032	-0.007	-0.15	0.736	1.358
Early Onset Behavior	0.043	0.013	0.149	3.404***	0.790	1.265
Age at First Arrest	-0.011	0.008	-0.062	-1.366	0.746	1.340
Facility Type	0.033	0.029	0.048	1.152	0.858	1.166
Peer Delinquency	0.048	0.017	0.128	2.792**	0.724	1.382
Employment	0.008	0.030	0.011	0.275	0.914	1.094

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

VITA

BEVERLY CHIA CHI LIU

EDUCATION

- 2018 – Present Master of Arts, Criminal Justice and Criminology
 Sam Houston State University
 Expected graduation: December 2020
 Thesis title: “Youth psychosocial maturity and delinquency”
 Thesis chair: Dr. Eric Connolly
- 2015 – 2018 Bachelor of Science, Criminal Justice
 Minor: Psychology
 Highest Honors, Summa Cum Laude, and Academic Distinction
 Honors Thesis: “Civil and criminal liability associated with
 reporting child abuse”
 Advisor: Dr. Michael S. Vaughn

PEER-REVIEWED PUBLICATION

Liu, B. C. C., & Vaughn, M. S. (2019). Legal and policy issues from the United States and internationally about mandatory reporting of child abuse. *International Journal of Law & Psychiatry*, 64, 219-229.

MANUSCRIPT IN-PROGRESS

Liu, B. C. C., & Orrick, E. A. “An examination of prosocial attitude of juvenile male offenders as predictors of reentry success.”

CONFERENCE PRESENTATIONS

Liu, B. C. C. (February, 2020). *Youth psychosocial maturity and delinquency*. Paper presented at the Three Minute Thesis (3MT) Competition, held in Huntsville, TX.

Liu, B. C. C., & Orrick, E. A. (November, 2019). *Motivation to succeed and its relations to juvenile substance use*. Poster presented at the American Society of Criminology (ASC) Conference, held in San Francisco, CA.

Liu, B. C. C., & Orrick, E. A. (March, 2019). *An examination of prosocial attitude of juvenile male offenders as predictors of reentry success*. Poster presented at the Academy of Criminal Justice Sciences (ACJS) Conference, held in Baltimore, MD.

Liu, B. C. C. (October, 2017). *Civil and criminal liability associated with reporting child abuse*. Paper presented at the Southwestern Association of Criminal Justice (SWACJ) Conference, held in Fort Worth, TX.

Liu, B. C. C. (April, 2017). *Intersection between mandatory reporting laws and child abuse*. Paper presented at the Undergraduate Research Symposium, held in Huntsville, TX.

ACADEMIC POSITIONS

2018 – 2020	Graduate Research Assistant, Department of Criminal Justice and Criminology, Sam Houston State University
2019 – 2020	Graduate Teaching Assistant, Department of Criminal Justice and Criminology, Sam Houston State University
2016 – 2017	Undergraduate Research Assistant, Department of Criminal Justice and Criminology, Sam Houston State University Criminal Justice-Psychology Research Lab

LEADERSHIP & SERVICE

2018 – Present	Criminal Justice Graduate Student Organization, SHSU <i>Treasurer</i> (2019 – 2020) <i>Fundraising Committee, Chair</i> (2019 – 2020) <i>Peer Mentor</i> (2019 – 2020) <i>Walk a Mile in Her Shoes Committee, Member</i> (2019 – 2020)
2016 – Present	Alpha Chi National College Honor Society, Texas Omicron Chapter, SHSU <i>Secretary</i> (Fall 2018) <i>President</i> (2017 – 2018)
2015 – 2018	Student Government Association, SHSU <i>Department of University Affairs, Chief</i> (2017 – 2018) <i>Bearkat-All-Paws-In Committee, Director</i> (2017 – 2018) <i>Bearkat-All-Paws-In Committee, Co-Director</i> (2016 – 2017) <i>Department of University Affairs, Co-Chair</i> (2016 – 2017)
2015 – 2018	Elliott T. Bowers Honors College, SHSU <i>Ambassador Secretary</i> (2017 – 2018) <i>Ambassador</i> (2016 – 2018)

UNIVERSITY SERVICE

2017 – 2018	Student Affairs Fee Advisory Committee – Student Member Wellness Program Committee – Student Member
2016 – 2017	Student Disciplinary Hearing Committee – Student Member

PROFESSIONAL DEVELOPMENT/CERTIFICATIONS

August 2021	Graduate Certificate in Emergency Management (In-Progress) Sam Houston State University, Huntsville, TX.
October 2020	National Incident Management System Resource Management (IS-00703.b). Online (0.4 CEUS). Emergency Management Institute, Federal Emergency Management Agency.

September 2020	An Introduction to the National Incident Management System (IS-00700.b). Online (0.4 CEUS). Emergency Management Institute, Federal Emergency Management Agency.
July 2019	Blood Stain Analysis & Pattern Evidence, Short Course (32 credit hours). Presented by Applied Anatomical Research Center and Sam Houston State University College of Research. Held in Huntsville, TX.

INTERNSHIPS

Summer 2018	Summer Legal Intern Applied Optoelectronics Inc., Legal Department, Sugar Land, TX.
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PROFESSIONAL MEMBERSHIPS

Academy of Criminal Justice Sciences
American Society of Criminology
Southwestern Association of Criminal Justice

AWARDS & SCHOLARSHIPS

2019 – 2021	Academic Success Program in Research Empowerment (A.S.P.I.R.E.) Scholar
Fall 2020	Graduate Studies General Scholarship
Summer 2020	RLC Memorial Foundation Scholarship Graduate Studies General Scholarship
2019 – 2020	George J. Beto Memorial Scholarship Graduate Studies General Scholarship
Summer 2019	Graduate Research Summer Fellowship Graduate Studies General Scholarship
Spring 2019	Graduate Studies General Scholarship
2018 – 2019	George J. Beto Memorial Scholarship Mary Alice Mays Scholarship
2017 – 2018	Raven Scholar Award National Society of the Daughters of the American Revolution Scholarship
2017	1 st Place, Student Undergraduate Paper Competition, Southwestern Association of Criminal Justice (SWACJ) Conference
2016 – 2018	Let's Talk Honors Scholarship

2016 – 2017	Who's Who Among Students in American Universities and Colleges Award James C. Boswell Memorial Scholarship L.B. & Ragna Lynn Billingsley Scholarship Undergraduate Academic Achievement Scholarship
2015 – 2016	Elliott T. Bowers Honors College Scholarship