The relation between youth workers' caregiving and the social skills development of delinquent young men in a residential treatment facility

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THE RELATION BETWEEN YOUTH WORKERS’ CAREGIVING AND THE SOCIAL SKILLS DEVELOPMENT OF DELINQUENT YOUNG MEN IN A RESIDENTIAL TREATMENT FACILITY

Dissertation
by

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Abstract

Dissertation Title: The relation between youth workers’ caregiving and the social skills development of delinquent young men in a residential treatment facility

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The current study examines the development of social skills in delinquent adolescents in the context of the care they receive in a residential treatment facility (RTF). Reviews of prevention and intervention programs for delinquency have provided support for parent training and child social skills training as the most promising approaches to treatment. However, for adolescents in an RTF, their primary parental figures have become the care workers with whom they are placed. Based on their caregiving behaviors, these workers could provide an environment that counteracts or exacerbates the effects of the residents’ prior experiences. Therefore, three major factors that may influence the social skills outcomes of adjudicated youth will be examined: (1) the prior effect of family life, (2) the current effect of youth workers, and (3) the possible interaction between (1) and (2).

Using a sample of 82 delinquent adolescents (aged 13-18 years old at entry) and 41 of their caregivers from a RTF, OLS regression models indicate that several factors at the individual level and in the treatment milieu are important to consider when addressing social skills development for delinquent youth. At the individual level, adolescents identified as early-onset delinquents entered treatment with lower social skills, but also experienced the greatest improvement in these skills while in treatment. In addition,
older youth and youth from larger households entered treatment with higher levels of initial social skills on average. When considering the behaviors of care workers, two caregiving measures were surprisingly associated with positive social skills growth – caregiver psychological control and attributions of internality and controllability. The unexpected relationships between caregiving and positive development are discussed with an emphasis on the unique characteristics and context of the present sample.
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Chapter I

Introduction

Juvenile delinquency is a major social problem in terms of economic and socioemotional costs. Therefore, there is a strong practical need to determine the factors associated with delinquency that could best serve as means for intervening with adolescents. Past research has shown that delinquent adolescents tend to be deficient in a variety of psychosocial skills. For example, adolescents considered clinically delinquent were found to have more life stress, depression and anxiety, and lower self-concept than adolescents who were not clinically delinquent (Weist, Paskewitz, Jackson, & Jones, 1998). Social-skills deficits have also consistently been found to differentiate delinquent and nondelinquent populations (e.g. Dishion, Loeber, Stouthamer-Loeber, & Patterson, 1984; Leadbeater, Hellner, Allen, & Aber, 1989).

A large body of literature with normative and delinquent populations has shown that child psychosocial functioning is affected by caregiving styles (Pardeck & Pardeck, 1990; Pettit, Bates, & Dodge, 1997; Steinberg, Blatt-Eisengart, & Cauffman, 2006). For example, existing research indicates that better functioning in adolescents is associated with authoritative parents (e.g. Baumrind, 1971; Maccoby & Martin, 1983). Authoritative parents use a combination of high warmth and firm control in their discipline and interactions with their children. In considering the caregiving style experienced by many delinquent youth, however, neglectful or abusive parenting is more likely to be seen. Several studies have examined the prevalence of abuse and neglect among delinquent populations and found that there are much higher rates of childhood
abuse and neglect than the general population. In 1997, approximately 4% of all children nationally were reported to child welfare agencies as alleged victims of abuse or neglect (U.S. Department of Health and Human Services, Administration on Children, Youth and Families, 1999). In contrast, studies of high-risk male juvenile parolees and juvenile offenders revealed that the proportion of juveniles who had allegedly been victims of abuse or neglect ranged from 29 percent to 66 percent (Pawaserat, 1991; Wiebush, McNulty, & Le, 2000). There is also a substantial literature linking harsh parental treatment including physical abuse to later problem behaviors (Nix, Pinderhughes, Dodge, Bates, Pettit, & McFayden-Ketchum, 1999; Stouthamer-Loeber, Loeber, Homish, & Wei, 2001). For example, through his work with antisocial children, Patterson (1986) implicated early inconsistent and harsh discipline as a major risk factor for adolescent delinquency.

While the mechanisms linking maltreatment to delinquency are varied, all indicate the importance of a lack of social competencies in the development of delinquency. It has been posited that the largest and most consistent body of evidence linking abuse to delinquency indicates that abuse affects interpersonal skills causing relational problems for adolescents (Trickett, 1997).

For example, studies have indicated that maltreatment may shape the knowledge structures of children which may then affect the manner in which they process social information and interact with others. This finding arises from the work of Dodge and colleagues (Dodge, Pettit, Bates, & Valente, 1995). In a normative, nonclinical sample of maltreated and nonmaltreated children, they found that those who were abused were four
times as likely to have externalizing conduct problems in third and fourth grade. Using structured vignettes, they found that this relation could be explained by the manner in which maltreated children processed social information. The maltreated children were hypervigilant to hostile cues compared to the nonmaltreated group and attributed hostility to a person’s actions more readily in situations than most persons would. They also possessed a larger repertoire of aggressive responses to situations seeing them as means to positive consequences. Consistent with this finding, Shonk and Cicchetti (2001) suggested that the behavior problems of maltreated children were partly explained by their social skills deficits.

Many of the studies linking maltreatment to later problems have been conducted with samples of young children from general, nondelinquent populations. While a large body of work indicates that juvenile delinquents suffer from many of the same social competency deficits as maltreated children (e.g. Dishion et al., 1984), little work has been done with adolescents and even fewer studies have been conducted with an entirely delinquent sample. While maltreatment may impact social skills leading to delinquency in a normative population, will the same factors operate within a delinquent sample?

The current study examines the development of social skills in delinquent adolescents in the context of the care they receive in a residential treatment facility (RTF). For these youth, their primary parental figures have become the care workers with whom they are placed. Based on their caregiving behaviors, these workers could provide an environment that counteracts or exacerbates the effects of the residents’ prior experiences. Therefore, three major factors that may influence the social skills outcomes
of adjudicated youth will be examined: (1) the prior effect of maltreatment (in family life), (2) the current effect of youth workers, and (3) the possible interaction between (1) and (2). Thus, the proposed work seeks to validate and extend earlier work on the relation between maltreatment and social competencies within this adjudicated sample. The work also broadens the caregiving literature by examining the role nonparental relationships play in adolescent development influenced by the perspectives of intervention and resilience.

Support for examining the social skills growth of adjudicated adolescents while in care arises from analyses of treatment programs delineating social skills as a critical factor in curbing recidivism (e.g. Hazel, Schumaker, Sherman, & Sheldon-Wildgen, 1981, 1982; Lipsey, Wilson, & Cothern, 2000). Lipsey (Lipsey et al., 2000) conducted a meta-analysis of 200 studies of interventions for serious offenders. For institutionalized offenders, those who participated in programs addressing interpersonal skills building experience the largest drop in recidivism rates. The literature, however, provides little information about the proximal care environment of youth in RTFs; the institution in which they are placed will provide the immediate context for youth to nurture or abandon the use of these skills. Research often focuses more on distal outcome measures of treatment while the actual processes of the therapeutic milieu are consigned to a “black box” (Hoagwood & Cunningham, 1992).

Considering the proximal environment of an RTF, structure is emphasized to provide residents with the stability they may not have experienced prior to placement (Bastien & Adelman, 1984). Those in charge of providing this stability to adolescents
most directly are care workers. For this work, this front-line staff will be referred to as Youth Care Workers (YCWs) to be consistent with the terminology of the facility under study. In theory, YCWs would serve as caregivers and role models as they provide opportunities in which appropriate behaviors and communication skills are encouraged (Pelton & Wierson, 2002). In building these skills, the likelihood of recidivism should decrease. However, the ability of YCWs to offer the opportunities for positive development may be strongly related to their style of caregiving.

Drawing on the parenting literature, this study extends the notion of parenting style to the analysis of the relations between YCWs and residents, focusing on the dimensions of parenting behavior that are often aggregated to create typologies of parenting (Maccoby & Martin, 1983). Three dimensions of parental behavior are consistently recognized in the literature: Warmth or Support, Psychological Control, and Discipline. Some of these parenting behaviors, such as psychological control, may hinder the growth of social skills in residents (Barber, Olsen, & Shagle, 1994; Steinberg, 2001) while a dimension such as warmth may be positively correlated with growth. Therefore, when adolescents are placed into RTFs, it is important to consider the type of care they receive in determining how well they will succeed in building prosocial skills. In the present study, various measures of caregiving considered influential for child social competencies were collected from YCWs. The study aims to determine what type of care is most beneficial for the social skills growth of adjudicated adolescents from both maltreated and nonmaltreated backgrounds.
While the caregiving behaviors of youth care workers is expected to primarily impact the social skills of residents, it is important to consider other worker characteristics that may influence caregiving behaviors and practices. Two factors of interest for this sample are caregiver self-efficacy and caregiver attributions. Caregiver self-efficacy (CSE), the “expectation caregivers hold about their ability to parent successfully” (Jones & Prinz, 2005) has been linked to caregiving behaviors and child outcomes. High CSE has been associated with competent and positive caregiving (Coleman & Karraker, 1998) as caregivers with high PSE use promotive parenting techniques to enhance their children’s academic and psychosocial development (Ardelt & Eccles, 2001).

The attributions parents make about their children’s behaviors have also been shown to be related to the emotions and behaviors they exhibit in reaction to these behaviors, and ultimately, child outcomes (Bailey, Hare, Hatton, & Limb, 2006; Bugental, Blue, & Lewis, 1990; Joiner & Wagner, 1996; Dagnan, Trower, & Smith, 1998; McGuiness & Dagnan, 2001; Nix et al., 1999; Rudolph, Roesch, Greitmeyer, & Weiner, 2004; Wilson, Gardner, Burton, & Leung, 2006). Attributions are explanations for the causes of behavior; these interpretations are reduced to several underlying dimensions such as controllability, internality, stability, and globality. As mentioned, the attributions parents make about a child’s misbehavior based on these dimensions are linked to their subsequent responses. When a parent holds a positive view of the child, they may judge child misbehavior in a positive light; they see the misbehavior as external, not in the child’s control, not stable, and not global (Dix, 1991). However,
when they hold the opposite view that the misbehavior is internal, controllable, stable, and global, they are said to have a negative attributional bias (Bugental et al., 1990; Dix, 1991).

These negative attributions in turn are linked to dysfunctional parenting behavior (Bugental et al. 1990; Smith & O’Leary, 1995) and parental disciplinary choices (MacKinnon-Lewis, Lamb, Arbuckle, Baradaran, & Velling, 1992). For example, Smith and O’Leary (1995) found that mothers’ emotional arousal and harsh parenting could be explained by their internal and controllable attributions for children’s negative affect. Studies have also shown that maltreating and non-maltreating parents differ in their attributions for children’s behavior (Azar, 1988; Larrance & Twentyman, 1983).

For a delinquent population in placement, it is important to consider the body of work focusing on attributions and reactions to problem behaviors within RTFs. Within residential facilities, attributions of controllability and stability for residents’ behaviors have been linked to staff optimism and helping in facilities for “mentally-disordered” offenders (Sharrock, Day, Qazi, & Brewin, 1990) while controllability was linked to lower levels of helping behavior via negative emotion and lower optimism in caregivers working with individuals with “intellectual disabilities” (Dagnan et al., 1998). The path of attributions to behavior via emotions was also seen in “non specialist” social services units for children (McGuinness & Dagnan, 2001). McGuinness & Dagnan (2001) demonstrated that the negative relation between staff likelihood of helping and the attribution of controllability was mediated by the emotion of sympathy.
Work involving caregiver self-efficacy and attributions of care workers in RTFs for delinquent adolescents is essentially nonexistent. The work that has occurred has largely involved populations of “learning disabled” or “intellectually disabled” individuals and their caregivers. Most of this work has focused only on staff attributions. The one work that included both self-efficacy and attributions indicated that both behavioral causal beliefs and self-efficacy were related to staff fear and anxiety when reacting to challenging behaviors (Hastings & Brown, 2002). While this study showed an important link between both efficacy and attributions to other caregiver attributes, it did not determine if efficacy and attributions are influential in caregiving behaviors or client outcomes. As both CSE and attributions are linked to caregiver behaviors and child outcomes, it is important to determine what impact each of these factors has on the social skills development of these adjudicated adolescents.

In considering the impact of a YCW on an adolescent in an RTF, YCWs could serve as the positive and competent caregiver that has been shown to promote resilience in adolescents (Rutter, 2000; Werner & Smith, 1977, 1982, 1992). If resilient children do not have a positive parental figure in the home, they often seek surrogate parents, fostering a sense of trust and coherence that leads to adaptive development (Werner & Smith, 1977, 1982, 1992). The effect of a competent caregiver on resilience also depends on the characteristics of the adolescent. Therefore, in the present study, it is important to determine whether caregiving behaviors will have a differential effect on adolescents based on maltreatment status and social competence. Research with delinquent populations has shown youth with higher social functioning respond more favorably to
intervention (Hains & Herrman, 1989) while work on maltreatment indicates negative consequences for maltreated adolescents’ cognitive and emotional functioning (e.g. Cicchetti, Lynch, Shonk, & Manly, 1992; Dodge et al., 1995). Therefore, it may be harder for maltreated adolescents and youth with lower initial social skills to adjust to a residential environment as certain approaches may not work (Gover & MacKenzie, 2003). The sense of trust maltreated adolescents have in adults is tenuous, so risk and protective factors may differ from those for other at-risk youths. For example, work on maltreated children has suggested that their internal strengths such as ego resiliency and ego control may be more important in promoting resilience than contextual factors (Flores, Cicchetti, & Rogosch, 2005).

The literature on risk and resilience also indicates that there are several factors at the individual, family, and community levels that may influence adolescent development including social skills development (for a review, see Rutter, 2000). As the number of risks or strengths accumulates for an individual, the likelihood of maladaptive or positive outcomes also increases, respectively (Rutter, 1979). Therefore, it is important to consider the influence that both risks and strengths have on the development of delinquent adolescents in an RTF as they enter a facility and as they progress through treatment. Many times these risks and protective factors are related to qualitative differences between delinquents such as the seriousness of delinquent behavior and the age-of-onset for initial delinquency (Loeber & Farrington, 1998; Moffitt, 1993)

As mentioned, examining the care experienced by delinquent adolescents in an RTF works to fill a gap in the literature linking maltreatment to delinquency. While the
relation between maltreatment and delinquency is well-established, research to date has
been fairly limited once the child enters treatment; there are few studies that focus on the
experiences or outcomes of maltreated youth once they enter the juvenile justice system
(Ryan, 2006). This study works to address this gap as it will determine whether residents
are improving in targeted social skills and whether specific measures of caregiving have
an impact on these skills.

In extending the work of earlier studies, the current study will test the following
hypotheses:

1. Maltreated adjudicated adolescents will have lower average social skill
   scores compared to nonmaltreated adjudicated adolescents.

2. Based on cumulative stressor models, higher levels of risks will be
   negatively related to initial social skills. Higher levels of strengths will
   be positively related to initial social skills.

3. YCWs’ caregiving behaviors will be related to the social skills growth
   of adolescents.
      3a. Warmth will positively influence growth.
      3b. Psychological control style will have a negative impact on
          social skills growth.
      3c. Lax Discipline will be negatively related to growth.

4. YCWs with high level of self-efficacy will positively influence the
   social skills growth of adolescents.
5. YCWs’ attributional style will also be related to adolescents’ social skills growth.

5a. Dimensions reflective of a positive attributional style will positively influence growth.

5b. Dimensions reflective of a negative attributional style will negatively influence growth.

6. Maltreatment status and initial social skills of the adolescents will moderate the relation between the YCW variables and social skills growth.

**Significance of Study**

This study seeks to examine how delinquent adolescents’ experiences prior to placement in an RTF affect their successful development while in placement in relation to the type of caregiving they receive. It is important to consider the maltreatment background of delinquent adolescents and how this affects later skills and success as it allows for a unique exploration into the different developmental pathways that exist within a sample of delinquent adolescents. The results have implications for the manner in which treatment is provided, how facilities are organized, and ultimately, how successful interventions are at preventing recidivism. Understanding how well placement in this facility affects adolescents from different backgrounds is crucial for informing practitioners who work with these youths and for evaluating policies that affect placement into programs for these youths (e.g. residential treatment vs. community-based services). Examining the type of care that most positively impacts the social skills
development of these adolescents also provides practitioners with information that could prove useful in hiring and training new staff. The present study will extend current research by applying measures commonly used with parents (CRPBI, PSOC, & ASQ) to a unique sample of caregivers working with a population needing more attention. The study also adds to the literature identifying social skills as a mediator between maltreatment and delinquency. Finally, this work is one of the few studies examining measures that have been implemented throughout juvenile justice systems (CANS-JJ & ACLSA), but have not been extensively investigated.
Chapter II

Review of the Relevant Literature

The present study is informed by a developmental systems theory framework (Ford & Lerner, 1992). Developmental systems theory emphasizes that human development occurs as a result of multiple contexts of influence ranging from the intraindividual biological level to culture and history (Bronfenbrenner, 1979; Bronfenbrenner & Morris, 1998; Lerner, 1991; Lerner, Rothbaum, Boulos, & Castellino, 2002). These components are interrelated as changes in one domain affect the adaptation and development in other domains (Ford & Lerner, 1992); thus, the relationship is bidirectional (Bronfenbrenner, 1979). In this view, context is not the sole determinant of development as individuals possess unique dispositions that enhance the responsiveness and utilization of opportunities in their environment. Therefore, the unit of analysis is neither the individual, nor the context, but rather the relation between the two within the developmental system (Lerner, 1991). For this study the unit of analysis is composed of the adjudicated adolescent and the caregiving environment he experiences in placement.

The exchanges that occur between an individual and his or her complex context drive human behavior and development. The presence and quality of the “goodness of fit” between the individual and context (Chess & Thomas, 1999) can account for the quality of outcomes in intraindividual change over time and inter-individual differences. Optimal progress on key developmental tasks depends on the developmental appropriateness of their social settings and the “goodness of fit” that arises between their individual and developmental needs and the contextual supports. For delinquent
adolescents in an RTF, there may have been inconsistencies in their needs and the ecological supports available that led them to participate in delinquent activities; for maltreated offenders, this disconnect may be even more severe. Placement in an RTF is a means of restoring a “goodness of fit” between the needs of residents and the support provided them. YCWs are the primary contributors of this support.

Time also impacts the developmental system. Throughout life, individuals encounter tasks central to each developmental stage. The quality of the resolution of these tasks sets the stage for how subsequent developmental tasks are confronted (Manly, Kim, Rogosch, & Cicchetti, 2001). For delinquent adolescents, the difficulty they may have experienced mastering earlier developmental challenges resulted in maladaptive outcomes (e.g. delinquency, poor social skills). Interventions are necessary to alter the trajectory of cascading consequences faced by many delinquents (Granic & Patterson, 2006). Therefore, a model from developmental systems theory was adopted to allow for this change.

Change is the essential feature of the system (Ford & Lerner, 1992) and the concept of change provides the foundation for this work. There is not an inevitable immutable course that a person will follow; rather the reciprocal effects of the developmental system determine the path life takes (Gottlieb, 1992). The changes in person-context relations across time affect both the individual and the context. Therefore, an adolescent displaying antisocial behavior is not destined to a life of crime.

The person-context relations experienced by youths before placement have contributed to their social skills and behavior. The goal of placement is to affect these
skills and behavior through a change in context. Through the repeated and increasing complex interactions that adolescents experience in this new context (“proximal processes” Bronfenbrenner & Morris, 1998), they will develop the skills to change themselves and impact their context within and beyond the residential setting. The youth care workers are primarily responsible for providing these proximal processes through the quality of care they provide. However, the outcomes from earlier individual-context interactions affect future individual-context interactions. Therefore, the impact that youth care workers can have on residents’ social skills through the context they provide will be related to the characteristics of the individual adolescent.

![Figure 1: Theoretical Model](image-url)
Impact of Juvenile Delinquency

The significance of work with delinquent adolescents is evident in the pervasive consequences delinquency has on many areas of life. With increases in violent crime rates largely attributable to a growth in youth violence (Federal Bureau of Investigation, 2007), the need for effective treatment becomes more critical. Approximately 2.2 million arrests were made for persons under the age of 18 in 2003 (Snyder & Sickmund, 2006). These arrests accounted for 16% of all arrests and 15% of violent crime arrests made that year (Snyder & Sickmund, 2006). Presently, over 90,000 juveniles are estimated to be confined to juvenile correctional facilities (Snyder & Sickmund, 2006). Without treatment 60-80% percent of these individuals will recidivate back into the criminal justice system as adults (Farrington, 1995).

Delinquency is a major social problem as it impacts the individual, their family and society-at-large at an astounding cost. Offenders consume a large proportion of child welfare, juvenile justice, special education, and mental health resources. The related costs accrued by the community for one high risk juvenile offender participating in 4 years of delinquency and 10 years of adult crime has been estimated to range from $1.7 million to $2.3 million (Cohen, 1998). In addition to monetary costs, the effect of juvenile delinquency on personal and familial psychosocial factors is also substantial (e.g. Thornberry, 2005).

Adolescents placed in RTFs outside of their community are of particular concern. Youth who have been referred to the juvenile justice system for violent crimes are more likely to be committed to RTF placement (Barrett, Katsiyannis, & Zhang, 2006) and
youth in placement commit a substantial proportion of the crimes committed by juveniles (Snyder & Sickmund, 1999). In addition, youth who have received out-of-home placements display higher rates of recidivism than those who received in-home placements (Jacobs, 1990) and are at higher risk for chronic adult offending (Schumacker & Kurz, 2000). This could indicate that the effectiveness of residential treatment intervention is questionable (Myner, Santman, Cappelletty, & Perlmutter, 1998) or that the strongest consequences are meted out to the most persistent offenders. Regardless of the underlying rationale for this relationship, determining what factors improve outcomes for delinquents in placement allows researchers to focus on the development of the offenders who are most likely to engage in the most serious and persistent delinquency (Stouthamer-Loeber, Loeber, Wei, Farrington, & Wikström, 2002).

The maltreatment history of delinquent adolescents is also an important area of study as juvenile offenders are a population marked by a high rate of maltreatment (e.g. Famularo, Kinsherff, Fenton, & Bolduc, 1990; Stein & Lewis, 1992). For example, in a follow-up study with incarcerated delinquents, Stein and Lewis (1992) found that 80% reported abuse in their lifetime. Maltreated delinquents are of particular concern because within delinquent populations, those offenders with a history of maltreatment are more likely to be convicted of violent crimes (Famularo et al., 1990; Loeber & Farrington, 2001), have higher rates of mental health issues and increased levels of aggression (Steiner, Garcia, & Matthews, 1997), and are one-and-a-half times more likely to recidivate than non-abused delinquents (National Council on Crime and Delinquency, 1999). These individuals may differ in etiology and psychosocial profile from
nonmaltreated offenders. Therefore, when intervening with delinquent adolescents, efforts should focus on dealing with their individual experiences, including the effects of maltreatment. For this study, it is proposed that to improve the effects of treatment, it is important to determine the types of caregiving that are most effective in improving the social skills of offenders from different backgrounds.

The relationship between maltreatment and delinquency

A critical factor frequently acknowledged to increase the risk of delinquency is child abuse and neglect. It is estimated that between 9% and 29% of maltreated children become delinquent (Kelly, Thornberry, & Smith, 1997; Widom, 2003). A recent study drawing on records from both child welfare and juvenile court systems found that substantiated victims of maltreatment average 47% higher delinquency rates relative to children not indicated for abuse or neglect (Ryan & Testa, 2005). In the general population, 4% of all children were reported to child welfare agencies as alleged victims of abuse or neglect (USDHHS, 1999). Comparatively, studies have indicated that from 29% to 66% of male offenders are victims of substantiated reports of abuse or neglect (Pawersat, 1991; Wiebush, McNulty, & Le, 2000). Focusing on youth in RTF, rates range from 57% to 81% for physical abuse and from 61% to 78% for neglect (Brady & Caraway, 2002; Holland & Gorey, 2004).

Maltreatment has also been linked to a variety of other conduct problems such as aggression (Egeland & Sroufe, 1981), rule violations (Straus & Gelles, 1990) and externalizing behaviors (Dodge et al., 1995; Shonk & Cicchetti, 2001). Maltreated children exhibit poor functioning across many socioemotional and behavioral domains.
Caregiving and Social Skills

(see, e.g., Erickson, Egeland, & Pianta, 1989; Manly, Kim, Rogosch, & Cicchetti, 2001) and as the severity and duration of maltreatment increases, more maladaptive outcomes are expected (Manly et al., 2001; Thornberry, Ireland, & Smith, 2001). Studies have determined the maltreatment-delinquency link remains even after accounting for other variables associated with delinquency and maltreatment such as socioeconomic status, education, family structure, urban living, child temperament and race (Dodge, Bates, & Pettit, 1990; Lemmon, 2006; Smith & Thornberry, 1995; Thornberry et al., 2001).

The literature linking maltreatment to delinquency is well-established (e.g. Famularo et al., 1990; Kelley et al., 1997; Stein & Lewis, 1992; Widom, 1989, 1995). For example, Widom (1989) conducted a study on the criminal histories of adults who were identified as abused or neglected twenty years earlier. Compared to a matched control group, the abused and neglected were more likely to have an adult criminal record, more arrests and more arrests for violent offenses. Additional work by Widom has supported these findings (Widom, 1995; Widom & Maxfield, 2001) while other work has also indicated that maltreated children engage in delinquent behaviors at a younger age and more frequently (Rivera & Widom, 1990).

Researchers from the Pittsburgh Youth Study (Stouthamer-Loeber, Loeber, Homish, & Wei, 2001) also found a strong link between maltreatment and later offending. Within a community sample, victims of maltreatment showed a higher percentage of multiple problem behaviors and more severe types of behavior than nonmaltreated participants. Differentiating between three pathways to various forms of delinquency (authority conflict, overt, and covert), maltreated individuals were more
involved in all three types of offending and exhibited more severe forms – especially authority avoidance and fighting.

Research also indicates that abuse frequency and severity exacerbates the relation between maltreatment and delinquency. Lemmon (2006) looked at the effects of maltreatment recurrence on delinquency. In a cohort of chronically poor, at-risk males, he found that maltreatment recurrence was a significant predictor of a child entering and continuing a delinquent lifestyle. As instances of maltreatment increased, the severity of the delinquency also increased as offending became more violent. These relationships existed even after accounting for residence in an urban area and race.

Work on a sample of adolescents from the Rochester Youth Development Study (RYDS, Kelley et al., 1997; Thornberry et al., 2001) reaffirmed Lemmon’s findings. Maltreated individuals were significantly more likely to report greater involvement in delinquency, serious delinquent behavior and violent delinquent behavior. Results also indicated that maltreatment during adolescence and persistent maltreatment had stronger and more consistent negative consequences during adolescence than maltreatment experienced only in childhood.

**Mechanisms to explain the relation between maltreatment and delinquency**

With the extensive body of consistent findings for the harmful effects of maltreatment on behavioral and social functioning, one might expect to find a general consensus in the process underlying this relation. However, there exist multiple possible mechanisms to explain how maltreatment has a maladaptive effect on development (Ryan & Testa, 2005). For the delinquent population, the important mechanisms to consider are
those that link maltreatment specifically to behavior problems. Among the theories proposed to explain the relation between maltreatment and later conduct problems are social learning theory (Bandura, 1973), coercion theory (Patterson, 1982), attachment theory (Bowlby, 1973), and the social information processing model (Crick & Dodge, 1994; Dodge & Pettit, 2003).

Social learning theory proposes that through the modeling and imitation of others’ behaviors, a child exposed to harsh caregivers sees aggression as a means to positive outcomes. Inconsistent and harsh discipline is the focal point of Patterson’s coercion theory (Patterson, 1982, 1986). Patterned exchanges of aversive behaviors that occur when disciplining a child lead to an increase in later aggressive behavior by the child. When a parent relents to a child demands, the reinforcement of coercive exchanges is set in motion. The child learns that noncompliance and aggression will lead to goal attainment and generalizes these behaviors to later interactions.

Attachment theory (Bowlby, 1973) proposes that the early relationships with attachment figures create an “internal working model” of how others and oneself are perceived and behave in an interaction. These models guide behavior, affect, and perception in relationships. Abused and neglected children often have insecure “internal working models” as a response to the inconsistent and at times dangerous caregiving they receive from parents. These children become independent and self-reliant (Crittenden & Ainsworth, 1989) and find it difficult to trust others completely. On the other hand, individuals who have received sensitive care find it easy to get close to others and are comfortable in relationships.
The general social information processing model proposed by Dodge and colleagues (Dodge et al., 1995; Dodge, Pettit, McClaskey, & Brown, 1986) could be useful in identifying the proximal mechanisms for conduct problems. In this model, life experiences play a role in constructing one’s knowledge about the world. This knowledge provides the link between prior life experiences and present and future behaviors. When encountering a social stimulus, a person uses the social knowledge they have to guide the processing of this new social information. The pattern of processing is affected by earlier life experiences and leads to specific behaviors (Dodge & Pettit, 2003). This pattern of processing is composed of several steps commencing with the encoding of social cues and ending with the chosen behavior.

For maltreated children, it is believed that these patterns have become biased. Using participants from the Child Development Project, Dodge and colleagues have shown that when presented with social vignettes, abused children have become hypervigilant to hostile cues and do not attend to relevant nonhostile cues (Dodge et al., 1990; Dodge et al., 1995; Dodge, Lochman, Harnish, Bates, & Pettit, 1997). These children also make hostile attributions to others in ambiguous situations, have a larger repertoire of aggressive responses to conflict, and see aggression as having positive consequences. This work has indicated that biased social information processing patterns play a role in physical aggression. In particular, processing patterns measured in school age children mediated the relation found between early physical abuse and externalizing behaviors in third and fourth grade (Dodge et al., 1995).
In further studies of the Child Development Project, Dodge and colleagues (Dodge et al., 1997) examined reactive and proactive aggression in a community sample and in a clinical sample of psychiatrically impaired, chronically violent boys. Their hypothesis was that children showing reactive and proactive aggression would be differentiated by their developmental histories and their patterns of social information processing. In support of their hypothesis, results revealed that in the community sample, children classified as reactively aggressive had histories of physical abuse, early onset of problems and adjustment problems in peer relations. These children also showed biased encoding and problem solving processing patterns; they did not encode relevant social cues as well as proactively aggressive children and they reported feeling more sadness in response to social situations. Proactively aggressive children demonstrated a processing pattern of anticipating positive outcomes for aggressive behavior.

Within the chronically violent sample, however, there were not as many differences between the groups of boys. While boys labeled as reactively aggressive initiated problems earlier, both groups showed high rates of early family problems and trauma. This smaller sample also indicated that proactively and reactively violent boys differ in how they performed on measures of social information processing. Consistent with the community sample, reactively violent boys tended to display poorer scores at early stages of cue oriented processing while proactively violent boys demonstrated poorer scores at later stages of outcome-related processing (Dodge et al., 1997).

In other studies with violent adolescents, Dodge (Dodge, Price, Bachorowski, & Newman, 1990) found that in a sample of delinquent male adolescents in a maximum-
security prison, hostile attributional biases were positively correlated with their levels of conduct disorders, reactive aggression, and violent crimes above and beyond the effects of race, socioeconomic status, and intelligence. Lochman and Dodge (1994) also found that different types of distortions in social cognition distinguished severely violent boys from moderately aggressive and nonaggressive ones. Severely violent boys had many more difficulties with cue recall, attributions, and problem-solving. While aggressive boys shared some of these difficulties, results suggested that their aggression may be premeditated to achieve desired outcomes.

**Social skills as mediators of the relation between maltreatment and delinquency**

Although the mechanisms proposed to explain the relation between maltreatment and later problems differ greatly, many revolve around the social competencies that are affected by abuse. Research has suggested a better understanding of these competencies and their possible mediating role between abuse and delinquency as a possible key to understanding the differential impact of abuse on children (Trickett, 1997).

The effects of abuse on many outcomes via social competency are well evidenced (e.g. Manly et al., 2001). Maltreated children who exhibit behavioral maladjustment have not successfully mastered certain developmental tasks and this failure can be partially explained by a lack of social skills (Shonk & Cicchetti, 2001). The social behaviors and relationships of maltreated children can be considered abnormal when compared to nonmaltreated children (Dodge, Pettit, Bates, 1994) and the aberrant behavior of maltreated children can also be seen in other early-starting juvenile delinquents (e.g. Patterson, 1986). The effects of maltreatment on the social functioning
of children can be seen in their insecure attachment as infants (Cicchetti & Barnett, 1992), their lack of popularity as children (Salzinger, Feldman, Hammer, & Rosario, 1993), and their abusive and coercive behaviors in dating relationships (Wolfe, Wekerle, Reitzel-Jaffe, & Lefebvre, 1998).

The link from maltreatment to a variety of negative outcomes via the effect of maltreatment on a child’s social competence has been exhibited extensively through the use of a summer day camp research program designed for maltreated and nonmaltreated, low-income, disadvantaged children by Cicchetti and colleagues (Cicchetti et al., 1992; Flores, Cicchetti, & Rogosch, 2005; Kim & Cicchetti, 2003, 2004; Manly et al., 2001; Shonk & Cicchetti, 2001; Toth & Cicchetti, 1996). From this work, Toth and Cicchetti (1996) have proposed a sequence of cascading consequences in the interpersonal experiences of maltreated children. The insecure attachment that results from their maltreatment evolves into a negative representational model of the self and the self in relationships. This poor self-representation results in impaired perceived competence, poorer social functioning, and lowered self-esteem. Thus, maltreatment is a limiting factor on successful development.

For example, research with the campers (Cicchetti et al., 1992) indicated that maltreated children were rated by camp counselors as more likely to respond inappropriately, as less socially effective, and as showing poorer prosocial skills than nonmaltreated children. Later work (Shonk & Cicchetti, 2001) examined the relations between maltreated children’s social competencies and later academic and behavioral adjustment. Results showed that maltreated children showed less academic engagement,
social skills, and flexibility in coping with changing demands. They also exhibited more academic problems such as grade retention, suspension, and low standardized tests scores as well as internalizing and externalizing behavior problems.

Analyses determined that maltreatment affected later academic problems partially through academic engagement; maltreatment impacted later behavior problems via social competencies and coping flexibility. Cicchetti proffered that early developmental failures and toxic social experiences with maltreating parents likely affected the development of appropriate social interaction skills which in turn result in difficulties with later relationships (Shonk & Cicchetti, 2001). These difficulties result in a higher incidence of problem behaviors.

**Covariates of Abuse and Delinquency**

When considering the impact of maltreatment on social competencies and delinquency and aggression, one must also consider the existence of many other causal factors for the link. Cases of abuse are more likely to occur in lower socioeconomic groups (Steinberg, Catalano, & Dooley, 1981). The strain of poverty and exposure to violence in the sociocultural environment in which many maltreated children find themselves are also risk factors for maladaptive development (e.g. Tolan, Gorman-Smith, & Henry, 2003). Yet, in their work on the relation between abuse and later conduct problems, Dodge and colleagues (Dodge et al., 1995) found that the relationship between maltreatment and delinquency could not be accounted for by confounded environmental variables such as SES, single parent household, exposure to violence, or other family life stressors such as divorce and death; rather, biased social processing patterns mediated the
relationship. The results of these processing patterns – social skills – seem an important area of intervention for children with conduct problems.

However, studies with minority children indicate that race and ethnicity may play a role in the effects of maltreatment. Greater rates of problem behaviors were seen in African American and Latino children victims of sexual abuse (Sanders-Phillips, Moisan, Wadlington, Morgan, & English, 1995) and African American victims of physical abuse (Lansford, Dodge, Pettit, Bates, Crazier, & Kaplow, 2002) than in a European American sample.

Although minority status may intensify the harmful effects of abuse, few investigations examining child maltreatment have addressed the race of participants (Toth & Cicchetti, 2006). Work by Cicchetti (Flores et al., 2005) indicated that Latino victims of maltreatment had fewer areas of resilient functioning than nonmaltreated children. This study reaffirmed previous work as maltreated Latino children were twice as likely to function maladaptively as nonmaltreated Latino children as they exhibited greater aggressive behavior and less prosocial behavior. They were also more conflicted in terms of their interpersonal relationships whereas nonmaltreated children were rated as warmer, were more open to communication, and received higher relationship scores. This positive profile of social competence allowed nonmaltreated children to achieve a more positive relationship with their head counselor. The presence of a positive relationship with a head counselor significantly predicted later resilience in terms of internalizing and externalizing behaviors, aggression, prosocial behavior, withdrawn behavior, and
cooperation. Results suggest that maltreated children were not as successful at making use of relationships with adults in order to succeed as well as nonmaltreated children.

Social skills of delinquents

The social skills deficits exhibited by victims of maltreatment are also prevalent in the greater delinquent population regardless of maltreatment history. The social skills development of adjudicated adolescents is of particular importance because measures of these skills have been shown to discriminate delinquents from nondelinquents in numerous studies just as they have been useful in distinguishing maltreated from nonmaltreated individuals. Researchers have hypothesized that youths deficient in social skill measures may be more likely to have difficulty solving interpersonal and social problems (Kennedy, 1984). Adolescents who are socially incompetent are likely to discover that interactions with parents, teachers, and other adolescents are frustrating and unrewarding (Oyserman & Saltz, 1993). Rejected by more prosocial peers, they frequently form relations with other youths at-risk for delinquency (Patterson, 1986).

This body of literature is also consistent and extensive (Dishion et al., 1984; Freedman, Rosenthal, Donahue, Schlundt, & McFall, 1978; Hains & Herrman, 1989; Leadbeater et al., 1989; Kennedy, 1984; Kuperminc & Allen, 2001; Oyserman & Saltz, 1993). A variety of social cognitive measures such as generating socially competent solutions to situations (Freedman et al., 1978), considering the consequences of behavior (Kennedy, 1984), and rational attributions (e.g. Dodge et al., 1995) have been associated with delinquency. Therefore, an important area of intervention for juvenile delinquents, whether maltreated or not, could be building their social competencies.
In looking at the interpersonal problem-solving skill of adolescents in residential facilities, Freedman and colleagues (1978) compared institutionalized delinquents to nondelinquents. Using the Adolescent Problem Inventory (API), a role-playing problem-solving task adopted in many future studies of social skills, the researchers found that scores on the API differentiated three groups of youths: leaders, good citizens, and delinquents. Leaders scored high on the API; they were students who were highly involved in school. Good citizens earned good grades and did not have a record of disciplinary actions. Delinquents scored lowest on the API; these were the boys who were in the correctional facility. Within this population of delinquents, the API was also able to discriminate between low disruptive and high disruptive boys based on violations of institutionalized rules.

This skills deficiency finding was replicated by researchers at the Oregon Social Learning Center (Dishion et al., 1984) who looked at the relationship between several skills and delinquency. Using a nonclinical sample of adolescents, they found that delinquent youths performed more poorly on seven measures of academic, interpersonal, and work skills. Interpersonal problem solving skills were also assessed by the API. Results indicated that there was a relationship between scores on the problem-solving task and both official and self-reported measures of delinquency. These results suggest that social skill deficits may also discriminate less chronic delinquent adolescents.

Investigating the relation between social orientation and delinquency, Kuperminc and Allen (2001) also used a nonclinical population. The participants, however, were considered “at-risk” due to academic difficulties such as failure, suspension, and truancy.
The researchers hypothesized that the established relation between social skills and delinquency may not be due to skill deficits, but rather, the relation may result from adolescents’ beliefs and expectations about using these skills or supporting prosocial skills. The results showed that social orientation as measured by perceived problem-solving effectiveness, identification of adult prosocial values, and self-efficacy effectiveness were directly related to delinquent behavior and indirectly related to substance use through demonstrated success in using problem-solving skills. Deficient social skills and little motivation to use competent problem-solving strategies both seem to factor into delinquent behavior.

Oyserman & Saltz (1993) examined the social and communicative competence and identities of adolescent boys from a detention center and an inner-city high school many of the residents had attended prior to placement. Their findings highlight the importance of social competence with peers in predicting offending. Adolescents from the high school were less likely to report being involved in aggressive delinquency, theft, or truancy. They were also more competent in their responses to problems situations involving parents, peers, and other adults. Within the high school subsample, social competence with parents and peers was related to lower self-reported aggression while peer-related competence also predicted less theft and hooliganism. Within the incarcerated subsample, competence with peers significantly predicted lower aggression and hooliganism while competence with adults also predicted lower hooliganism. Adolescents who performed poorly on measures of peer competence were more likely to report fighting with peers, hitting adults, trespassing and vandalism.
Building upon Freeman and colleagues’ work with a residential population (1978), Hains and Herrman (1989) looked at the social cognitive skills of delinquent adolescents in an RTF. Forty youths in treatment with offenses ranging from shoplifting to first degree murder were assessed on problem-solving skills, self control, locus of control, and rationale attributions. The researchers compared aggressive and non-aggressive boys at high and low levels of behavioral functioning based upon their level within a token economy system. The four groups did not differ significantly in terms of length of stay and had similar racial composition. Higher functioning youths (those with more responsibilities and privileges in the facility) had more competent problem-solving scores as assessed by the API. A significant interaction was also found as higher-functioning, nonaggressive youths performed better on problem-solving skills than low functioning, nonaggressive youth; there were no differences between the aggressive groups. They concluded that higher functioning youth possessed a repertoire of problem-solving skills that allowed them to respond more favorably to treatment (Hains & Herrman, 1989).

In total, prior work has shown that low levels of social competence correlate strongly with risk of delinquency. This literature also provides examples in which measures of social skills discriminate within delinquent populations (Freedman et al., 1978; Hains & Herrman, 1989). These studies, however, relied primarily on differences seen in the API and none considered maltreatment status. The API only considers the competence of solutions generated by individuals when presented with a situation. Taken together, these two ideas point to a need to consider different measures of social skills.
and different risk factors that may be useful in better classifying delinquents. Accurately assessing the competence levels and background of delinquent adolescents will allow for more focused interventions.

**Effective Interventions for Delinquent Adolescents**

Numerous prevention and intervention programs are aimed at changing the trajectory and lowering the incidence of aggressive and criminal behaviors of adolescents. These programs have focused on numerous cognitive and social risk factors. Reviews of these programs have provided support for parent training and child social skills training as the most promising approaches to treatment (Tarolla, Wagner, Rabinowitz, & Tubman, 2002). In these programs, parents learn parenting skills and problem-solving strategies with the goal of becoming able to positively change the behaviors of their children (Dishion, Patterson, & Kavanagh, 1992). In child skills training, adolescents learn problem-solving and social skills because it is assumed that they lack the skills necessary to achieve desired goals so they resort to aggression and delinquency.

Based on coercion theory (Patterson, 1982, 1986), Patterson and colleagues (Bank, Marlowe, Reid, Patterson, & Weinrott, 1991) used parent training to teach parents of antisocial boys appropriate ways to deal with difficult family situations. Results showed that those families in the parent training groups achieved the quickest success, saw the greatest reduction in serious crimes in their children, and had children who subsequently spent the shortest time in institutions. Dishion & Andrews (1995) included both teens and parents in treatment as they also addressed parent family management and
teen prosocial behavior and self-regulation from a coercion theory perspective. Both parent and teen focused interventions showed immediate benefits in terms of family conflict. Parental management training also had an immediate impact on teen behavioral problems at school as the intervention led to fewer coercive family exchanges.

Schumaker and Hazel used a skills building approach to deter delinquency as well (Hazel, Schumaker, Sherman, & Sheldon-Wildgen, 1981, 1982; Serna, Schumaker, Hazel, & Sheldon, 1986). In using a multiskills training program to teach delinquent youth how to improve interactions with adults and peers, they found that youth who received the training had lower recidivism rates as well as substantial skill increases (Hazel et al., 1981). An eighth month follow up showed these youths had good retention of the skills and improved competence; however, some youths reported that they were unsuccessful in using these skills with their parents (Hazel et al., 1982). Therefore, adapting this approach with youths and parents (Serna et al., 1986), the effect of learning to use newly acquired social skills in parent-adolescent interactions was examined. Two groups of youth-parent dyads were compared. The youths in each group were taught to use social and problem solving skills; however, only the parents of one group were taught the skills. This group was also taught how to use these skills in parent-child interactions. Both groups of youths acquired the targeted skills, thus improving communication and interactions in the families. The youth-parent dyads that were taught how to use the skills in interactions, however, had interactions that were rated higher by both parents and judges. This group also maintained the skills to a greater degree ten months later.
Several meta-analyses and reviews on intervention studies have also indicated that programs focusing on interpersonal skills were most successful in reducing recidivism (Dowden & Andrews, 1999; Garrett, 1985; Grietens & Hellinckx, 2004; Izzo & Ross, 1990; Lipsey, 1995; Lipsey, Wilson, & Cothern, 2000).

In a meta-analysis of 200 experimental or quasi-experimental studies of interventions for both institutionalized and noninstitutionalized serious offenders, Lipsey (Lipsey et al., 2000) found that overall, juveniles who received treatment showed an average 12 percent decrease in recidivism. There was, however, large variability across the studies as the most effective treatments reduced recidivism by 30% to 35% while other treatments had negligible effects. In noninstitutionalized and institutionalized populations, the types of treatment that showed the strongest and most consistent evidence of reducing recidivism were programs addressing interpersonal skills training. These programs included those that focused on social skills and anger control and those considered teaching family homes.

Lipsey also found that treatment effectiveness was related to the characteristics of the offenders as a result of placement status. For noninstitutionalized youth, the characteristics of offenders, such as age, ethnicity, and prior offense history, were the most important factors in treatment effectiveness; the effects were larger for more serious offenders. However, for institutionalized offenders, the characteristics of juveniles accounted for the smallest proportion of effect size. This means that for adjudicated adolescents in placement, the effects of treatment do not differ based on their individual
characteristics; rather, program characteristics such as organization, staffing and treatment type are factors critical for positive change.

The importance of social skills training determined by Lipsey validated the results of earlier analyses. A meta-analysis by Garrett (1985) on residential treatment programs indicated that the greatest treatment effects were for interventions focusing on social learning approaches, family therapy, and cognitive approaches. Using recidivism as a measure of change, programs categorized as enhancing life skills were most effective. Likewise, Izzo and Ross (1990) found that interventions that included a cognitive component were more than twice as effective in reducing recidivism rates as those that did not. It is important to note that Izzo and Ross defined “cognitive component” in a general way to include problem-solving, negotiation skills training, interpersonal skills training, role playing and modeling, emotive therapy, and cognitive behavior modification. Therefore, many strategies useful in building social skills may be effective in reducing delinquency.

The work of Dowden and Andrews (1999) and Antonowicz and Ross (1994) found that programs using social-cognitive skills training, behavioral methods modeling and role playing were more effective than nonbehavioral programs. In meta-analyses including 134 (Dowden & Andrews, 1999) and 44 (Antonowicz & Ross, 1994) studies, successful programs attended to the need principle (Andrews, Zinger, Hoge, Bonta, Gendreau, & Cullen, 1990) as the treatment targets were matched to the criminogenic needs of the offenders such as changing antisocial attitudes, prosocial modeling or stimulating academic achievement rather than more general needs. These programs also
focused on meeting the responsivity principle (Andrews et al., 1990), meaning that the style and modes of treatment were attuned to learning styles and abilities of offenders. The results of both reviews suggest that effective intervention must determine and target those malleable factors that contribute to delinquency.

Little work focusing on the effects of residential treatment has considered the maltreatment history of participants (Gover & Mackenzie, 2003; Huefner Ringle, Chmelka, & Ingram, 2007). In one study looking at maltreated youth and related problem behaviors, researchers from Girls and Boys Town (Huefner et al., 2007) looked at later intimate partner violence of maltreated youth who did and did not participate in a long-term residential treatment program. In this treatment program, 6 to 8 youths were grouped into houses with a married couple using a family style approach. In this design, youth were taught interpersonal and life skills with a focus on their social and moral development. Based on building and maintaining positive, healthy relationships, the youths were able not only to learn, but also observe, these skills in natural everyday settings. Results showed that time spent in the program was related to lower adult intimate partner violence rates. For maltreated youths in the program, 14.5% perpetrated violence as compared to a projected rate of 36% to 42% of maltreated children not in the program. The study supported earlier work showing that social competence serves as a buffer between early negative experiences and later negative developmental outcomes (Luthar, 1991). The study also meets the call for interventions to enhance the social interaction abilities of children (Kim & Cicchetti, 2004) to moderate the trajectories of problems for abused children (Lansford, Malone, Stevens, Dodge, Bates, & Pettit, 2006)
and for adults to step in to help children who lack the emotional support of parents and peers (Salzinger, Feldman, Ng-Mak, Mojica, & Stockhammer, 2001).

Overall, the body of literature indicates that delinquent behavior is difficult to treat (Grietens & Hellinckx, 2004). Results, though, counter Martinson’s (1974) contention that “nothing works” to reduce offending as effects are consistent with effects of treatment in the medical field (Grietens & Hellinckx, 2004). The most consistent effects across the studies were seen in programs that focus on strategies to build social competencies. However, there is a large disconnect in the study and administration of these programs. Results show parental training and social skills training reduce the chance of negative outcomes such as delinquency and substance use. Yet for youths in residential treatment facilities, the skills they acquire will not immediately be used in relations with their parents, but with their residential caregivers. Therefore, the caregiving qualities of the staff overseeing them are initial critical variables in skill development. Little work has been done to see if the treatment milieu provides the opportunities to actively utilize and affirm these skills. The impact of naturally occurring interactions in care on the development of interpersonal skills, while considered important (Huefner et al., 2007), was not considered in any of the analyses. This study examines the processes involved in treatment that have been frequently overlooked in the literature.

**Impact of Youth Care Workers on Social Competencies**

In considering the social skills of delinquent adolescents, the focus of the present study is to determine the influence residential care has on the social competencies of
adjudicated adolescent males. For many young offenders, the juvenile justice system places them into residential care facilities in order to ensure that the best treatment and interventions are provided for them while also protecting the community. In a residential facility, care workers are believed to be the critical link between the adjudicated adolescents in care and effective treatment (Rosen, 1999). For this work, this front-line staff will be referred to as Youth Care Workers (YCWs) to be consistent with the terminology of the facility under study. As the primary caregivers for these boys, YCWs provide the proximal environment in which developmental tasks, such as achieving necessary social competencies, can be resolved. Therefore, many of the characteristics of these caregivers are important when considering their impact on their charges. For maltreated individuals who may likely remain in out-of-home placement after completing their sentence, it may be even more essential for youth care workers to develop relationships with them to impel socioemotional development.

The relationships that youth have with their care workers are important as they provide an environment of safety and growth for the child (Daly, Schmidt, Spellman, Criste, Dinges, & Teare, 1998). The premise underlying residential treatment is the cumulative experience of interactions with caregivers will result in a positive change for the adolescent upon discharge. The commonplace daily interactions with staff will serve as small therapeutic interventions that will progress from controlling behavior to building a relationship that will transmit prosocial values and skills (Fitzgerald, 1995; Leaf, 1995). The quality of relationship formed while in placement is seen as reflective of a resident’s
ability to form positive relationships and appropriately deal with situations outside of placement (Fritsch & Goodrich, 1990).

There is a large gap, however, between the view of what is important in the residential environment and the research being done to understand the types and effects of the caregiving youth receive while in placement. As detailed, the literature of effective intervention points to social skills training as a critical component (e.g. Lipsey et al., 2000); yet, most of the research on the treatment of adjudicated adolescents involves pre-treatment and post-treatment measures of the youths; the daily interactions that occur while in treatment are relegated to a “black box” (Hoagwood & Cunningham, 1992). Studies of adjudicated adolescents have not detailed how particular caregiving variables affect individual children’s progress (Moses, 2000).

**Caregiving behaviors**

Research on parent-child interactions has indicated the existence of three global, relatively independent dimensions of parental behavior: parental support (or warmth), behavioral control (or discipline), and psychological control (Maccoby & Martin, 1983). Warmth is defined as how responsive and connected a parent is to their child. Behavioral control is the regulation of child’s behavior through firm and consistent discipline. Psychological control is the use of psychological means such as guilt induction and love removal in order to control a child’s behavior (Galambos, Barker, & Almeida, 2003).

These dimensions of caregiving style have been related to different types of adolescent behaviors. Higher warmth has been shown to be related to higher academic grades (Herman, Dornbusch, Herron, & Herting, 1997) while higher behavioral control
has been consistently related to lower levels of externalizing problems such as
delinquency and substance use (Gray & Steinberg, 1999; Herman et al., 1997). High
psychological control, on the other hand, has been linked to internalizing problems (Gray
& Steinberg, 1999) and externalizing problems (Barber, 1996).

From these three dimensions, typologies of parenting behavior have also been
established (Baumrind, 1966, 1991; Maccoby & Martin, 1983). Parents have been
grouped according to whether they are high or low on behavioral control and warmth to
create a typology of four parenting styles: authoritative (high warmth/high control),
authoritarian (low warmth/high control), indulgent (high warmth/low control), and
uninvolved or neglectful (low warmth/low control) (Steinberg, Lamborn, Darling,
Mounts, & Dornbusch, 1994). An authoritative caregiving style is characterized by a
balance of warm, but firm, parental control and support for a child’s individuality.
Authoritarian parents are highly demanding and controlling, but not responsive to their
child’s needs; extreme authoritarian parenting may be indicative of abuse. Indulgent
parenting is characterized by parenting in which the child’s behaviors are not dealt with
in a punitive way; these parents are accepting and warm, but exert little control.
Uninvolved (Neglectful) parents demand little and respond minimally. In extreme cases,
this parenting style might entail neglect, and rejection.

The different styles of parenting each impact child development in unique ways.
Work by Weiss & Schwarz (1996) indicated that children and adolescents with
authoritative parents are rated as more socially competent than those with parents who
are nonauthoritative. Children from authoritarian families tend to perform moderately
well in school and not engage in problem behavior (Lamborn, Mounts, Steinberg, & Dornbusch, 1991). However, they have poorer social skills and higher internalizing problems. Authoritarian parents are considered to be very demanding and uncompromising, as they set strict rules, and expect complete obedience from their children (Maccoby & Martin, 1983). This style of parenting is related to children who are more likely to be withdrawn, obedient, and fearful of new situations. They also have low self esteem and trouble socializing with others (Cole & Cole, 1993). Children of permissive parents are more likely to engage in problem behaviors and do poorly in school, but they have higher self esteem and better social skills (Lamborn et al., 1991). Uninvolved parents have children who perform most poorly in many domains of social competence.

Many studies have supported the link between authoritative parenting and better adolescent functioning (Cohen & Rice, 1997; Shumow, Vandell, & Posner, 1998; Steinberg, 2001). Decades of research has shown that authoritative parenting is positively related to school commitment, psychological well-being and social adjustment and negatively related to conduct problems and delinquency (Dornbusch, Ritter, Liederman, Roberts, & Fraleigh, 1987; Gray & Steinberg, 1999; Lamborn et al., 1991; Steinberg, Lamborn, Dornbusch, & Darling, 1992; Steinberg, Mounts, Lamborn, & Dornbusch, 1991). For example, Pettit, Bates, & Dodge (1997) showed the benefits supportive parenting had for later child adjustment. They defined supportive parenting with four measures reflective of authoritative parenting: warmth, proactive teaching, inductive discipline, and positive involvement. Results demonstrated that supportive
parenting predicted child’s behavior problems, social skills and academic performance in 6th grade even after accounting for the effects of earlier adjustment and harsh parenting. High levels of supportive parenting also mitigated the effects of family adversity such as low SES, stress, and single parenthood on later behavior problems.

The impact of parenting behaviors reflective of caregiving style on children’s later social competency has also been extensively reported in the literature. Conger and colleagues used data from the Iowa Youth and Families Project (Ge, Best, Conger, Simons, 1996; Cui, Conger, Bryant & Elder, 2002) to examine the effects of caregiving on various psychosocial functioning. They determined that parenting behaviors when adolescents were in 7th to 9th grades predicted child behavior in 10th grade. Hostile and less warm parenting was associated with later elevated levels of conduct problems and depressive symptoms (Ge et al., 1996). The behavior exhibited by parents was also shown to influence children’s actions in later relationships (Cui et al., 2002; Paley, Conger & Harold, 2000). Warm and hostile parenting behaviors predicted similar actions by their children in interactions with siblings and close friends as well as later peer acceptance (Paley et al., 2000). The warmth children showed promoted better quality relationships while children’s hostility hurt friendship quality (Cui et al., 2002).

**Caregiving behaviors and delinquency**

When considering a clinical population, there is a paucity of research concerning parenting behaviors in relation to juvenile delinquents. However, Steinberg and colleagues (Steinberg, Blatt-Eisengart, & Cauffman, 2006) replicated earlier findings with a sample of adolescents adjudicated for serious criminal offenses. In this sample,
15% of the adolescents had authoritative parents, 13% authoritarian, 23% permissive and 49% neglectful. Consistent with community samples, offenders who characterized their parents as authoritative were more psychosocially mature in terms of temperance, empathy, and responsibility; they also performed better academically and were less prone to internalizing and externalizing problems. Those with neglectful parents were less mature, less competent, and more troubled. Those with permissive or authoritarian parents fell between these two extremes with those from authoritarian families being better adjusted.

Work with nondelinquent populations concerning the effect of parenting practices on the trajectory of adolescent problem behaviors presents mixed results. Galambos, Barker, and Almeida (2003) found that in the face of maladaptive peer influence, parents exert a significant influence in their children’s lives. Their longitudinal work indicated that parents’ firm behavioral control seemed to curtail the escalating trajectory of adolescents’ externalizing behaviors when deviant peer relationships began to develop.

On the other hand, Dishion, Nelson, and Bullock (2004) found that parents of high-risk adolescents actually reduce their involvement and guidance when they are confronted with adolescents’ problem behavior and the influence of deviant peers. When boys displayed antisocial behavior as adolescents, parents decreased family management in comparison to the parents of prosocial boys. The parents of well-adjusted boys maintained high levels of family management throughout adolescence. Results suggested that a cycle of increased misbehavior and lower management formed as the decrease in
management caused the problem behavior of antisocial boys to escalate due to increased access to deviant peers.

For delinquent samples, who predominantly come from low SES backgrounds and urban neighborhoods and are ethnic minorities, it is important to consider the idea that authoritarian parenting may not be as harmful, and may actually be beneficial, for children in these settings (Brody & Flor, 1998; Furstenberg, Cook, Eccles, Elder, & Sameroff, 1999; Hill, Bush & Roosa, 2003). In one study, traditional Mexican-American mothers living from disadvantaged areas who employed warm, yet strict and sometimes harsh control had children with less conduct problems (Hill et al., 2003). Likewise, when African-American families live in poverty stricken, high crime neighborhoods with little community support, strict control has been linked to less antisocial behavior, better self-regulation, and less chance of victimization (Brody & Flor, 1998).

Steinberg’s work (Steinberg et al. 2006) also provided some support for this contention as adjudicated adolescents from authoritarian families did not report any more internalized distress than those from authoritative homes. However, adolescents from authoritative homes outperformed those from authoritarian homes in measures of psychosocial maturity. Therefore, while authoritarian parenting may not be good for low SES, urban, ethnic minority adolescents, it is not as harmful to these adolescents as it has been shown to be for middle-class, suburban ethnic majority adolescents.

**Caregiving behaviors of maltreating parents**

As discussed, many adjudicated adolescents may be more likely to experience a parenting style considered abusive. The caregiving behaviors of abusive parents are seen
as more punitive and less likely to use reasoning and inductive types of discipline
(Trickett, 1997). Abusive parents are also less flexible and adaptive in their use of
discipline and less encouraging of the critical development tasks of their children such as
establishing autonomy and independence (Trickett, 1997). Work examining the
parenting quality experienced by maltreated children showed that negative caregiving
exacerbates the detrimental effects of maltreatment. For example, Lansford and
colleagues (Lansford et al., 2006) looked at the trajectories of internalizing and
externalizing behavior problems from children from kindergarten to grade eight who had
and had not been abused during their first five years of life. The trajectories of
externalizing behaviors for abused children who experienced low levels of unilateral
parental decision making were only slightly elevated compared to the trajectories of
nonabused children who had low levels of unilateral parental decision making. Children
who experienced high levels of unilateral parental decision making had elevated
externalizing behavioral trajectories, but those who were abused experienced the largest
magnification in behavior problems.

Abusive parental treatment is behavior found at the extreme end of the spectrum
of disciplinary style and child rearing (Zigler, 1980). However, it is not simply the abuse
that causes maladaptive functioning, but also the rejection, lack of care, disengagement
and other factors that make up a dysfunctional child-rearing environment (Zigler, 1980).
Little research considers how caregiving style may mediate the impact of abuse. Trickett
(1993) considered the effects of the child-rearing context of physically abused children
on their development. Comparing the parenting style of 29 physically abused children
from ages four to nine with a comparison group, she reaffirmed the literature indicating that abused children suffered deficits in cognitive maturity, interpersonal problem-solving skills, and social competence and exhibited many more behavior problems.

She found, however, that certain aspects of the child-rearing context that distinguished abusive from nonabusive homes were stronger predictors of negative outcomes than abuse status. Parents who supported the use of harsh and authoritarian discipline had children rated as the most negative and disruptive in the testing session. High reported levels of anger and conflict in their families and toward children and low levels of satisfaction with their children significantly predicted children’s internalizing and externalizing behaviors. Aspects of the child-rearing environment did not predict children’s interpersonal competence, but abuse status did. Trickett suggests that there may be some aspect of the abusive relationship that is not associated with child-rearing as measured in this study but relates to abused children’s interpersonal competence.

**Impact of caregiving behaviors of non-parental adults**

In considering the literature on caregiving behaviors, the majority of the studies focus on the adolescent’s actual parents. Research has been extended to include non-parental adults in order to look at the practice of teachers and the care received at child care centers (Baumrind, 1973; Goossens & van Ijzendoorn, 1990). Similar to parents, YCWs meet the caregiving, therapeutic, and social needs of children under their supervision. YCWs often find themselves in the “space between the child and institution” analogous to the “mother’s position between the child and society” (Hartnup,
1986, p. 42) and identify themselves as “surrogate parents” responsible for recreating a family environment for residents (Moses, 2000).

A review of the literature finds only one study focusing on the caregiving behaviors experienced by adolescents in a residential treatment facility (Pelton & Wierson, 2002). This study concerned the relation of caregiving behaviors to the psychosocial functioning of adolescent females in a residential treatment facility for emotional problems. In this study, the caregiving behaviors of counselors in direct care of the adolescents were assessed by means of a modified Children’s Report of Parenting Behavior Inventory (CRPBI; Schludermann & Schludermann, 1970). Results indicated that the less warm a girl perceived her counselors to be, the more internalizing problems, such as depression and withdrawal, the adolescent experienced. In situations in which the counselors were more psychologically controlling, the more externalizing behaviors, such as fighting and running away, were observed in the adolescents. While the results are suggestive, the design of the study entails many limitations. As a cross-sectional study with data from only one time point, the direction of effects cannot be determined. Children reporting high behavior problems may have entered the program with these problems with the relation to caregiving being spurious. The study also does not take into account that the results may have been influenced by the clustered structure of the data as girls and caregivers were grouped into units.

Other research indicates that YCWs may affect the social functioning of those in their care in many measurable ways. For example, Doherty (1976) indicated that there was a link between a worker’s response style and the youth’s behavior; the residents
determine the style of response for each worker and acted accordingly. Staff attitudes toward behavioral control were also associated with adolescents’ actual disruptive behavior (Martin, 1976). Incidents were more likely to occur with staff who believed that children’s problems should be confronted directly, that delinquent children were “abnormal,” and that the cause of behavior problems was internal. Finally, Joy (1981) found a relation between patient and staff-initiated violence and the time of day and staff present. The level of unit aggression was affected by the workers’ shift style (authoritarian, fearful, laissez-faire), what they thought was meaningful about their work, or what about the work provided a sense of accomplishment to them.

**Other factors of care influential for children’s social competency**

While caregiving style is the primary means by which youth care workers are hypothesized to impact the social skills of residents, it is important to consider other worker characteristics that may influence caregiving style and practices. One of these factors is caregiver self-efficacy (CSE). CSE can be broadly defined as “the expectation caregivers hold about their ability to parent successfully (Jones & Prinz, 2005). CSE can be seen as an influence on parenting competence. Parents with high CSE are confident in exercising effective parenting skills while those with low CSE see effective parenting as challenging in demanding situations.

Some findings suggest that CSE affects child adjustment directly and indirectly by means of parenting practices and behavior. CSE has been linked to caregiving style such as lax and overreactive discipline (Gross, Sambrook, & Fogg, 1999) and caregiver warmth and control (Izzo, Weiss, Shanahan, & Rodriguez-Brown, 2000). High CSE has
been associated with competent and positive parenting practices, strategies, and behaviors (Coleman & Karraker, 1998). Caregivers with high CSE generally use promotive parenting strategies which tend to increase their children’s opportunity for success in academic and psychosocial domains (Ardelt & Eccles, 2001). Ardelt and Eccles (2001) also felt high CSE caregiving improved children’s functioning directly through the modeling of attitudes and beliefs. YCWs with a high sense of efficacy are expected to be more likely to model these attitudes and beliefs, a key feature of successful interventions (Huefner et al., 2007).

YCWs’ self-efficacy may also be related to the type of children in their care. When dealing with difficult residents, YCWs’ self-efficacy may be affected as they view themselves as incompetent and incapable of caring for children with problem behaviors because they are unable to be in control of the situation (Moses, 2000). In these situations, workers tend to keep their distance as they have concluded that a close and constructive relationship with the individual is difficult (Moses, 2000). Therefore, an adolescent’s maltreatment background or social skills ability may influence how youth care workers react to them.

A number of studies involving caregivers within a residential facility have also considered attribution models in explaining caregiver behaviors. Causal attribution models attempt to explain a person’s emotions and behaviors based on his or her interpretation of the causes of another’s behavior. These attributions can be reduced to several underlying dimensions. A meta-analysis of attribution research identified 12 attribution dimensions that have been studied (Joiner & Wagner, 1996); the dimensions
that are most usually considered are controllability, internality, stability, and globality (McGuinness & Dagnan, 2001). Controllability concerns the degree that the cause of another’s behavior is under their control; internality concerns the degree to which the cause of another’s behavior is something within the person (internal) or something outside the person (external); stability concerns the degree to which another’s behavior is due to transient or intransient factors; globality concerns the degree to which the cause of another’s behavior is present in many situations or specific to a particular situation (Peterson et al., 1982).

The literature has shown that caregivers’ interpretation of their children’s behavior is linked to their parenting emotions and behaviors and children’s development (Bailey et al., 2006; Bugental et al., 1990; Joiner & Wagner, 1996; Dagnan et al., 1998; McGuinness & Dagnan, 2001; Nix et al., 1999; Rudolph et al., 2004; Wilson et al., 2006). A meta-analytic review of 64 studies indicates that the relationship between attributions, emotions, and behaviors is evident across cultures, samples, methods, and years (Rudolph et al., 2004). In this review, Rudolph and colleagues found that judgments of controllability predict the emotional reactions of anger and sympathy which, in turn, impact behavior (i.e., help giving and aggression) (Rudolph et al., 2004). Similar results have been seen in samples of parents (Joiner & Wagner, 1996) and caregivers on individuals with learning disabilities (Dagnan et al., 1998).

Within parent-child relations, research suggests that parental attributions affect parent behavior. Dix and colleagues found that parents reacted more negatively (Dix & Reinhold, 1991) and with more force (Dix & Lochman, 1990) when they saw their
children’s problem behavior as more intentional and the causes more stable and global. When parents view child misbehavior as due to internal, controllable, stable, and global causes, they have a negative attributional style (Bugental et al., 1990; Dix, 1991). This style tends to lead to an escalation of conflict within a family and coercive cycles of interaction (Wilson et al., 2006) leading to behavior problems (Patterson, 1982, 1986).

A consistent body of evidence has shown a link between negative attributions and dysfunctional parenting (Bugental et al., 1990; Smith & O’Leary, 1995; Wilson et al., 2006) and parent-child conflict (Heatherington, Tolejko, McDonald, & Funk, 2007; Joiner & Wagner, 1996; Wilson et al., 2006). These studies also indicate that negative attributions for misbehavior are related to parental disciplinary choices within typical populations of parents (Azar, Plante, & Antollino, 1993; MacKinnon-Lewis et al., 1992), and can be used to differentiate samples of parents who maltreat their children from non-maltreating samples (Azar, 1988; Azar & Twentyman, 1986; Larrance & Twentyman, 1983). Wilson and colleagues demonstrated that mothers of three-year-olds who interpreted their children’s misbehavior as more internally caused had more conflict with their children, used more negative strategies such as coercion and power assertion, and were more likely to use reactive strategies only, not focusing on future outcomes or problems. Additionally, stable attributions were linked to the use of only reactive strategies while global attributions predicted the use of fewer positive strategies such as reasoning, play, and positive suggestions. The relationship between negative attributions and conflict has also been shown in teen samples as the globality of mother’s attributions about teen behavior was related to conflict (Heatherington et al., 2007).
When looking at caregivers working within a residential facility, there is a large body of work dealing with caregivers of those with intellectual disabilities (Bailey et al., 2006; Dagnan & Cairns, 2005; Dagnan et al., 1998; Hastings & Brown, 2002.). Many of these studies demonstrate support for the link between attributions and caregivers’ behavior. For example, Dagnan and colleagues (1998) presented caregivers of individuals with intellectual disabilities examples of challenging behavior. They were asked to identify a probable cause and judge the attributional dimensions of controllability, internality, stability, and globality. They were also asked to rate their optimism for being able to change the behavior, their emotional response to the behavior, and their willingness to help change the behavior. Path analysis provided a model linking the attribution of controllability to negative emotions, which in turn, predicted lower levels of optimism which then indicated lower levels of helping behavior.

This link between attributions and caregiver behavior was also exhibited within a sample of caregivers within a medium security unit for “mentally disordered” offenders (Sharrock et al., 1990) and within “non specialist” units for children and “specialist units” for children with disabilities (McGuinness & Dagnan, 2001). In their work, Sharrock and colleagues determined that negative attributions were associated with lower levels of staff optimism which was related to lower levels of helping behavior. McGuinness and Dagnan’s work indicated that caregiver emotional reactions of sympathy mediated the relation between staff attributions of controllability for behaviors and likelihood of helping. Lower attributions of internality predicted higher levels of sympathy which in turn led to higher likelihood of helping.
A review of the literature found only one work of residential caregivers that include measures of both self-efficacy and attributions; however this study did not look at caregiver behavior (Hastings & Brown, 2002). Working with staff employed at schools for children with intellectual disabilities, Hastings and Brown wanted to determine the correlates of caregivers’ emotional reactions to challenging behaviors. They found that both behavioral causal beliefs and self-efficacy were related to staff fear and anxiety when reacting to challenging behaviors; self-efficacy was also significantly related to staffers’ feelings of depression and anger in response to incidents of challenging behavior (Hastings & Brown, 2002).

**Resilience**

Despite abuse, some children are resilient and experience good outcomes in spite of the high risk associated with abuse (Cicchetti & Rogosch, 1997; Luthar, Cicchetti, & Becker, 2000; McGloin & Widom, 2001). These children are resilient as they have experienced good outcomes in the presence of high risk, sustained competence under stress, or recovered from trauma (Luthar et al., 2000; Masten, 1994). Among the variables identified as protective factors (for a review see, Rutter, 2000), the important variables for this study are good parent-child relationships (Rutter, 2000); the availability of an external support system that encourages and reinforces a child’s coping efforts (Garmezy, 1985); and second chance opportunities (Werner & Smith, 1977, 1982, 1992). For many adjudicated youth, the parent-child relationship is strained so resilient youth need to make use of external support systems. Based on the type of relationship they have with residents in their care, youth care workers can promote resilience by serving as
the one significant relationship that helps people to feel they are of value (Wolin & Wolin, 1993). Placement into residential care could also be the positive “turning point” (Rutter, 2000; Sampson & Laub, 2005) in an adolescent’s life that spurs a change in their delinquent lifestyle.

 Many studies on risk and resilience have provided evidence that positive relationships outside the home encourage resilience (Bolen, 2000; Lösel & Bliesener, 1994; Flores et al., 2005; Werner & Smith, 1977, 1982, 1992). Werner & Smith’s Kauai study (1977, 1982, and 1992) focused on the factors that seem to help children from high-risk backgrounds develop into competent adolescents and adults. The study compared a resilient group of children to children with poor outcomes such as serious learning or behavior problems by age 10 or serious mental health problems or delinquency by age 18. Among the critical protective factors that discriminated the groups was that resilient children were more likely to have competent caregivers and supportive adults who fostered trust.

 Children with poor parental caregiving forged intimate ties with parental substitutes. They were also given second chance opportunities in school, work, or other activities to foster competence and self-esteem. These new opportunities served as positive turning points that benefited them throughout life. The external support system composed of these factors rewarded children’s competence and provided them with a sense of coherence that the environment was predictable.

 The affirmative effect of external support has also been seen in populations in residential institutions (Lösel & Bliesener, 1994) and maltreated populations (Watt,
David, Ladd, & Shamos, 1995). Lösel & Bliesener (1994) compared resilient and deviant children drawn from residential institutions and found that resilient children had larger social networks, were more satisfied with the social support they received, and identified strongly with their residential home and school. Flores and colleagues (Flores et al., 2005) determined that the quality of relationship children had with a camp counselor predicted higher resilient functioning, regardless of maltreatment status. Bolen (2000) found that victims of abuse who were insecurely attached as infants were able to maintain secure attachments in the future if they encountered a caring and competent adult later in life. The emotional connection to a responsible and caring adult was an essential factor in recovering from this trauma.

When comparing maltreated and nonmaltreated children in terms of later resilience, it is important to note that some studies have suggested that protective and vulnerability factors may differ for abused children as compared to other at-risk children (Lansford et al., 2006; Flores et al., 2005). For example, while interpersonal skills and relationships promoted adaptation in all children, internal strengths seemed to be more essential for promoting resilience in maltreated children (Flores et al., 2005). Maltreatment may lessen the relative benefits of relationship quality as maltreated children may not be able to make use of relationships with adults to encourage competent functioning (Flores et al., 2005). A background of maltreatment may promote a lack of trust in adults, not allowing the child to form positive relationships with others (Lansford et al., 2006).
There are also several factors to consider from the risk and resilience literature that have been shown to differentiate categories of delinquents and may also be influential in social skill abilities: early-onset of delinquency, parental criminal behavior, and seriousness of youth criminal behavior. Work by Moffitt (Moffitt, 1993; Moffitt & Caspi, 2000) has distinguished two types of delinquents based on the age at which they begin and how long they continue their antisocial lifestyle. She identified these two groups as life-course persistent offenders and adolescent-limited offenders. Life-course persistent offenders’ antisocial behavior is due to the interaction between genetic proclivities to deviance and criminogenic environments over development; these individuals start a life of crime at an early age and are deficient in numerous competencies for success. Adolescent-limited offenders, on the other hand, take part in antisocial behavior due to a gap between their biological and socially defined maturity levels. This leads to peer-accepted deviance that is seen as normative for development. When delinquent activity is no longer related to positive outcomes as they mature, adolescent-limited offenders return to using the life skills they acquired prior to deviancy.

Youth at genetic risk for deviance also tend to be those youth that experience criminogenic environments; that is, there could be a genetic predisposition passed from parent to child, and this predisposition also leads to dysfunctional family environments (Frick & Jackson, 1993; Moffitt, 2003). The existence of intergenerational continuity in deviance (Thornberry, Freeman-Gallant, Lizotte, Krohn & Smith, 2003) provides support for the notion that youth with parents engaged in criminal lifestyles are also at greater risk for more maladaptive outcomes.
Adolescents who commit serious and violent crimes are also a distinct group whose etiology tends to overlap considerably with life course-persistent offenders (Lochman & Dodge, 1994; Loeber & Farrington, 1998). Serious offenders start early and persist in antisocial behavior into adulthood. They are more likely to have deviant parents and exhibit a number of other externalizing behaviors including dishonesty, drug use and drinking, and conflict with authority. They are impulsive, poor academic performers, have weak social ties, and are often the victims of violence themselves.

Research has consistently shown that as risks accumulate so too does the likelihood of maladaptive outcomes (e.g. Rutter, 1979; Gerard & Buehler, 2004). Conversely, as the number of strengths accrue, youth are more likely to experience more positive outcomes. The literature suggests that several factors at the individual and family levels are generally associated with positive outcomes (e.g., Rutter, 2000; Werner & Smith, 1977, 1982, 1992). Therefore, several risks and strengths related to social skills development and antisocial outcomes have been included in this study to discern their impact on change while in treatment. In addition to the seriousness of criminal behavior, early-onset of delinquency, and parental criminal history, the present work also examines the impact of youth exploitation on social skills development. Manipulating children to perform developmentally inappropriate actions or acts only serving the interests of adults are thought to affect social skills growth in a manner consistent with maltreatment.

Several strengths thought to counteract the effect of maltreatment and positively influence social skill abilities have also been included. In contrast to qualities often characterizing families with abusive parents, measures of positive family interactions and
relational permanence are thought to mark children with higher social competencies. At
the individual level, measures indicative of resilient youth (e.g. Rutter, 2000) such as
likeability and ability to make friends, possession of a talent or participation in
extracurricular activities, and identification with religious or spiritual beliefs, provide an
increased likelihood of developing positive relationships with adults outside one’s
immediate family (e.g. Werner & Smith, 1977, 1982, 1992) and serve as strengths to rely
on in times of difficulty. Possession of these factors is often related to positive
developmental outcomes (e.g. Rutter, 2000).

Summary

It is evident from these studies that a YCW can be an important figure in an
adolescent’s social functioning. The caregiving behaviors exhibited by YCWs and the
attitudes that influence these behaviors can positively or negatively affect how well the
adolescent grows in targeted social competencies. Adolescent-worker relationships are
important in affecting the progress of delinquent youth in RTFs. For the most effective
change to occur in delinquent adolescents, it is important to determine which qualities of
service providers are best for promoting social skills development in these adolescents.
By determining the characteristics of effective intervention, as well as the characteristics
of effective interveners, new and better programs can be designed, tested, implemented,
staffed, managed, and evaluated.

As grounded in systems theory, it is also important to take adolescent’s
characteristics into account as they are active agents in their development
(Bronfenbrenner, 1979). Studies have shown that maltreated and nonmaltreated youth
have different psychosocial profiles and that different factors may be critical to their successful development (e.g. Flores et al., 2005). The cognitive and social shortcomings due to abuse may affect the type of care that is suitable (Gover & MacKenzie, 2003).

Youth dispositional variables have also been shown to play a role in adjudicated adolescents’ ability to change while in residential treatment (Hains & Herrman, 1989).

The present study addresses the interactional nature of caregiving as it includes both caregiver and child characteristics over time.

To summarize, the purpose of this study will be to examine the social skills development of delinquent adolescent males in relation to their experiences of maltreatment prior to entry into an RTF, their experiences of care while in treatment, and any interactions between these two factors. The aim of this study is to determine what types of residents (as determined by prior maltreatment experiences) are best served by what types of care (as determined by caregiving behaviors, self-efficacy, and attributions) in terms of the social skills residents develop.
Chapter III

Method

Participants

The participants for this study were 82 delinquent adolescent males who resided at a residential treatment facility during one of the three years from 2005-2008. These adolescents were identified to be in need of a more intensive level of treatment due to their psychosocial histories. Measures were also collected from 41 of their youth care workers.

The residential treatment facility from which the sample was taken is located outside of a large northeastern city and houses up to 200 court-adjudicated young men between the ages of 10 and 18. The facility provides educational, recreational, social work and mental health services. Residents attend classes year round in the school located in the main building. Residents are housed within units of 32 with approximately 8-12 YCWs assigned to each unit. The facility is composed of 5 units; for three of the non-specialized units, boys from ages 14 – 18 are assigned where there is an opening. However, youth assessed by the judicial system to be in need of intensive drug and alcohol treatment are placed into a specialized care unit, and youth committed between the ages of 10 to 13-years-old are also assigned to a specialized unit.

The adolescents for this study ranged in age from 12.80 to 18.20 upon entry (M age = 15.87, SD = 1.38) and 13.60 to 18.90 upon exit (M age = 16.74, SD = 1.36). The average length of stay at the facility was 10.40 months (SD = 1.04). This age range was selected because this period of adolescence is marked by fundamental social and
cognitive changes such as the ability to consider consequences and multiple viewpoints and the emergence of adolescent identity. How parents acknowledge these changing capabilities in terms of caregiving behaviors will affect youth competence. An overwhelming proportion of the adolescent sample was African American (82.9%) with Latinos making up 9.8% of the sample, Caucasians 6.1%, and Asian-Americans 1.2%. Seventy-one percent of the adolescents in this sample came from single parent homes. A large majority of the residents came from inner-city areas marked by high rates of poverty. It is, therefore, estimated that a large majority of the participants were of lower socioeconomic status.

As with the adolescent sample, most of the 41 Youth Care Workers were African American (73.2%). The next largest proportion of workers was 12.2% Caucasian, with 4.9% identifying as Multiethnic/racial, 2.4% Latino, and 2.4% as Other. The sample was 65.9% Male with the average age of 38.51 Years (SD = 10.08). The average number of years these individuals have worked with youth was 13.02 years (SD = 8.72) and the average number of years at this facility was 7.47 years (SD = 7.41). Over half of the sample had taken some college courses as their highest level of education (56.1%) with 22% earning a high school diploma, 17.1% attaining a bachelor’s degree and 4.9% taking graduate level courses or higher.

**Procedure**

Measures of maltreatment experiences, risks, strengths, social skills, and demographics of the adolescents were obtained from the case files being held at the facility. For all residents of the facility, maltreatment experiences, risks, and strengths
were collected once upon intake by facility staff trained in administering the measure. For those adolescents identified as in need of intensive treatment based on their history of maltreatment experiences, risks, and strengths, a measure of social skills was also assessed upon intake and at discharge through a self-reported measure with staff available for assistance. Over the three years examined, a total of 86 adolescents were identified as “intensive” and of interest for this study. The current study obtained information on 82 of these youth; the four youth not included in this sample left the facility without permission and did not return. All five units of interest were represented by adolescents in the final sample.

Consent was obtained from the Youth Care Workers and they were given a survey assessing caregiving behaviors, self-efficacy, attributional style and demographics. The surveys for the YCWs were administered during a training session for all care staff in the building. Sixty-two members of the care staff completed these surveys with approximately twelve of the care staff not present due to medical leave. Only those YCWs assigned to full-time positions on units on which the adolescents resided were included in these analyses (n = 41).

For analytic purposes, individual adolescent scores obtained from the three year time interval were matched with the YCW measures of caregivers working on the same unit at the same time the adolescent resided there. As there were three years of residence time and five units for placement, fifteen (N =15) clusters of caregiving measures were created; however since several units had the same caregivers over two time periods, a final group of twelve (n = 12) clusters of caregivers was created.
When missing data occurred within the eligible sample of 82 adolescents and 41 YCW, data were imputed. For the adolescent sample, there were two cases missing initial social skill scores and 20 cases missing final social skill scores. For the YCW sample, three individuals were missing scores on the attributional style measure. Little’s MCAR tests indicated that the missing data were not missing completely at random (MCAR), supporting the use of missing data imputation (Little, 1988). Traditional approaches to handling missing data, such as listwise deletion or mean imputation, have been criticized for biasing estimates, misrepresenting statistical power, and leading to invalid conclusions (Acock, 2005). Therefore, missing data were imputed using expectation maximization (EM), which uses a maximum likelihood approach (Dempster, Laird, & Rubin, 1977). Assessments of missing data imputation techniques report that inclusive strategies of imputation employing EM techniques yield optimal results (highly similar to multiple imputation (MI) techniques; Collins, Schafer, & Kam, 2001).

Measures

Adolescents

Maltreatment Experiences, Risks, and Strengths. Prior maltreatment experiences of adolescents, risks, and strengths were assessed with the Child and Adolescent Needs and Strengths for children and youth at risk of delinquency (CANS-JJ, Lyons, Almeida, Rauktis, & Buddin Lyons, 1999). The CANS-JJ is intended to serve as a case descriptor and decision-support tool for purposes of treatment planning and level-of-care decision making for care staff (Winters, Collett, & Myers, 2005) and was developed specifically for youth who were at risk for delinquency or who were already
involved with the juvenile justice system. The instrument has been used in several jurisdictions to identify youths’ risks and protective factors as it provides a structured profile of children and their families along a set of eight dimensions with several items composing each dimension. This measure is completed by an evaluating clinician upon an adolescent’s entry to the facility based on the clinician’s assessment of the youth’s prior history, interviews with the youth and his caregivers, and other sources (past records, probation officers, etc.). Based on this instrument, the RTF of present interest identifies adolescents as needing intensive treatment planning or not; for this study, all adolescents were identified as “intensive.”

Ratings for the CANS-JJ are used to describe the adolescent’s level of needs and strengths on a variety of dimensions. Each of the risk items making up the need dimensions is rated on a 4-point Likert scale ranging from $0 = “no evidence”$ to $3 = “a severe degree of this dimension.”$ Strength items are reverse coded with $0$ indicating an established strength and $3$ indicating that no strength has been identified in a domain. For this study, prior maltreatment experiences were assessed using an item measuring abuse and neglect history (0-3); this item measures any prior incidents of physical and sexual abuse and neglect. An item measuring exploitation, defined as the “manipulation of adolescent to perform exploitative acts that serve only the interests of the adult” was also included as another construct related to maltreatment.

Three other risks were included in this study because of their relation to social skills and antisocial behaviors: seriousness of criminal behavior, early-onset of delinquent behavior, and parental criminal behavior. Five strengths related to positive
adolescent outcomes were also included in the study. These were family strength (the level of love, respect, communication, and joint activities within the family); interpersonal strength (how well liked adolescent is, ability to form and maintain positive relationships, number of friendships), relationship permanence (stability of significant relationships in adolescent’s life); talents/interests (creative, artistic, athletic involvement); and moral/spiritual/religious (adolescent’s and their family involvement in moral, spiritual, or religious beliefs, and activities).

The study includes adolescents from three cohorts, and it is important to note that the structure and implementation of the CANS measure changed over the three years. For the first two cohorts of interest, CANS scores were obtained from reports that provided scores ranging from 0 to 3 on all the measures of interest; however, in the third cohort of interest, scores for each measure of interest were only included on a report if the youth was coded as having a 2 or 3 on risks or a 0 or 1 for strengths. In order to standardize scoring for the adolescents from the three cohorts, risks and strengths were scored dichotomously, with 1 = the presence of the risk or strength and 0 = the absence of a risk or strength. The presence of a risk was determined if an adolescent received a score of 2 or 3 on a risk dimension; the presence of a strength was determined if an adolescent received a score of 0 or 1 on a strength dimension. A total risk and strength composite was calculated by adding up the scores of each dimension; these scores ranged from 0 to 5.

The CANS measure has proven reliability and reliability. The reliability of the CANS assessed through vignettes across over twenty studies is good ($\alpha = 0.75$). In an
audit of the CANS, it was found that even the individual items are reliable above 0.70. Dimension scale scores are even higher, generally $\alpha = 0.90$ or higher. In terms of validity, the CANS measure has been correlated with other measures of psychopathology, functioning, and strengths (Winters et al., 2005). In addition, when used as support for a decision, the CANS has been shown to agree with an expert panel of clinicians 81% of the time (e.g. Anderson, Lyons, Giles, Price, & Estle, 2003; Lyons, Rawal, Yeh, Leon, & Tracy, 2001; Sokol, Lyons, Almeida, Rauktis, & Hladio, 2002).

Social Skills. Adolescent’s social skills were assessed with the Ansell-Casey Life Skills Assessment (ACLSA, Nollan, Pecora, Downs, Wolf, Horn, Martine, & Lamont, 1997). The ACLSA is an online tool self-administered by the youth in the presence of an intake staff member upon entry to the facility and re-administered as the youth is released. There are versions for different age groups for both the youth and their caregiver measuring acquired knowledge of life skills across several domains such as money management, self-care, and social development. Each item is rated on a 3-point Likert scale that ranges from $1 = \text{Not Like Me}$ to $3 = \text{Very Much Like Me}$. An individual report is created for each adolescent providing a percentage of mastery score for each domain; this is the number of “Very Much Like Me” responses divided by the number of items in that domain.

The focus of the study was on the items from the Communication and Social Relationship domains. These domains include questions on personal development, communicating with family and friends, respecting other people, and dealing with conflict and differ based on the test version an adolescent completes. The number of
items included in these domains differed by assessment version ranging from 12 total items on the “Youth 1” version of the measure to 16 items on the “Youth 2” and “Youth 3” versions of the assessment. An example of a communication item includes “When I disagree with someone, I try to find a compromise;” an example of a social relationship item is “I am polite to others.” Consistent with the scoring method advocated by the test designers, a composite mastery score based on the number of “Very Much Like Me” responses divided by the number of items in the Communication and Social Relationship domains were calculated for each adolescent. This percentage was each child’s measure of social skills.

Through field testing of measures and factor analysis, reliability has been determined to be moderate to very good for the individual domains, and good to very good for the total scores. Content, discriminant, and criterion validity studies indicate that the measure is valid (Nollan, Horn, Downs, & Pecora, 2002). The internal reliability is reported to range from $\alpha = 0.77$ to $\alpha = 0.87$, and the test-retest reliability ranges from $r = 0.40$ to $r = 0.80$ when the caregiver completes the form (Nollan, Wolf, Ansell, Bums, Barr, Copeland, & Paddock, 2000). In analyses of previous editions of the assessment, the internal reliability for the social development domains were good ($\alpha = .87$) (Southward & Parrish, 2003).

**Demographics.** Literature on maltreatment and delinquency identifies a number of child and family characteristics which have been shown to select families into particular types of parenting and to influence the development of delinquency among adolescents (e.g. Steinberg et al., 1981; Tolan et al., 2003). In order to decrease the
likelihood of spurious findings, it is important to partial out the influence of these characteristics from the primary relations of interest. Therefore, the following child and family characteristics were included in analyses as covariates. These variables were all obtained from youth case files: age, race (African-American or not), number of children in the adolescent’s household, and family structure (single parent family or not).

**Youth Care Workers**

**Caregiving Behaviors.** YCWs’ caregiving behaviors were assessed with a modified Children’s Report of Parenting Behavior Inventory-Parent report (CRPBI). The CRPBI is a widely used measure of parenting practices. The CRPBI was initially designed to be completed by children (Schaefer, 1965; Schludermann & Schludermann, 1970), but there has been precedent for modification and completion by caregivers (Schwarz, Barton-Henry, & Pruzinsky, 1985). Items not relevant to the residential treatment setting were removed from the original 56-item scale to create a 40 item scale. The instrument has three subscales: Warmth (16 items), Lax Discipline (11 items), and Psychological Control (13 items). Each item is rated on a 5-point Likert scale that ranges from $1 = “Not Like Me”$ to $5 = “A Lot Like Me.”

An example of a warmth item is “I speak to the residents in a warm and friendly way;” an example of a lax discipline item is “I let the residents get off easy when they do something wrong;” and an example of psychological control is “I feel hurt by the things the residents do.” The CRPBI has adequate reliability ($\alpha = .80$; Schludermann & Schludermann, 1970; $\alpha = .71$; Schwarz et al., 1985). For the present study, caregiving behavior items were submitted to a principal components analysis with a varimax rotation.
forcing subscale items to load on each hypothesized dimension. This analysis led to the removal of 1 item from the psychological control subscale (“I will talk to the residents again and again about anything bad they do.”) and 1 item from the lax discipline subscale (“I am easy with residents.”). Removing these items resulted in subscales with adequate to excellent reliability: Warmth (16 items), $\alpha = .874$; Psychological control (12 items), $\alpha = .724$; Lax discipline (10 items), $\alpha = .698$.

It should be noted that the staffing pattern at the treatment facility was based on a shift worker approach. Approximately 10 workers rotate the day shift and 4 rotate the night shift within a unit. A CRPBI was completed by each youth care worker, with an average score calculated for each subscale; subscales were averaged across workers within each time (1, 2, or 3) and unit (1-5). This resulted in 15 clusters of caregiving behavior scores. Since several units had the same caregivers over two time periods, a final sample of 12 clusters of caregivers was determined. The decision to average across caregivers within a cluster was supported by a formal test of the proportion of variance explained within versus between groups. Keeping the dimensions separate addressed many of the problems that arise with classifying the caregiving style of aggregated individuals (see Simons & Conger, 2007).

**Caregiver Self-Efficacy.** Youth Care Worker self-efficacy was assessed with a modified Parenting Sense of Competence Scale (PSOC, Johnston & Mash, 1989). The modification entailed changing the wording of items to make them applicable for YCWs and rewording the first item into two separate items to improve clarity. In a review of parental self-efficacy (Jones & Prinz, 2005), the PSOC was cited as the most frequently
used measure of parental self-efficacy. The 8 item measure included the items indicated by Johnston and Mash (1989) through principal component analysis as loading on the efficacy factor. Each item is scored on a 5-point Likert scale ranging from 1 = “strongly disagree” to 5 = “strongly agree.” A sample item for this measure is “I honestly believe I have all the skills necessary to be a good youth care worker for residents.” As with other measures, the scores were averaged for each participant then averaged across youth care workers on a unit. Prior studies have indicated that internal consistency for this factor as measured by Cronbach’s alpha was adequate (α = .76; Johnston & Mash, 1989; α = .77; Ohan, Leung, Johnston, 2000). In the present study, internal consistency was fair as α = .648.

**Attributions.** Youth Care Worker attributions were assessed using a modified form of the Attributional Style Questionnaire (ASQ, Peterson et al., 1982). This questionnaire has been modified and used in numerous studies of attributions. Participants were presented with four descriptions of behavioral problems common to residential facilities for adjudicated adolescents. An example of a behavior description is “A resident you are working with is caught trying to steal from another staff member’s jacket.” Participants were asked to suggest one major cause for the behavior. They were then asked to rate that cause on each of the attributional dimensions of controllability, internality, stability, and globality using a 7-point Likert scale. Higher scores indicate higher levels of each dimension. In previous studies with college students, internal consistencies ranged from α = .44 to α = .69 (Peterson et al., 1982). A later analysis with college students found α = .66 for internality, α = .85 for stability, and α = .88 for
globality (Peterson & Villanova, 1988). In the present study, internal reliabilities were adequate: Internality, $\alpha = .722$; Stability, $\alpha = .760$; Globality, $\alpha = .725$; and Controllability, $\alpha = .635$. As internality and controllability are highly correlated ($r = .669$) and conceptually related (Peterson & Villanova, 1988), scores on these two attributional style dimensions were averaged across YCW to create an internality and controllability composite variable in order to decrease the effects of multicollinearity.

**Demographics.** As with the adolescent measures, certain demographics have been linked to parenting measures. Therefore, YCWs’ age, sex, educational level, race, and experience working with children and at the facility were assessed. Table 1 includes the constructs and instruments that were used in the study as defined above.
### Table 1

Constructs, Measures, and Level of Measurement

<table>
<thead>
<tr>
<th>Construct</th>
<th>Measure</th>
<th>Type of Measure</th>
<th>Subscales</th>
<th>Reporter</th>
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<tbody>
<tr>
<td><strong>Adolescent Characteristics</strong></td>
<td></td>
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<tr>
<td>Risks</td>
<td>Child and Adolescent Needs and Strengths (CANS-JJ)</td>
<td>Questionnaire</td>
<td>Seriousness of Crime Early-Onset Parental Criminal Behavior Abuse and Neglect - (Maltreatment) Exploitation</td>
<td>Social Worker</td>
</tr>
<tr>
<td></td>
<td>Lyons, Almeida, Rauktis, &amp; Buddin Lyons, 1999</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Strengths</td>
<td>Child and Adolescent Needs andStrengths (CANS-JJ)</td>
<td>Questionnaire</td>
<td>Family Interpersonal Relationship Permanence Talents/Interests Moral/Spiritual/ Religious</td>
<td>Social Worker</td>
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<tr>
<td></td>
<td>Lyons, Almeida, Rauktis, &amp; Buddin Lyons, 1999</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Skills</td>
<td>Ansell Casey Life Skills Assessment</td>
<td>Questionnaire</td>
<td></td>
<td>Adolescent</td>
</tr>
<tr>
<td>Demographics</td>
<td>Demographics</td>
<td>Questionnaire</td>
<td>Age Race # Children in household Single Parent Family</td>
<td>Social Worker</td>
</tr>
<tr>
<td><strong>Youth Care Workers Characteristics</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Parenting Behaviors</td>
<td>Child Report Parental Behavior Inventory – Revised</td>
<td>Questionnaire</td>
<td>Warmth/supportiveness Psychological control Lax Discipline</td>
<td>YCW</td>
</tr>
<tr>
<td></td>
<td>Schwarz, Barton-Henry, &amp; Pruzinsky, 1985</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-Efficacy</td>
<td>Parenting Sense of Competence Scale</td>
<td>Questionnaire</td>
<td></td>
<td>YCW</td>
</tr>
<tr>
<td></td>
<td>Johnston &amp; Mash, 1989</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attributional Style</td>
<td>Attributional Style Questionnaire</td>
<td>Questionnaire</td>
<td>Internality/ Controllability Globality Stability</td>
<td>YCW</td>
</tr>
<tr>
<td></td>
<td>Peterson et al., 1982</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Demographics</td>
<td>Demographics</td>
<td>Questionnaire</td>
<td>Sex Age Race Education Years worked w/ Youth Years worked at Facility</td>
<td>YCW</td>
</tr>
</tbody>
</table>
Hypotheses and Related Analyses

Hypothesis 1: Maltreated adjudicated adolescents will have lower average social skill scores compared to nonmaltreated adjudicated adolescents.

A primary aim of the study was to validate and extend the literature linking maltreatment to social skills (e.g. Dodge et al., 1995). To determine if the maltreatment experiences are predictive of initial social skills, an independent samples t-test with initial social skills as the dependent variable was conducted comparing adolescents with a moderate to severe history of abuse and neglect (CANS: Abuse and Neglect =1) to those without a history of abuse (CANS: Abuse and Neglect = 0).

Hypothesis 2: Based on cumulative stressor models, higher levels of risks will be negatively related to initial social skills. Higher levels of strengths will be positively related to initial social skills.

In addition to determining the relationship between maltreatment status and initial social skills, it is also important to determine what effect maltreatment status has on initial social skills when considering other factors related to social skills and antisocial behavior. Several Ordinary Least Squares Regression models were conducted. The first analysis modeled initial social skills as a function of cumulative risks (with maltreatment as one of the risks) and cumulative strengths. In the second and third models, initial social skills were predicted using disaggregated cumulative risk and strength composites to determine whether particular risks (in particular, maltreatment) and strengths were driving any relationships with initial social skills. In all three models, several adolescent
and family factors that may be associated with maltreatment status and social skills were included in the model as covariates (age, race, number of children in household, single parent family status).

For each of the three models, the covariates were entered as a block first. Then total risks and total strengths were entered separately in model 1; in the second and third models, the individual risks and strengths were entered in step 2. This method of entry provided not only $R^2$ change values, but also regression coefficients that indicated the unique effect each variable has on initial social skills.

**Hypothesis 3:** YCWs caregiving behaviors will be related to the social skills growth of adolescents.

**Hypothesis 4:** YCWs with high level of self-efficacy will positively influence the social skills growth of adolescents.

**Hypothesis 5:** YCWs’ attributional style will also be related to adolescents’ social skills growth.

**Hypothesis 6:** Maltreatment status and initial social skills of the adolescents will moderate the relation between the YCW variables and social skills growth.

In order to predict adolescents’ social skills development while in placement, a lagged ordinary least squares regression model was estimated to examine the change in social skills between entry and release from the facility. This regression model took the following form:
This technique modeled final social skills as a function of initial social skills, maltreatment experiences, current YCW caregiving behaviors, and the interactions between these variables controlling for initial social skills. The adolescent and family variables that may be associated with caregiving and social skills were also included in the model as covariates. As with the analysis of initial social skills, the covariates were entered as a block first; in the second step the caregiver variables of interest were entered to assess their main effects; in the third step, interactions between caregiver and adolescent variables were entered. This model controls for unmeasured differences in adolescents that have consistent effects on social skills by controlling for adolescent initial social skills (such as genetic risk for poor social skills).

As data from the youth care workers are within an aggregated structure, i.e., the 12 clusters created for each time and unit, they are likely to have more similar characteristics. Therefore, A Huber-White (Huber, 1967; White, 1982) adjustment was made to variance estimates to take this intra-unit correlation into account. Also due to sample size limitations, each set of YCW measures (caregiving behaviors, self-efficacy, and dimensions of attributional style) and their interactions with maltreatment status and initial social skills were entered in separate lagged regression models predicting changes in social skills.
For each of the three models, initial social skills and the covariates were entered as a block first to remove their influence from the relation. Then each group of caregiving variables was entered separately, followed by the interaction terms. This method of entry provided not only $R^2$ change values, but also regression coefficients that indicated the unique effect each variable or interaction has on final social skills.
Chapter IV

Results

Descriptive Statistics and Correlations

Adolescents’ Measures

Table 2 presents the means, standard deviations, and intercorrelations for the measures of cumulative risks and strengths, initial and final social skills, and several demographics from the 82 adolescents. On average, adolescents reported average levels of social skills mastery at entry and release from the facility (48%, 52%, respectively) with a four percent increase in social skills mastery reported over the course of placement. While this may seem like a small change, at the same time there was substantial individual variability in how much children changed, ranging from an increase of 68 percentage points to a decrease of 56 percentage points. The purpose of the study is to determine how much of this variability is due to YCW caregiving. Evaluations of adolescents’ risks and strengths at entry showed that adolescents were reported to possess slightly more “strengths to build upon” (M =3.09) than "risks to address” (M =2.15).

Correlations showed that older adolescents were more likely to have smaller households, lower levels of total risks, and higher levels of initial social skills. Higher levels of total strengths were associated with smaller household sizes and lower levels of total risks. Adolescents identified as having more risks tended to have lower levels of initial social skills mastery, but risks were not related to final social skills. Finally, there was a strong relationship between initial and final social skills as adolescents reporting higher initial social skills were more likely to report higher social skills upon release.
Table 2

Descriptive Statistics (M, SD, n) for and Pearson Correlations Among Cumulative Risks and Strengths, Initial and Final Social Skills, and Demographics of Adolescents

<table>
<thead>
<tr>
<th>Measure</th>
<th>M</th>
<th>SD</th>
<th>n</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Age at Entry</td>
<td>15.87</td>
<td>1.38</td>
<td>82</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. African-American</td>
<td>0.83</td>
<td>0.38</td>
<td>82</td>
<td>-.068</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. No. Children in Household</td>
<td>2.72</td>
<td>1.44</td>
<td>82</td>
<td></td>
<td>-.259</td>
<td></td>
<td>-.134</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Single Parent Family</td>
<td>0.71</td>
<td>0.46</td>
<td>82</td>
<td></td>
<td>-.092</td>
<td></td>
<td>.207</td>
<td></td>
<td>-.032</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Total Risks</td>
<td>2.15</td>
<td>1.1</td>
<td>82</td>
<td></td>
<td>-.227</td>
<td></td>
<td>.149</td>
<td></td>
<td>.096</td>
<td>.184</td>
<td></td>
</tr>
<tr>
<td>6. Total Strengths</td>
<td>3.09</td>
<td>1.49</td>
<td>82</td>
<td></td>
<td>.033</td>
<td></td>
<td>-.018</td>
<td>-.218</td>
<td>-.108</td>
<td>-.353</td>
<td></td>
</tr>
<tr>
<td>7. Initial Social Skills Mastery</td>
<td>.48</td>
<td>.22</td>
<td>82</td>
<td></td>
<td>.243</td>
<td></td>
<td>-.083</td>
<td>.143</td>
<td>.080</td>
<td>-.315</td>
<td>.023</td>
</tr>
<tr>
<td>8. Final Social Skills Mastery</td>
<td>.52</td>
<td>.26</td>
<td>82</td>
<td></td>
<td>.007</td>
<td></td>
<td>-.046</td>
<td>.119</td>
<td>-.210</td>
<td>.155</td>
<td>.532</td>
</tr>
</tbody>
</table>

*aPossible Range 0 to 5.

*p < .05, **p < .01, ***p < .001
Table 3 presents the percentage of adolescents identified as possessing each of the individual risks and strengths upon entry into the facility. An overwhelming majority of the adolescents in this sample had been committed due to felonious criminal activity (89%). Approximately half of the sample were identified as early-onset delinquents and had parents who had a history of criminal behavior (54% and 51%, respectively). Surprisingly, only about 1 in 10 adolescents were identified as victims of abuse or neglect or exploitation. While higher than national averages of maltreatment (USDHHS, 1999), this figure is much lower than levels previously reported in delinquent populations (Pawersat, 1991; Wiebush et al., 2000). Overall, 33% of the sample was identified as having three or more risks with number of risks for the sample ranging from 1 to 5.

Table 3
Percentage of adolescents exhibiting individual risks and strengths as determined by Child and Adolescent Needs and Strengths (CANS-JJ)

<table>
<thead>
<tr>
<th>Risks</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Serious Crime (%)</td>
<td>89</td>
</tr>
<tr>
<td>Early Onset (%)</td>
<td>54</td>
</tr>
<tr>
<td>Parent Crime (%)</td>
<td>51</td>
</tr>
<tr>
<td>Abuse &amp; Neglect (%)</td>
<td>11</td>
</tr>
<tr>
<td>Exploitation (%)</td>
<td>10</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Strengths</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Family (%)</td>
<td>62</td>
</tr>
<tr>
<td>Interpersonal (%)</td>
<td>68</td>
</tr>
<tr>
<td>Relationship Permanence (%)</td>
<td>68</td>
</tr>
<tr>
<td>Talents/Interests (%)</td>
<td>48</td>
</tr>
<tr>
<td>Moral/Spiritual/Religious (%)</td>
<td>63</td>
</tr>
</tbody>
</table>

When considering the strengths identified in adolescents, each individual strength was seen in a majority of adolescents except for expressed levels of creative, artistic, or athletic talents or interests; however, almost half of the sample were seen as having high
levels of talent or engagement in extracurricular activities (48%). Overall, over 74% of the sample was identified as having three or more strengths with the number of strengths for the sample ranging from 0 to 5.

*Youth Care Worker Measures*

Table 4 presents the means, standard deviations, and intercorrelations for the measures of parenting behaviors, self efficacy, dimensions of attribution style, and demographics from the 41 YCWs. YCWs, on average, reported moderate to high levels of warmth (M = 3.98) and self-efficacy (M = 3.91) and moderate to low levels of psychological control (M = 2.16) and lax discipline (M = 1.63). On each dimension of attributional style, YCWs tended to report moderate levels of each dimension (M = 4.23 to M = 5.00). Correlations showed that YCWs who reported being warmer with adolescents also reported higher levels of self-efficacy and were less likely to attribute misbehaviors in adolescents to internal or global reasons. Higher psychological control was associated with higher levels of lax discipline; YCWs who used psychological means to control adolescent behavior were more likely to be weak and inconsistent in their discipline. YCWs who reported the use of more psychologically controlling behaviors were also more likely to use a negative attributional style when addressing adolescent misbehaviors; higher levels of psychological control were associated with higher levels of attributing misbehaviors to internal, global, and controllable factors. Higher levels of lax discipline were also associated with attributing misbehaviors to stable factors in adolescent’s life. Dimensions of attributional style were all positively related to each other. Higher levels of one attribution were related to higher levels of all others.
<table>
<thead>
<tr>
<th>Measure</th>
<th>M</th>
<th>SD</th>
<th>n</th>
<th>1</th>
<th>2</th>
<th>3</th>
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<th>7</th>
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<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Age</td>
<td>38.51</td>
<td>10.08</td>
<td>41</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>2. Male</td>
<td>0.71</td>
<td>0.46</td>
<td>41</td>
<td>-0.71</td>
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<td></td>
<td></td>
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<tr>
<td>3. Level of Education&lt;sup&gt;*&lt;/sup&gt;</td>
<td>2.05</td>
<td>0.77</td>
<td>41</td>
<td></td>
<td>0.192</td>
<td></td>
<td></td>
<td>-0.104</td>
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<tr>
<td>4. Number of Years Working at Hull</td>
<td>7.47</td>
<td>7.42</td>
<td>41</td>
<td></td>
<td></td>
<td>0.740&lt;sup&gt;**&lt;/sup&gt;</td>
<td>0.177</td>
<td>0.380&lt;sup&gt;**&lt;/sup&gt;</td>
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<tr>
<td>5. Warmth (CRPBI)&lt;sup&gt;1&lt;/sup&gt;</td>
<td>3.98</td>
<td>0.52</td>
<td>41</td>
<td></td>
<td></td>
<td>-0.081</td>
<td>-0.053</td>
<td>-0.131</td>
<td>-0.212</td>
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<td></td>
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</tr>
<tr>
<td>6. Psychological Control (CRPBI)&lt;sup&gt;2&lt;/sup&gt;</td>
<td>2.16</td>
<td>0.51</td>
<td>41</td>
<td></td>
<td>-0.181</td>
<td></td>
<td>-0.016</td>
<td>-0.282</td>
<td>-0.034</td>
<td>-0.219</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Lax Discipline (CRPBI)&lt;sup&gt;3&lt;/sup&gt;</td>
<td>1.63</td>
<td>0.46</td>
<td>41</td>
<td></td>
<td>-0.215</td>
<td>0.115</td>
<td>0.145</td>
<td>-0.091</td>
<td>-0.297</td>
<td>0.34&lt;sup&gt;**&lt;/sup&gt;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Self-Efficacy&lt;sup&gt;4&lt;/sup&gt;</td>
<td>3.91</td>
<td>0.45</td>
<td>41</td>
<td></td>
<td>-0.011</td>
<td>0.092</td>
<td>0.057</td>
<td>-0.123</td>
<td>0.336&lt;sup&gt;**&lt;/sup&gt;</td>
<td>-0.078</td>
<td>-0.224</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Internality&lt;sup&gt;5&lt;/sup&gt;</td>
<td>4.23</td>
<td>1.15</td>
<td>41</td>
<td></td>
<td>-0.172</td>
<td>-0.052</td>
<td>-0.279</td>
<td>-0.089</td>
<td>-0.388&lt;sup&gt;**&lt;/sup&gt;</td>
<td>0.463&lt;sup&gt;**&lt;/sup&gt;</td>
<td>0.254</td>
<td>-0.203</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Stability&lt;sup&gt;6&lt;/sup&gt;</td>
<td>4.71</td>
<td>1.12</td>
<td>41</td>
<td></td>
<td>-0.167</td>
<td>-0.086</td>
<td>0.261</td>
<td>0.095</td>
<td>-0.190</td>
<td>0.226</td>
<td>0.327&lt;sup&gt;**&lt;/sup&gt;</td>
<td>-0.200</td>
<td>0.542&lt;sup&gt;**&lt;/sup&gt;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Globality&lt;sup&gt;7&lt;/sup&gt;</td>
<td>5.00</td>
<td>1.21</td>
<td>41</td>
<td></td>
<td>-0.147</td>
<td>-0.172</td>
<td>0.153</td>
<td>0.026</td>
<td>-0.308&lt;sup&gt;**&lt;/sup&gt;</td>
<td>0.352&lt;sup&gt;**&lt;/sup&gt;</td>
<td>0.134</td>
<td>-0.130</td>
<td>0.593&lt;sup&gt;**&lt;/sup&gt;</td>
<td>0.764&lt;sup&gt;**&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td>12. Controllability&lt;sup&gt;8&lt;/sup&gt;</td>
<td>4.35</td>
<td>1.14</td>
<td>41</td>
<td></td>
<td>-0.049</td>
<td>-0.170</td>
<td>-0.207</td>
<td>-0.047</td>
<td>-0.250</td>
<td>0.535&lt;sup&gt;**&lt;/sup&gt;</td>
<td>0.171</td>
<td>-0.191</td>
<td>0.669&lt;sup&gt;**&lt;/sup&gt;</td>
<td>0.507&lt;sup&gt;**&lt;/sup&gt;</td>
<td>0.609&lt;sup&gt;**&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

<sup>*</sup>Possible Range 1 to 5.
<sup>1</sup>Possible range 1 to 7.
<sup>2</sup>High School = 1, Some college = 2, Bachelor’s Degree = 3, Graduate or Higher = 4
<sup>3</sup>P < .05, <sup>4</sup>P < .01, <sup>5</sup>**P < .001
Predictors of Initial Social Skills

As expected from the small number of adolescents identified as abused or neglected (n = 9), there was no difference in average initial social skills between nonmaltreated adolescents (M = .48, SD = .23) and maltreated adolescents (M = .45, SD = .18), t(80) = .415, p > .05. Therefore results did not provide support for our first hypothesis.

In order to determine the effect of multiple risks and strengths on initial social skills, an OLS multiple regression model was conducted. Table 5 presents the regression coefficients from the final model with $\Delta R^2$ for each step of the model. Adolescent and family correlates were entered in the first block of the model; this reduced the effects of preexisting factors that are often confounded with measures of risks and strengths and social skills. These factors were age, race (African-America or not), household structure (single parent family or not), and number of children in the household. These variables accounted for 12.1% of the variance in initial social skills ($\Delta F = 2.651, p < .05$), with age of entry into the facility and number of children in the household emerging as significant predictors. The older an adolescent was upon entry or the greater the number of children present in his household, the higher initial social skills were, both p’s < .05.

The lack of association between race and family structure and initial social skills could be expected based on a sample that is largely African-American and from single parent families.

In the second step of the multiple regression analyses, the total number of risks identified for each adolescent was entered. As hypothesized, the measure of total risks
was negatively related to initial social skills (b = -0.065, SE = 0.023, p < .01). As risks accumulated for an adolescent, his social skill level upon entry to the facility was lower. After controlling for relevant family and adolescent correlates, the total number of risks explained an additional 8.7% of the variance in initial social skills (ΔF = 8.356, p < .01).

In the third step of the model, a measure of total strengths identified in each adolescent was entered. Contrary to hypotheses, this measure was not related to initial social scores after accounting for family and adolescent factors and total risks (b = -0.004, SE = 0.017, p > .05).

Table 5

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE</th>
<th>Beta</th>
<th>R²</th>
<th>ΔR²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age Entry</td>
<td>0.040*</td>
<td>0.018</td>
<td>0.246</td>
<td></td>
<td></td>
</tr>
<tr>
<td>African-American</td>
<td>-0.014</td>
<td>0.063</td>
<td>-0.024</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single Parent Family</td>
<td>0.083</td>
<td>0.052</td>
<td>0.171</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No. Children in HH</td>
<td>0.036*</td>
<td>0.017</td>
<td>0.233</td>
<td>0.121</td>
<td>0.121*</td>
</tr>
<tr>
<td>Step 2</td>
<td></td>
<td></td>
<td></td>
<td>0.208</td>
<td></td>
</tr>
<tr>
<td>Total Risks</td>
<td>-0.065**</td>
<td>0.023</td>
<td>-0.320</td>
<td></td>
<td>0.087**</td>
</tr>
<tr>
<td>Step 3</td>
<td></td>
<td></td>
<td></td>
<td>0.209</td>
<td></td>
</tr>
<tr>
<td>Total Strengths</td>
<td>-0.004</td>
<td>0.017</td>
<td>-0.030</td>
<td>0.209</td>
<td>0.001</td>
</tr>
</tbody>
</table>

Notes: Regression coefficients are from final model. N = 82 adolescents

To confirm that the variance in initial social skills was best explained by the unique contribution of total risk score, a parallel hierarchical regression analysis was carried out, but with the order of entry of total risks and total strengths reversed. I evaluated change in R², and the pattern of results suggested that total strengths did not account for unique variance over and above adolescent and family correlates (ΔF =
0.490, \( p > .05 \). When total risks score was added, there was a significant gain of \( R^2 = .082 \ (\Delta F = 7.791, p < .01) \).

In order to tease apart the effects of risk factors on initial social skills, a second OLS multiple regression analyses was conducted with the total risk score disaggregated to the individual factors (see Table 6). As with the previous model, the initial step of the analysis included the relevant adolescent and family variables. This first step accounted for 14.0% of the variance in initial social skills (\( \Delta F = 3.104, p < .05 \)) with number of children in the household still a significant predictor of initial social skills. Adolescents from larger households tended to perform better on the measure of initial social skills. The second step entered into the regression model included the five individual risks.

<table>
<thead>
<tr>
<th>Step 1</th>
<th>Variable</th>
<th>b</th>
<th>SE</th>
<th>Beta</th>
<th>( R^2 )</th>
<th>( \Delta R^2 )</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Age Entry</td>
<td>0.025</td>
<td>0.019</td>
<td>0.153</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>African-American</td>
<td>-0.036</td>
<td>0.060</td>
<td>-0.061</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Single Parent Family</td>
<td>0.100</td>
<td>0.052</td>
<td>0.204</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>No. Children in HH</td>
<td>0.044**</td>
<td>0.016</td>
<td>0.285</td>
<td>.140</td>
<td>.140*</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step 2</th>
<th>Variable</th>
<th>b</th>
<th>SE</th>
<th>Beta</th>
<th>( R^2 )</th>
<th>( \Delta R^2 )</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Seriousness of Crime</td>
<td>-0.008</td>
<td>0.073</td>
<td>-0.011</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Early-Onset</td>
<td>-0.201**</td>
<td>0.051</td>
<td>-0.452</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Parental Crime</td>
<td>-0.021</td>
<td>0.047</td>
<td>-0.047</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Abuse and Neglect</td>
<td>-0.002</td>
<td>0.080</td>
<td>-0.002</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Exploitation</td>
<td>-0.055</td>
<td>0.078</td>
<td>-0.075</td>
<td>.321</td>
<td>.180**</td>
</tr>
</tbody>
</table>

*Notes. Regression coefficients are from the final model. \( N = 81 \) adolescents

*\( p < .05 \), **\( p < .01 \), ***\( p < .001 \)

The results indicated that the initial relationship between total risks and initial social skills seen in the first multiple regression model was being driven entirely by the early-onset of delinquency variable (b = -0.201, SE = 0.051, \( p < .01 \)). Adolescents who
were identified as early-onset delinquents scored 20.1% lower on the measure of initial social skills than adolescents who were not early-onset delinquents. Although no other individual risks were significantly related to initial social skills, all associations were in the expected directions. In total, the disaggregated risks explained an additional 18.0% of the variance in initial social skills after controlling for the adolescent and family variables ($\Delta F = 3.767, p < .01$). The strength of the early-onset of delinquency variable in driving this relationship was confirmed as a model with just early-onset entered in the second step explained 17.2% of the variance in initial social skills ($\Delta F = 18.695, p < .001$).

A parallel set of analyses was run with disaggregated strengths entered in the second step of the model; however, consistent with the results of the first model, no individual strengths were significantly related to initial social skills, all $p$’s > .05. As a group these five strengths only accounted for an additional 3.0% of the variance in initial social skills ($\Delta F = 0.522, p > .05$).

In conclusion, several factors consistently predicted initial social skill mastery for this sample of adolescents in placement: age, the number of children in an adolescent’s household, and early-onset into a life of delinquency. A parsimonious model including the relevant correlates and early-onset explained 31.2% of the variability in initial social skills ($F = 6.80, p < .001$) as compared to 32.1% explained by the full model 2.

**Predicting Change in Social Skills While in Placement**

In order to predict change in social skills while in placement, a series of lagged OLS regression models were used. As mentioned, due to sample size limitations, the effects of caregiving behaviors, self-efficacy, and attributional style dimensions were
looked at in separate models. Each model predicting final social skills included initial social skills and those factors found to be predictive of initial social skills in the previous analyses (age, number of children in the household, and early-onset of delinquency) entered in the first step, the YCW variables of interest entered in the second step, and the interactions between the YCW variables of interest and initial social skills entered in the third step. All tables present regression coefficients for the main effects after the second step and $\Delta R^2$ from each step. As there were an unexpectedly low number of maltreated individuals, this factor as well as interactions between YCW variables and this factor were not included in the change analyses; therefore, the relevant hypotheses were not tested. As mentioned, YCW variables were averaged across individuals working on a particular unit at a particular time. This led to the creation of 12 clusters of caregivers. As the caregivers are clustered within groups, a Huber-White (Huber, 1967; White, 1982) adjustment was made to variance estimates to take this intra-group correlation into account.

### The Effect of YCW Caregiving Behaviors on Social Skill Development

Table 7 presents the results of the lagged regression model predicting change in social skills as a function of YCW caregiving behaviors (warmth, psychological control, lax discipline). Table 7 presents the regression coefficients for the main effects after caregiving behaviors were entered and $\Delta R^2$ values for each step. Results indicate that early-onset of delinquency predicted relative increases in social skills by the time adolescents were released from the facility, controlling for initial social skills, other adolescent and family correlates, and YCW caregiving behaviors. Adolescents identified
as early-onset delinquents experienced a 13.2% larger increase in social skills over the
course of placement compared to non early-onset delinquents controlling for all other
factors (b = 0.132, SE = 0.035, p < .01). In this analysis, age was also significantly
related to change in social skills (b = -0.040, SE = 0.016, p < .05). Older adolescents
experienced relative decreases in social skills by the time they were released from the
facility. For each year older an adolescent was, he experienced a 4.0% lower rate of
change in social skills.

Table 7
Lagged Regression Model Predicting Change in Social Skills as a Function of YCW Caregiving Behaviors

<table>
<thead>
<tr>
<th>Adolescent Variables</th>
<th>B</th>
<th>SE</th>
<th>Beta</th>
<th>R²</th>
<th>ΔR²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial Social Skills</td>
<td>0.768***</td>
<td>0.099</td>
<td>0.664</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age Exit</td>
<td>-0.040*</td>
<td>0.016</td>
<td>-0.210</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No. Children in HH</td>
<td>-0.030</td>
<td>0.023</td>
<td>-0.171</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Early-Onset</td>
<td>0.132**</td>
<td>0.035</td>
<td>0.256</td>
<td>.349</td>
<td>.349***</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>YCW Variables</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Warmth/Acceptance</td>
<td>0.181</td>
<td>0.201</td>
<td>0.153</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychological Control</td>
<td>0.251*</td>
<td>0.108</td>
<td>0.266</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lax Discipline</td>
<td>0.311</td>
<td>0.281</td>
<td>0.201</td>
<td>.442</td>
<td>.093*</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Interactions</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Warmth X Initial Social Skills</td>
<td>-0.112</td>
<td>0.348</td>
<td>-0.020</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psych Control X Initial Social Skills</td>
<td>-0.207</td>
<td>0.383</td>
<td>-0.044</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lax Discipline X Initial Social Skills</td>
<td>0.021</td>
<td>0.276</td>
<td>0.003</td>
<td>.446</td>
<td>.004</td>
</tr>
</tbody>
</table>

Notes: Standard Errors are adjusted using the Huber/White estimator, with Unit and Cohort (n = 12) as the
Clusters. Regression coefficients for main effects are from the model without interactions.
*p < .05, **p < .01, ***p < .001

Turning to YCW caregiving behaviors, results indicate that only psychological
control predicted change in social skills (b = 0.251, SE = 0.108, p < .05). Higher
psychological control was related to relative increases in social skills development
controlling for other caregiving behaviors, and adolescent and family correlates. Adolescents who experienced more psychologically controlling behaviors in their units also experienced greater increases in social skills growth. One unit change in reported psychological control predicted a 25.1% unit increase in social skills growth. Levels of warmth and lax discipline were not significantly related to changes in social skills, both p’s > .05. Overall, caregiving behaviors explained an additional 9.3% of the variance in social skills change.

The lower panel of Table 7 presents initial social skill interactions to assess whether the relationship between caregiving and social skills growth were moderated by adolescents’ initial social skills. All variables were mean-centered before interaction terms were created. For all interaction models, mean-centered main effects were entered followed by each interaction term added individually due to sample size restrictions. For example, the interaction of warmth and initial social skills was added to the model, then removed and replaced by the interaction of psychological control and initial social skills. Results indicate that the main effects of caregiving on social skills growth were not moderated by adolescents’ initial social skills for any of the caregiving behaviors.

The Effect of YCW Self-Efficacy on Social Skill Development

Table 8 presents the results of the lagged regression model predicting change in social skills as a function of YCW self-efficacy. Results indicate that early-onset of delinquency still predicted relative increases in social skills by the time adolescents were released from the facility, controlling for initial social skills, other adolescent and family correlates, and YCW self-efficacy (b = 0.119, SE = 0.039, p < .05). Adolescents
identified as early-onset delinquents experienced an 11.9% larger increase in social skills over the course of placement than non early-onset delinquents. Contrary to hypotheses, results indicate that neither YCW worker self-efficacy nor the interaction of YCW self-efficacy and adolescent initial social skills predicted change in social skills after controlling for adolescent and family correlates, both $p$’s > 05.

Table 8
Lagged Regression Model Predicting Change in Social Skills as a Function of YCW Self-Efficacy

<table>
<thead>
<tr>
<th>Adolescent Variables</th>
<th>B</th>
<th>SE</th>
<th>Beta</th>
<th>$R^2$</th>
<th>$\Delta R^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial Social Skills</td>
<td>0.757***</td>
<td>0.137</td>
<td>0.654</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age Exit</td>
<td>-0.027</td>
<td>0.016</td>
<td>-0.144</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No. Children in HH</td>
<td>-0.042</td>
<td>0.027</td>
<td>-0.241</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Early-Onset</td>
<td>0.119*</td>
<td>0.039</td>
<td>0.231</td>
<td>.349</td>
<td>.349***</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>YCW Variables</th>
<th>B</th>
<th>SE</th>
<th>Beta</th>
<th>$R^2$</th>
<th>$\Delta R^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-Efficacy</td>
<td>-0.541</td>
<td>0.385</td>
<td>-0.171</td>
<td>.374</td>
<td>.025</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Interactions</th>
<th>B</th>
<th>SE</th>
<th>Beta</th>
<th>$R^2$</th>
<th>$\Delta R^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-Efficacy X Initial Social Skills</td>
<td>1.319</td>
<td>0.676</td>
<td>0.096</td>
<td>.383</td>
<td>.009</td>
</tr>
</tbody>
</table>

Notes: Standard Errors are adjusted using the Huber/White estimator, with Unit and Cohort (n = 12) as the Clusters. Regression coefficients for main effects are from the model without interactions.

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

The Effect of YCW Attributional Style on Social Skill Development

Table 9 presents the results of the lagged regression model predicting change in social skills as a function of YCW attributions. As hypothesized, dimensions of YCW attributional style were associated with changes in adolescent social skills. As mentioned, measures of YCW attributions of internality and controllability were averaged together due to their high intercorrelation and conceptual similarity; this
reduced the likelihood of nonsignificant effects occurring due to multicollinearity issues if the predictors were entered separately. This analysis shows that the joint attribution factor of internality and controllability significantly predicted change in adolescent social skills controlling for initial social skills and adolescent and family correlates.

Surprisingly, higher levels of attributing misbehaviors to factors internal and controllable by adolescents were related to relative increases in social skills growth, controlling for covariates and other attributional dimensions (b = 0.237, SE = 0.083, \( p < .05 \)). Neither stability nor globality was significantly related to social skills growth. Similar to the effect of psychological control, a one unit increase in internality/controllability attributions predicted a 23.7% unit increase in adolescent social skills.

<table>
<thead>
<tr>
<th>Table 9</th>
<th>Lagged Regression Model Predicting Change in Social Skills as a Function of YCW Attributions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adolescent Variables</td>
<td>B</td>
</tr>
<tr>
<td>Initial Social Skills</td>
<td>0.764***</td>
</tr>
<tr>
<td>Age Exit</td>
<td>-0.029*</td>
</tr>
<tr>
<td>No. Children in HH</td>
<td>-0.033</td>
</tr>
<tr>
<td>Early-Onset</td>
<td>0.133**</td>
</tr>
</tbody>
</table>

| YCW Variables | B | SE | Beta | \( R^2 \) | \( \Delta R^2 \) |
| Internality/Controllability | 0.237* | 0.083 | 0.373 | | |
| Stability | -0.062 | 0.051 | -0.111 | | |
| Globality | 0.034 | 0.089 | 0.040 | .439 | .090* |

Notes: Standard Errors are adjusted using the Huber/White estimator, with Unit and Cohort (n = 12) as the Clusters. Regression coefficients are from the final model.

\(*p < .05, \quad **p < .01, \quad ***p < .001\)

A number of robustness checks were run which replicated this pattern. Both internality and controllability were entered separately with stability and globality and the
results showed the same pattern. Internality and controllability had equivalent effects on social skills change lending further support for combining the dimensions into one construct. Globality and Stability were also entered separately to ensure multicollinearity was not a problem for these factors; again, the results showed the same pattern as neither was significantly related to social skills change. Overall, caregiving behaviors explained an additional 9.0% of the variance in social skills change.

Results indicated that early-onset of delinquency still predicted relative increases in social skills by the time adolescents were released from the facility, controlling for initial social skills, other adolescent and family correlates, and YCW attributions ($b = 0.133, SE = 0.036, p < .01$). As with the model including caregiving behaviors, adolescents identified as early-onset delinquents experienced a 13.3% larger increase in social skills over the course of placement than non early-onset delinquents. In this analysis, age was also significantly related to change in social skills ($b = -0.029, SE = 0.010, p < .05$). Older adolescents experienced relative decreases in social skills by the time they were released from the facility. For each year older an adolescent was, he experienced a 2.9% lower rate of change in social skills.

**Summary**

To summarize, the results show support for several conclusions. First, the results show that early-onset of delinquency is an important predictor of both initial social skills upon entry to a residential treatment facility and the relative change in social skills while in treatment. Early-onset delinquents entered treatment with lower levels of social skills on average, but saw a greater increase in those skills while in treatment compared to non
early-onset delinquents. Second, older adolescents and adolescents coming from larger households tended to have higher levels of initial social skills upon entry to placement; however, these older adolescents also experienced relative decreases in social skill abilities over the course of treatment. Third, not only do adolescent factors contribute to social skills development, but several measures of YCW caregiving were positively related to change in social skills. In separate models, each block of caregiving variables (behaviors vs. attributions) explained an additional 9% of the variance in change in social skills. Considering the individual dimensions of caregiving and attribution, the use of psychological control and the joint attribution of internality and controllability predicted a relative increase in social skills while in treatment. Finally, the relationships between these caregiving factors and social skills development were not moderated by adolescents’ initial social skills.
Chapter V

Discussion

Recognizing the staggering psychosocial and financial cost of delinquency on individuals, families, and society, the overarching goal of this study was to identify factors influential in the social skills development of adjudicated adolescents in residential treatment facilities. Youth in RTFs are of particular concern as these youth commit a substantial portion of all juvenile crime (Snyder & Sickmund, 1999), their crimes are more often violent (Barrett et al., 2006), and they are most likely to become chronic offenders (Schumacker & Kurz, 2000). Examining social skills development in this population is important as several theories of delinquency posit that prior life experiences are associated with antisocial outcomes via their effect on youth social competencies and social skill development (e.g. Dodge et al., 1995; Patterson, 1982, 1986). In addition, research on intervention efforts with delinquents has indicated that the most successful programs in terms of recidivism rates and positive development are those focusing on parent training and youth social skills (for a review, see Tarolla, Wagner, Rabinowitz, & Tubman, 2002). However, when adolescents are placed into RTFs, parental responsibilities are subsumed by RTF front line staff – the youth care workers (YCWs).

The environment provided by YCWs is the immediate context for delinquent adolescents in RTFs to nurture or abandon the use of these skills. The literature, however, provides little information about the proximal care environment and its effect on the development of youth in RTFs. To address these limitations, three major factors
that may influence the social skills outcomes of adjudicated youth were examined: (1) the prior effect of maltreatment and other risks (in family life), (2) the current effect of youth workers, and (3) the possible interaction between (1) and (2). Results suggest that several factors at the individual level and in the treatment milieu are important to consider when addressing social skills development for delinquent youth in RTFs. At the individual level, youth identified as early-onset delinquents entered treatment with lower social skills, but experienced the greatest improvement in these skills while in treatment. In addition, older youth and youth from larger households entered treatment with higher levels of initial social skills on average; however, older youth experienced relative decreases in social skills over the course of treatment. When considering the caregiving of YCWs, two caregiving measures were associated with social skills growth – caregiver psychological control and attributions of internality and controllability. The results are further discussed below, along with methodological limitations, and implications for research and practice.

**Predictors of Initial Social Skills**

*Child Maltreatment*

Results indicated that as hypothesized, adolescent’s experience of cumulative early life risks – total risk scores – predicted initial social skills; however, after disaggregating this composite measure, results showed that while abuse status did not predict initial social skills, another risk factor, early-onset of delinquency, was significantly associated with an adolescent’s social skills ability upon entering the RTF. As the present sample is largely African-American, the lack of a difference between
maltreated and nonmaltreated African-American youth in social competence has been previously discovered in the literature (Haskett, Allaire, Kreig, & Hart, 2008). There are also several studies indicating that harsh or physical discipline is associated with externalizing behaviors in Caucasian youth, but not African-American youth (Deater-Deckard & Dodge, 1997; Gunnoe & Mariner, 1997). Deater-Deckard and Dodge (1997) have, however, posited that abuse has ‘universal negative” effects.

The nonsignificant effect of maltreatment is more likely due to the relatively few cases of maltreatment identified in this sample. Surprisingly, only about 1 in 10 adolescents were identified as victims of abuse or neglect. While higher than national averages of maltreatment (USDHHS, 1999), this figure is much lower than levels previously reported in delinquent populations (Pawersat, 1991; Wiebush et al., 2000). The discrepancies between the present research findings and prior research on incidence of maltreatment in delinquents could be due to the ethnic and racial composition of the present sample. A substantial body of literature has examined whether race influences the likelihood of maltreatment reporting and maltreatment self-labeling (Ards, Myers, Chung, Malkis, & Hagerty, 2003; Giovanni & Becerra, 1979; Lau, Huang, Garland, McCabe, Yeh, & Hough, 2006; Lau, McCabe, Yeh, Garland, Hough, & Landsverk, 2003; Miller & Cross, 2006). The measure of maltreatment used in this study (CANS-JJ) was based on a clinician’s evaluation derived from adolescent records and consultations with the adolescent and the adolescent’s caregivers. If the definition of maltreatment held by an adolescent, a caregiver, or prior reporter is reflective of their ethnic or racial background, incidences of abuse could vary based on the sample demographics.
Defining child maltreatment has been a difficult problem in practice, policy, and research (Barnett, Manly, & Cicchetti, 1993) that has only increased in ambiguity as society has become more diverse and culturally relevant parenting practices must be distinguished from maltreatment (Fontes, 2002). Research has suggested that punitive parenting practices and endorsement of corporal punishment mark minority families as compared to Caucasians (Deater-Deckard, Dodge, Bates, & Pettit, 1996; Ferrari, 2002; Straus, Hamby, Finkelhor, Moore, & Runyan, 1998). In addition, the meaning of parenting discipline strategies can differ by culture as harsh discipline is associated with positive parental characteristics in non-Caucasian groups (Baumrind, 1997). Therefore, judgments about whether an action could be considered maltreatment could vary by race or ethnic status for both parents and youth (Lau et al., 2003, 2006; Meston, Heiman, Trapnell, & Carlin, 1999).

For example, in work with youth involved with public sectors of care, Lau and colleagues found that in some sectors of care African-American youth self-reported maltreatment less frequently than other youth (Lau et al., 2003), that Asian Pacific Islanders were less likely to label punitive parental behaviors as abusive, and that non-Hispanic white youth were more likely to self-identify as physically abused compared to Asian Pacific Islanders and as emotionally abused compared to African-American and Hispanic youth (Lau et al., 2006). Therefore, the unexpectedly low number of maltreated adolescents in the present sample could be due to “labeling bias” (Macionis, 1987) – what one might describe as physical abuse is seen by another as physical discipline. As the sample was overwhelmingly African-American, instances of parental behavior
identified as abuse in a Caucasian sample may be labeled as a normative act of discipline. Future research should investigate adolescents’, parents’, and clinicians’ definitions of abuse and discipline in a more diverse sample order to delineate the impact of actual parent behavior as well as the impact of perceptions of parent behavior for youth from various racial and ethnic backgrounds.

Number of Children in Household

The model predicting initial social skills also indicated that the number of children in an adolescent’s household was positively related to initial social skills; adolescents in households with more children exhibited higher initial social skills. Given the literature on the associations between family size or household crowding and negative psychosocial outcomes (Aiello, Nicosia, & Thompson, 1979; Evans, Maxwell, & Hart, 1999; Evans, Saegert, & Harris, 2001; Kuo & Hauser, 1997; Parcel & Menaghan, 1994; Regoecezi, 2003) especially in high-risk samples (Evans & Saegert, 2000), this finding could be seen as quite surprising. This finding is even more unexpected when one considers that results from the present study indicate that there is a negative correlation between the number of children in a youth’s household and total number of strengths.

Research indicates that youth from more crowded homes experience more behavioral problems in school (Evans, Lepore, Shejwal, & Palsane, 1998) and are less persistent in problem solving tasks (Evans et al., 2001). Parents engage in more conflict with children (Evans et al., 1998) and are less responsive parents (Evans et al., 1999) in crowded homes. Similarly as the number of siblings increase, the intellectual...
development, educational attainment, and occupational opportunities of subsequent siblings are impaired (for a review, see Steelman, Powell, Werum, & Carter, 2002).

However, research has emerged that calls into question the consensus on the relation between family size and negative outcomes (Bianchi & Robinson, 1997; Guo & Van Wey, 1999; Steelman et al., 2002; Strohschein, Gauthier, Campbell, & Kleparchuk, 2008). Bianchi & Robinson (1997) looked at the time a representative sample of Californian children spent in activities presumed to affect their cognitive and social development and found no differences due to a child’s number of siblings. Rather parental education most strongly predicted the time children spent in certain activities. Similarly in a test of the resource dilution hypothesis, Strohschein and colleagues (2008) found that rather than parenting resources being diluted when a new child is added to the family, resources are reallocated as parents decrease positive interactions with each child, but increase their levels of consistent parenting.

Taking these factors together, relationships between household size and negative outcomes may be spurious depending on research design. Considering the present study, measures of parental education are not known, nor have measures of dynamic parenting been collected; therefore, the results linking household size to higher initial social skills could be due to these factors. In addition, many of the hypotheses relating negative outcomes to family size indicate that later born children will be most affected as siblings are added to a family. In the present study, the measure of household size precludes the ability to identify what ordinal position an adolescent is. Finally, most studies on family size and developmental outcomes have not considered social skills development. It may
be expected that adolescents living in households with siblings would be better off than only children in measures of social skills; individuals with siblings have the opportunities to practice abilities useful in developing relationships with others.

Support for this hypothesis has been found in research on elementary school-age children (Kitzmann, Cohen, & Lockwood, 2002). In a comparison of only children and children with a sibling, results indicated that only children were less liked by classmates and were more likely to be both aggressive and victimized in the peer group. It is suggested that having a sibling may help youth learn how to manage conflict more successfully (Kitzmann et al., 2002). Single children have also scored lower on measures of morality and unstable mood when compared to children with siblings (Wu & Tang, 2002). The more developed social skills of youth with siblings could also be reflected in research indicating that youth with non-twin siblings outperformed both only children and twins with no other siblings in theory-of-mind abilities (Cassidy, Fineberg, Brown, & Perkins, 2005).

The present finding linking larger family size to higher social skills could also be seen in a positive light as youth normally seen at-risk due to an accumulation of stressors may actually possess strengths on which to build. Knowing that youth from larger households exhibit higher social skills could influence the manner in which treatment is provided as these youth could require fewer resources (community-based versus residential treatment) than only children or these youth could serve as models to more at-risk youth.
Early-Onset of Delinquency

Another background factor that predicted social skill ability was early-onset of delinquency. The significant relation between early delinquency onset and social skills development is consistent with several theories of delinquency development (Moffitt, 1993; Moffitt & Caspi, 2001; Patterson, 1986; Taylor, Iacono, & McGue, 2000) as age-of-onset has been identified as the best predictor of the severity and trajectory of antisocial behavior (Farrington et al., 1990). Studies have enumerated qualitative differences between life-course-persistent versus adolescent-limited offenders (or early-onset versus late-onset delinquents) in psychological, behavioral, and emotional measures (e.g. Moffitt, 1993; Moffitt & Caspi, 2001; Moffitt, Caspi, Harrington, & Milne, 2002; Taylor et al., 2000). Life-course-persistent delinquents are marked by inadequate parenting, difficult temperament, psychopathic personality traits, neurocognitive problems, low intellectual ability, low verbal functioning, extreme hyperactivity, and violent behavior; these variables are not indicative of adolescent-limited offenders.

The deficits seen in life-course persistent offenders will pervade multiple aspects of their lives including the development of poor relations with peers and teachers, employment problems, and violence toward intimate partners and children. Adolescent-limited offenders, on the other hand, will take up an antisocial lifestyle during the adolescent years to demonstrate autonomy, increase popularity, and impel social maturation. However, since their development before delinquency onset was normal and healthy, most are able to desist from crime and lead a conventional lifestyle.
Other studies have presented findings consistent with this dual-taxonomy of offenders (Patterson, DeGarmo, & Knutson, 2000; Taylor et al., 2000). For example, Patterson and colleagues (2000) determined that children’s hyperactivity interacted with poor parenting to predict early-onset antisocial behavior. These early coercive cycles of behavior often lead to school failure, prosocial peer rejection and affiliation with antisocial peers (Patterson, 1986). Evidence of a greater genetic influence for early-onset of delinquency was also found in a sample of early starting, late starting, and nondelinquent twins (Taylor et al., 2000).

The present finding that adolescents identified as early-onset delinquents differ in initial social skills from late-onset delinquents provides a more feasible means of intervention for this category of offenders as many of the other characteristics often occur before the youth becomes known to public sectors of care or are due to genetic proclivities. This finding provides a more hopeful approach to delinquents considered to become chronic and serious offenders (Patterson, Forgatch, Yoerger, & Stoolmiller, 1998) as social skills interventions have been shown to be effective in reducing the rate of reoffending. Perhaps early-onset delinquents may experience placement in an RTF as a “turning point” (Sampson & Laub, 2005) and desist from deviancy. Future research would prove useful in longitudinally examining the interactions between type of treatment and type of offender, with particular emphasis on social skills interventions and age-of-onset. Research examining the etiology of poor social skills in early-onset delinquents would also provide further avenues of treatment. This work would help
determine if poor social skills are due to aforementioned neurocognitive deficits, genetics, or environmental factors such as poor parenting or peer influence.

**Predictors of Change in Social Skills**

*Early-Onset of Delinquency*

As with initial social skills, early-onset of delinquency significantly predicted change in social skills for adolescents while in the RTF; adolescents identified as early-onset delinquents experienced a greater increase in social skills over the course of treatment compared to late-onset delinquents. Although this could be seen as a regression to the mean, a threat to internal validity with the lowest initial scorers experiencing the biggest improvement, the literature provides evidence that treatment is generally most beneficial for the most serious offenders (Lipsey et al., 2000). As detailed, early-onset delinquents experience more severe levels of intraindividual and extraindividual difficulties such as neurocognitive deficits and criminogenic environments; therefore, removal from these environments and specific attention to their numerous risk factors via educational, mental health, and social services, could result in a greater change in developmental outcomes than youth more well off. This appears to be the case as early-onset delinquents substantially close the gap between their social skills mastery scores and the scores of later-onset delinquents. Initially, late-onset delinquents indicated a significant advantage over early-onset delinquents in social skill mastery (58.3% versus 38.2%, \( p < .001 \)); this gap decreased to a non-significant advantage for later-onset delinquents upon discharge (54.6% versus 49.3%, \( p > .05 \)). The increased benefits of intervention for those at lower levels of ability have previously been identified
Parenting Behaviors

The primary interest of the present study was to determine what relationships exist between YCW caregiving measures and changes in adolescent social skills. Results indicated that after controlling for other correlates of social skills development and other caregiving behaviors, only psychological control emerged as a significantly predictor of social skills development for adolescents while in treatment. Surprisingly, higher levels of reported psychologically controlling behaviors were associated with relative increases in adolescent social skills. Prior research has provided support for a negative effect of psychological control on both internalizing (e.g. Gray & Steinberg, 1999; Pelton & Wierson, 2002) and externalizing problems (e.g. Barber, 1996). To better understand the positive effect of psychological control, it is important to consider three issues: 1.) the range of caregiving behaviors reported by the sample of YCWs, 2.) the conceptual clarity of the psychological control construct, and 3.) the characteristics of the youth in treatment.

In general, YCWs reported relatively moderate to high levels of warmth, relatively low levels of lax discipline and relatively moderate to low levels of psychological control. Since levels of psychological control ranged from low to moderate, it was not possible for youth to experience the high levels of psychological control often associated with negative outcomes. Perhaps there is a curvilinear relationship between psychological control and some measures of adolescent adjustment.
such as social skill development. Researchers have proposed a similar relationship between discipline and adolescent psychosocial outcomes, with high and low levels of discipline least successful in promoting positive development (Rollins & Thomas, 1979). Due to the restricted range of psychological control in the present study, examination of a possible curvilinear relationship is not possible. Further research is needed to test for and model the specific nature of this relationship.

Prevailing views of psychological control position the use of these behaviors in an entirely negative light with the use of psychological control due to “intrapsychic disturbances” in parents (e.g., Barber, 1996; Barber & Harmon, 2002; Steinberg, 1990). Caregivers who use psychological control are deemed to focus on the regulation of youth’s emotions and feelings by trying to alter behaviors through the use of guilt, affect-laden expressions, or anxiety induction. Barber (1996) suggested parents assert their authority through the use of emotionally manipulative techniques to negate an adolescent’s own thoughts, ideas, or intrinsic value and interfere with his development of independence and self-direction. However, is this necessarily true when a moderate amount of psychological control is used?

It could be argued that a certain amount of guilt or anxiety induction is actually beneficial to adolescent development. It may activate a youth’s emotional-self and socialize adolescents to the normative goals of conformity to and internalization of parental and societal standards. For example, a powerful tool to enforce group morals is the practice of shunning. In addition, moral emotions such as guilt and shame are theorized to play a substantial role in the production of moral judgments and moral
behaviors (Haidt, 2001, 2003; Hoffman, 1998). While moral judgments may be consistent from person to person, the moral emotions of guilt, shame, and empathy are not present in aggressive and antisocial individuals (Kagan, as indicated in Haines-Stiles & Montagnon, 1991). Activating the moral emotions of the adolescents in the present study may have resulted in the positive change in social skills. Inducing guilt may have led youth to reconsider moral judgments and behaviors in developing social skill abilities.

In addition to the range in use of psychological control, recent research has emerged arguing that the effect of psychological control may depend on the issues over which parents assert their authority, not the manner in which they exercise it (Nucci, Hasebe, & Dyer, 2005; Smetana, Crean, & Campion-Barr, 2005). In this view, adolescents only perceive parental control as hindering their sense of autonomy or identity when the authority is imposed over personal matters. When parents exert control over matters seen as conventional, prudential, or moral, (e.g. dropping out of school), psychologically control is not experienced as negatively. The results stemming from this perspective would be consistent with the previous argument concerning moral emotions. The outcome of interest in the present study – social skills – involves developing positive interactions with others; therefore, it may be viewed as a conventional or moral matter. Thus, the use of psychological control would not adversely affect its growth. As motivation to use new social skills is related to their actual use (Kuperminc & Allen, 2001), appealing to moral emotions may lead to an enhanced adoption of social skills in this sample.
Finally, when discussing the positive impact of psychological control, it is also important to consider the characteristics of the sample in the present study. The majority of studies on caregiving behaviors and youth development have included samples of parents and their children. In the present study, the effect of nonparental caregivers’ parenting behaviors is examined in relation to the development of delinquent adolescents in an RTF. The use of psychologically controlling behaviors by a nonparental caregiver such as a YCW could have an entirely different impact on adolescents than the use of psychologically controlling behaviors by a parent. Issues of striving for autonomy may differ as these youth’s freedom has essentially been removed. To reacquire a sense of identity and autonomy (Steinberg, 1990), the adolescent may believe he needs to successfully complete the treatment program and leave the RTF.

The impact of psychological control may also differ for adolescents experiencing as intense an intervention as removal from the household and placement in an RTF. Adolescents in RTFs may be hypervigilant to behaviors that activate feelings of guilt and anxiety as their removal from the home may have led to feelings of disappointment for criminal behavior, depression due to isolation from family and friends, and the general need to return home. Finally, work on the relation between psychological control and delinquent behaviors among teens has found that psychologically controlling behaviors led to more adverse outcomes among teens who initially showed low levels of delinquent behaviors (Pettit et al., 2001). Therefore, as the present sample already exhibits high levels of delinquency requiring their placement in an RTF, the effect of psychological control may be attenuated.
The effects of psychological control may also be moderated by the race or ethnicity of participants. The present sample is largely African-American. Research has indicated that there is a greater use of socialization practices that emphasize emotional control in families of color as verbal and emotional tactics including criticism, shaming, and hostile control were found to be more widely used among African-American compared to Caucasian parents (Ferrari, 2002). Therefore, this suggests it is important not to adopt a deficit perspective when examining these measures of caregiving behavior. The differential impact of psychologically control due to race was supported in work with a random sample of African-American youth as psychological control was not related to academic grades, delinquency, or depression (Bean, Barber, & Crane, 2006). Since the cultural meanings of caregiving behaviors differ, the developmental outcomes of adolescents related to these behaviors may also then differ. Thus, for minority youth in an RTF, the use of psychologically controlling behaviors by YCWs may not have an adverse impact on development as it would with a Caucasian sample. It may also be the case that for this largely African-American sample, the use of psychological control is consistent with the type of care experienced at home prior to placement. Therefore, adolescents would be able to take advantage of the familiarity of dealing with these behaviors and successfully “buy into” the treatment and exhibit increased social skills.

These findings present a strong argument for further research on the conceptualization of psychological control for different populations. A cultural-values approach to better understand this measure in terms of its relevance to delinquent populations and minority populations is needed. As emotion and affect appear important
in conceptions of psychological control, future research would also be useful to examine psychological control and adolescent adjustment in the context of affect.

Attributions

The findings examining the relationship between YCW attributions and change in adolescent social skills mirrored the association between psychological control and social skills. Unexpectedly, higher levels of attitudes reflective of a negative attributional style were related to more positive changes in social skills over the course of treatment. As with psychological control, the joint measure of internality and controllability was positively related to growth in social skills; attributing problem behaviors to factors internal and controllable by the adolescent were associated with social skill improvements in the youth. The literature on attributional style, however, indicates that higher levels of internality are generally related more problems on a residential unit (Martin, 1976) and higher levels of coercion and power asserting behaviors in mother-child dyads (Wilson et al., 2006). The latter finding may prove useful when considering the present finding.

In the present study, levels of psychological control and internality and controllability were positively correlated; YCWs who reported using higher levels of psychologically controlling behaviors also reported higher levels of attributing problem behaviors to factors internal and controllable by adolescents in their care. In addition, the amount of variance in social skills growth explained by caregiving behaviors was almost identical to the amount explained by attributions in the separate regression models (9.3% versus 9.0%, respectively). Research indicates that both constructs influence the type of
interactions caregivers have with children. Both psychologically controlling parents and parents ascribing to a negative attributional style tend to engage in coercive interactions with their children (Wilson et al., 2006); these coercive cycles of interaction are generally linked to maladjustment and antisocial outcomes (e.g. Patterson, 1986).

In the present study, however, these two measures of caregiving were related to positive development in a sample of delinquent adolescents in a RTF. As with psychological control, I posit that higher levels of internality and controllability do not necessarily lead to maladaptive outcomes. Research on attributional style of staff in RTFs has often examined caregivers in RTFs for individuals with “mental-disorders” and intellectual disabilities (Bailey et al., 2006; Dagnan & Cairns, 2005; Sharrock et al., 1990). The relation between attributing challenging behavior to factors outside of the control of someone with an intellectual disability and subsequent positive care may not apply to a sample of adolescent delinquents. The misbehavior of delinquents in RTF is more likely to be under their control than that of a person with a “mental-disorder” and also perceived that way. Therefore, accurately attributing misbehavior to something internal and controllable to the youth would lead to positive outcomes.

A hopeful and effective approach to delinquency intervention may not see adolescent misbehavior as something uncontrollable and outside the youth as this would be a fatalistic approach to engendering positive change. If a caregiver and/or the adolescent were to believe youth actions were beyond their control, uninvolved YCW caregiving or adolescent resignation to a life of crime might result. This would lead to, at best, no change in adolescent behavior upon release from treatment, a result antithetical
to the purpose of the intervention. The finding that measures of globality and stability were not related to social skills growth is supportive of this idea. Higher levels of attributing problem behaviors to factors always present in the youth and across all situations were not related to changes in social skills. If they were, more negative outcomes would be expected.

If a caregiver believes that adolescent misbehavior is internal and controllable by the adolescent, this approach may impel the youth to take responsibility for his actions prior to and while in the RTF. This action, in effect, would counter the notion that psychological control and negative attributions would limit youth autonomy and self-identity (Barber, 1996; Steinberg, 1990). The measures of psychological control and internality and controllability may reflect a latent factor of YCW caregiving that relates to positive adjustment for delinquent youth in an RTF. Delinquent youth experiencing an appropriate amount of this factor may benefit from placement. Appealing to a delinquent adolescent’s moral emotions and placing responsibility for his actions squarely on the adolescent may lead to an increase in social skills development.

Future research with larger samples should examine the structure of these variables to determine to what extent caregiving behaviors and attributions load on a single factor. Work with more diverse sample of delinquents would also be needed to see if the relations among caregiving, attributions, and outcomes hold for Caucasian, Latino, and Asian-American youth, among others. Longitudinal research would be critical to determine if the relation between caregiving while in an RTF extends to life after release. For example, do adolescents report higher levels of social skills to show they have co-
opted the terminology of the treatment facility to impel release, or have they truly grown in social skills? The inclusion of more facilities is also essential in order to see whether measures of these constructs differ across types and locations of facilities. Would varying types of care lead to different outcomes for different youth both in the short and long-term?

Limitations

A number of limitations should be noted. As indicated above, all conclusions must be considered in relation to the size and characteristics of the sample; these are further discussed below along with some measurement concerns.

Prior experiences

One of the limitations concerns the lack of detailed data on the individual, family, and community experiences of adolescents prior to entry in the RTF. Knowing that factors prior to placement are influential in initial levels of numerous psychosocial variables as well as reactions to treatment, more extensive information on the many contexts of development would provide a fuller picture of the adolescent entering this facility as well as the differential effect of treatment. Information about prior experiences would also lend credence to several arguments in the discussion concerning the type of care experienced by African-Americans and its effect on current caregiving while in treatment.

While not including as much information as desired about prior experiences, the present study did include a number of risks and strengths important to youth development. Due to changes in scoring of these measures over time, however, it was
necessary to dichotomize the risk and strength variables. It should be noted that this is a common challenge in the area of cumulative risks and strengths. Some decisions, though, were sample dependent due to the consistency in scoring over time. This limitation highlights reality of work in the area of social services and residential treatment; the data can be very muddled due to changes in the manner in which information is collected and the type of data that is collected. Therefore, generalization of the results should be exercised with caution, and only to similar intensive level, delinquent adolescents.

*YCW Measures*

YCW and adolescent measures came from a variety of sources (clinicians, YCWs, adolescents) therefore limiting the threat of common method variance problems (Campbell & Fiske, 1959). However, only YCW self-reports were utilized for all caregiving variables. YCW perceptions of their own caregiving may not be as accurate or as important to youth development as reports from the perspective of the adolescents. Future research should attempt to gain information from multiple reporters to determine what best predicts development including dynamic observations of YCW behaviors in the treatment milieu. The present study was not able to gain access to the adolescents in the facility and so needed to rely on YCW self-reports.

A further problem with the YCW measures was that behaviors for each worker were averaged across the workers on a unit at a specific time. Despite significant relationships found, averaging across caregivers might not be the best way to operationalize the caregiving experienced by an adolescent in treatment (for a review, see Simons & Conger, 2007). However, determining the best way to measure caregiving in
an environment in which there are multiple caregivers who switch shifts presents many difficulties; this may be one of the reasons there is such a paucity of research in the area of residential treatment contexts. Future work must address the limitations of current typologies and operationalizations of caregiving when considering a group care environment. Perhaps obtaining a youth-reported measure of caregiving for the YCW each most associates with as well as one for the whole unit on which each adolescent resides would improve validity and power. Results of these examinations would prove fruitful to research with youth not in group care too as the number of nontraditional and blended families increase.

Sample Size & Representation

The findings presented in this study are representative of a small and selected population. The results are specific to largely African-American sample of delinquent adolescents in a residential treatment facility who have been identified to be of intensive level concern. Therefore, the results should be interpreted with some caution until there is replication with samples that are more diverse with regard to race/ethnicity, location, and type of treatment facility or intervention. As detailed, caregiving behaviors viewed as advantageous in one setting or culture may not be protective in another setting (e.g., Baumrind, 1997; Steinberg et al., 1991).

The key limitation was the relatively small sample size and the related condition that the caregivers were grouped into only 12 clusters. This reduced the statistical power of the analyses and prevented me from using multi-level modeling in my analytical approach. The fact that significant relations between measures of caregiving and social
skills growth in delinquent adolescents were found under these constraints points to the potentially robust nature of this phenomenon. The small sample size also limited the amount of variables and interactions that could be entered into a model at any one time. Although all caregiving behavior measures were included in the same model to conclude with confidence that psychological control was related to social skills growth (Caron, Weiss, Harris, & Catron, 2006), not including all variables of interest into one model limits the interpretability of the findings. A larger sample size would be needed to include all variables of interest and their interactions to be certain that psychological control and internality and controllability were related to social skills growth.

Factors in Residential Treatment Facility

A final limitation in the present study concerns the lack of information about the residential treatment environment. In a multi-systemic treatment facility such as the one in the present study, there may be numerous factors from the educational, mental health, and residential components of care that relate to youth outcomes. For example, the close relationship with an adult found to be important in the resilience literature could be established between an adolescent in an RTF and a certain teacher, his social worker, or another clinician. Therefore, in order to fully understand the effects of treatment, examinations of all these aspects must be considered. As the present study has examined the residential environment, discussion of influential factors in development will be limited one important factor in that context – peers.

Peers play a critical role in adolescent development; therefore, measures of peers’ social skills abilities as well as friendship networks, closeness of friendships, and peer
deviance are important factors to consider in future research. Research has shown that aggregating antisocial peers together for treatment is related to increased problem behavior and negative life outcomes (e.g. Dishion, McCord, & Poulin, 1999). The present results suggest that the iatrogenic effects of peer-group interventions are not universal; however, it is important to determine the peer makeup of the treatment milieu in order to determine what factors in the environment most influence adjustment. For example, the present facility groups adolescents with substance abuse issues and younger offenders into specialized units. Future work considering the effects of peers may lead to the creation of other specialized units in terms of background characteristics, needs, and strengths.

Implications

In addition to the research implications indicated above, this study has broader implications for practice and policy.

Treatment Provision

The relationships between household size and social skills and age-of-onset and social skills point to a need to consider alternative measures of adjustment and different risk factors that may be useful in improving classification of delinquents and allowing for more focused prevention and intervention efforts. For example, delinquent adolescents without siblings may be at an additional risk for social skill deficits. Providing treatment emphasizing social skills may be of particular benefit to this group of offenders.

Since early-onset of delinquency was predictive of lower social skills upon entry to the RTF as well as greater improvement over the course of treatment, proper
Identification of and treatment for youth who are early-onset delinquents or are at-risk for early-onset delinquency is critical. Early-onset delinquents are deficient in a number of psychosocial variables including social skills. As the present study leaves open the directionality of the relationship between early-onset delinquency and social skills, prevention efforts targeting youth at-risk for delinquency should include social skills training. Including this type of treatment will hopefully prevent adolescents from experiencing the cascading consequences and severe and chronic antisocial behavior associated with an early commencement of delinquent behavior. Programs that provide the life skills necessary to lead a conventional life may alter the trajectory of some potentially life-course-persistent offenders to just an adolescent-limited period of normative deviant behavior.

Intervention efforts with early-offenders can find hope in the present results as adolescents normally considered predestined for a lifetime trajectory of deviance can experience placement in an RTF as a “turning point” (Sampson & Laub, 2005) and desist from a delinquent lifestyle. As poor social skills have been linked to delinquency in a number of studies, the positive growth in social skills while in treatment for this subgroup of offenders may improve their chances of leading a more normative lifestyle upon release as well as provide a buffer against the negative influence of peers and community.

Organization of Residential Treatment Facilities & Training of YCWs

Results supportive of a positive effect of moderate psychological control and internality and controllability have implications for the composition of YCWs on each unit as well as the manner in which YCWs are trained. It is not suggested that YCWs be
taught to use psychologically controlling behaviors and assume that youth are always at fault for their actions. Rather, training in developmentally appropriate interactions with youth (as well as providing information on adolescent development) should be implemented. This may entail teaching YCWs to engage youth in reflection on the consequences their actions have for others, encourage youth to take responsibility for these actions, and promote belief in the ability to make changes in one’s life.

Staffing at RTFs could also reflect the present findings. Institutions could place YCWs in different units based on levels of reported psychological controlling behaviors and attributional style. This would ensure that all youth experience some level of guilt induction and encouragement to take control of their actions in order to propel positive adjustment. Additionally, the presence of YCWs who use moderate levels of psychological control, internality and controllability could serve as a model for other facility staff.

Policies

There are also several implications for policies concerning youth placement and program development based on the findings. Decisions involving placement of adjudicated delinquents into residential treatment or community-based treatment could be based on age of delinquency onset. With residential treatment being such an intensive and costly intervention, placement may be reserved for those youth identified as early-starters. This would limit the most extreme form of intervention to those youth most at risk of chronic and serious offending while lessening overall costs and family disruption.
Future funding for both residential and community-based treatment could also be invested in programs emphasizing the development of moral emotions and accepting responsibility for one’s behavior.

**Summary**

As the cost of delinquency continues to rise, there is a significant need to examine the effects of intervention for youth at greater risk for chronic offending. The goals of this study were to determine the relationship between different measures of youth care worker behavior and social skills development of delinquent adolescents in a residential treatment facility. The results provide evidence supportive of a qualitative difference in early-onset versus late-onset delinquents and evidence questioning the consensus that higher psychological control and internality and controllability are associated with maladaptive outcomes. In a sample of delinquent adolescents in a residential treatment facility, moderate levels of caregiver psychological control and higher levels of internality and controllability attributions were related to positive changes in social skills. The results from this study contribute to the relatively small body of research on the caregiving environment of residential treatment facilities and have implications for research, treatment, and policy.
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