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Dually-Involved Youth and the Crossing of Two Systems: Identifying Protective Factors among
Youth and Caregivers in the Child Welfare System to Prevent Justice System Involvement

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ABSTRACT

The three studies in this project investigate a selected number of youth protective factors and caregiver parenting skills with reducing the risk of justice involvement for youth involved in the child welfare system without a prior history of justice involvement. All three studies used child welfare administrative data, and the analyses are based on secondary data collected between July 2005 and April 2016. The study data come from the provider-completed Child and Adolescent Needs and Strengths (CANS) assessment and the Illinois Department of Children and Family Services' central information system and includes over 4600 children who met study inclusion criteria.

The first study sought to distinguish youth in the child welfare system who became involved with the justice system from youth who did not become involved with the justice system based on the youth's protective factors and their caregivers' parenting skills. This was accomplished by examining the frequency of specific youth protective factors and their caregivers' parenting skills. It was also accomplished by examining the differences in the total *number* of youth protective factors and the total *number* of their caregivers' parenting skills at entry into the child welfare system based on justice system involvement. We also sought to describe the demographic characteristics of youth protective factors and caregiver parenting skills. Using chi-square and analysis of variance (ANOVA) tests, study findings indicated that while the majority of children did not become justice involved, of those kids who did become justice involved, the majority of them were minority youth. There was also a higher proportion of youth with identified child-specific protective factors at baseline without later justice involvement compared to the proportion of youth who later became involved with the justice

system. In addition, youth with a higher number of protective factors and caregiver parenting skills at baseline did not have future involvement with the justice system compared to youth with a lower number of protective factors and caregiver parenting skills. Lastly, in terms of parenting practices, the most notable demographic differences were related to race/ethnicity. Findings indicated that the biological parents and caregivers of White youth had more parenting skills compared to the biological parents and caregivers of minority youth. One of the implications of these findings is that reducing dual involvement for youth in the child welfare system may be achieved through strength building and providing additional services to youth and families at the beginning of the youth's care in the child welfare system.

The second study sought to explore whether particular protective factors become more or less developed over time for youth involved in the child welfare system, and if the development of these protective factors is associated with reducing the risk of justice system involvement. Cox proportional hazards regression models were used to test the association between the residual gain scores for each individual strength item and time to justice involvement. Study findings demonstrated that for every one-point deviation in the residual gain scores, youth with community life strengths are at an 8% lower risk of becoming justice involved, youth with talents/interests are at a 9% lower risk of becoming justice involved, youth with educational strengths are at a 10% lower risk of becoming justice involved, and youth with spiritual/religious strengths are at a 12% lower risk of becoming justice involved at any given time. This speaks to the protective effect that positive self-concept in the form of individual talents or creativity, community resources, educational supports, and spiritual/religious encouragement have on youth

development and functioning while in the child welfare system, in addition to the potential role of the child welfare system in helping to develop each of these specific protective factors.

The third study was an extension of the second study by examining the development of youth protective factors over time, categorized at multiple ecological levels (i.e., individual, family, and community), and the association of these protective factors with justice system involvement, to test whether caregiver parenting skills mediate or moderate these associations. We used Baron and Kenny's (1986) four-step regression approach to demonstrate mediation with Cox proportional hazards regression models to examine the mediating role of caregiver parenting skills at baseline in the association between the development of youth protective factors and justice involvement. The model indicated that a significant percent of the association between youth protective factors and justice involvement was not mediated by parenting skills. Thus, there is no evidence that any of the parenting skills items mediated this association. There may be additional outside factors that could better explain the relationship between the development of youth protective factors and justice system involvement. This analysis was limited to a narrow selection of youth protective factors and caregiver parenting skills. Future research should consider the range of other factors applicable to the general population such as youth and caregiver demographic and factors specific to youth in the child welfare system which may help shed more light on this topic and further explain the relationship between the development of youth protective factors and justice system involvement for youth in the child welfare system.

These three studies suggest that advocating for funding for the implementation of interventions that promote youth protective factors and parenting skills to enhance strengths may

be beneficial in reducing the risk of justice involvement for this vulnerable population. There is increasing recognition that prevention efforts focused on youth and family engagement with an emphasis on strengths, is integral to the success of youth in the child welfare and juvenile justice systems. Strength-centered engagement offers a departure from viewing youth in the child welfare system through a deficit-based lens, and instead focuses on strategies driven by the youth and families' protective factors that highlight possibilities for treatment and service delivery. Strategies driven by youth protective factors acknowledge that youth are more than the tragedy that occurred in their life and build upon their specific skills and strengths as positive aspects to enhance.

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INTRODUCTION

During any given year, approximately one million children and families come into contact with the child welfare system in the United States. Many of these children and families are victims of abuse or neglect and chronic community violence. Abused children regularly carry the pain of trauma, which can influence delinquent behavior. Often as a direct result of these behaviors and their traumatic histories, children may become involved with other child-serving systems such as juvenile justice and mental health, in addition to the child welfare system (Garland et al., 2001; Burns et al., 2004; Abram et al., 2004).

Children in the child welfare system with some level of involvement with the juvenile justice system are called “*dually-involved*” because they are simultaneously receiving services from both the child welfare and juvenile justice systems (Abbott & Barnett, 2015). These terms reflect the developing understanding of the dynamic between child trauma and delinquency. The onset of delinquency for children in the child welfare system may emerge as relational bonds weaken and children move between various out-of-home placements (Ryan, Testa, & Zhai, 2008). Tackling the child welfare system for youth is challenging enough, let alone when paired with the problem of delinquency. Youth involved in both the child welfare and justice systems often have substantial trauma histories that are reported by up to 76% of youth (Pecora, Jensen, Romanelli, Jackson, & Ortiz, 2009).

The literature exploring the characteristics of dually-involved youth and their outcomes in the child welfare and juvenile justice systems is relatively nascent. In general, existing research concludes that dually-involved youth have poorer functional outcomes than youth only involved in one of these systems (Jonson-Reid, & Barth, 2000; Ryan, Marshall, Herz, & Hernandez, 2008;

Ryan & Testa, 2005). Youth from the child welfare system who enter the juvenile justice system may pose a risk to public safety and can be extremely costly (National Council on Crime and Delinquency, 2015). The public costs of youth moving through these systems are motivation to explore the factors that may reduce the risk of youth in the child welfare system from becoming delinquent and dually-involved in the justice system. Prior research, though, has not examined the protective factors of youth in the child welfare system that may reduce the likelihood of them becoming involved in the juvenile justice system.

Youth protective factors are associated with decreased risk behaviors, decreased trauma symptoms, and positive mental and physical health outcomes among youth in the child welfare system (Lyons, Uziel-Miller, Reyes, & Sokol, 2000; Griffin, Germain, & Wilkerson, 2012; Griffin et al., 2011; Griffin, Martinovich, Gawron, & Lyons, 2009; Kisiel, Summersett-Ringgold, Weil, & McClelland, 2016). What is unknown are the commonly occurring types of specific protective factors or strengths among youth and caregivers in the child welfare system that can reduce the risk of juvenile justice involvement. The literature on protective factors is limited by unclear conceptual and methodological distinctions between the concepts of resilience, protective factors, and strengths. Resilience is defined as the maintenance of positive adaptation despite experiences of significant adversity (Masten & Coatsworth, 1998; Luthar, Cicchetti, & Becker, 2000). Protective factors are important for developing resiliency in youth. Protective factors are often defined as any traits, skills, strengths, resources, or coping strategies that help youth and families who are considered to be at “high-risk” for negative outcomes more effectively deal with adversity and mitigate or eliminate risk (Masten & Coatsworth, 1998; Pellegrini, 1990). The term “protective factors” is often used in juvenile justice research

(Hawkins et al., 2000; Ttofi, Farrington, Piquero, & Delisi, 2016; Ttofi et al., 2016; Kim, Gilman, Hill, & Hawkins, 2016; Dubow, Huesmann, Boxer, & Smith, 2016; Jolliffe, Farrington, Loeber, & Pardini, 2016; Farrington, Ttofi, & Piquero, 2016); however, the term lacks a clear definition and has been used inconsistently. Some juvenile justice prevention researchers have defined protective factors as the variables that predict a low probability of an undesirable outcome such as offending, or as the exact opposite of a risk factor (White, Moffitt, & Silva, 1989). Other researchers have defined protective factors as the variables that interact with risk factors to negate their impact (Rutter, 1985) or as the variables that predict a low probability of a negative outcome among an at-risk group (Werner & Smith, 1992). Loeber, Farrington, Stouthamer-Loeber, and White (2008) attempted to resolve this operational issue by proposing that a variable that predicted a low probability of offending should be termed a protective factor. Strengths are a subset of protective factors and are more often examined in the mental health services literature or clinical practice (Chapin 2014; Cohen 1999; Early & GlenMaye 2000; Weick 1992). Strengths related to a child's functioning, abilities, family supports, and community resources can be identified and used during the assessment and planning process to have relevance for treatment and service goals and delivery (Early & GlenMaye 2000; Walrath et al. 2004). For the purposes of this paper, we will use the term protective factors as strengths are one component of protective factors and the study is examining the factors in youth and caregivers that may reduce the likelihood of juvenile justice involvement for youth in the child welfare system.

The following three studies seek to add to the literature concerning dually-involved youth by examining youth protective factors and caregiver parenting skills that may reduce the risk of

justice involvement for youth already involved in the child welfare system. Urie Bronfenbrenner's ecological system theory (Bronfenbrenner, 1979) was used as an organizing theoretical framework for the study. Bronfenbrenner's multi-level model describes the social and cultural environmental systems that influence human development. The central premise is that multiple contexts within the environment play a major role in child development. Individual, family, and community contexts' combined influence aid in healthy youth psychosocial development. Figure 1 page 15, offers an illustration of my conceptual model for looking at the time to justice involvement. We expect that youth with identified protective factors will have a lower likelihood of future justice system involvement compared to youth without identified protective factors. We also expect that youth with caregivers with identified parenting skills will have a reduction in their risk of future justice system involvement.

All three studies used child welfare administrative data, and the analyses are based on secondary data collected between July 2005 and April 2016. The study data come from provider-completed assessments and the Illinois Department of Children and Family Services' central information system, and includes over 4600 children who met study inclusion criteria.

The first study sought to determine and compare the prevalence of specific youth protective factors and caregiver parenting skills – the total *number* of youth protective factors, and the total *number* of caregiver parenting skills upon entry into the child welfare system. More specifically, we explored the differences in youth protective factors and caregiver parenting skills between child welfare system youth who became involved with the juvenile justice system and child welfare system youth who did not become involved with the justice system.

Furthermore, we sought to describe the sociodemographic characteristics of youth with particular protective factors and caregiver parenting skills. The long-term goal of this research is to determine which protective factors that child welfare providers identify in children and caregivers upon child welfare system entry that can be used to help reduce justice involvement for this vulnerable population. This will encourage child welfare professionals to identify and develop certain protective factors in children and caregivers during their time in the child welfare system to avoid negative outcomes.

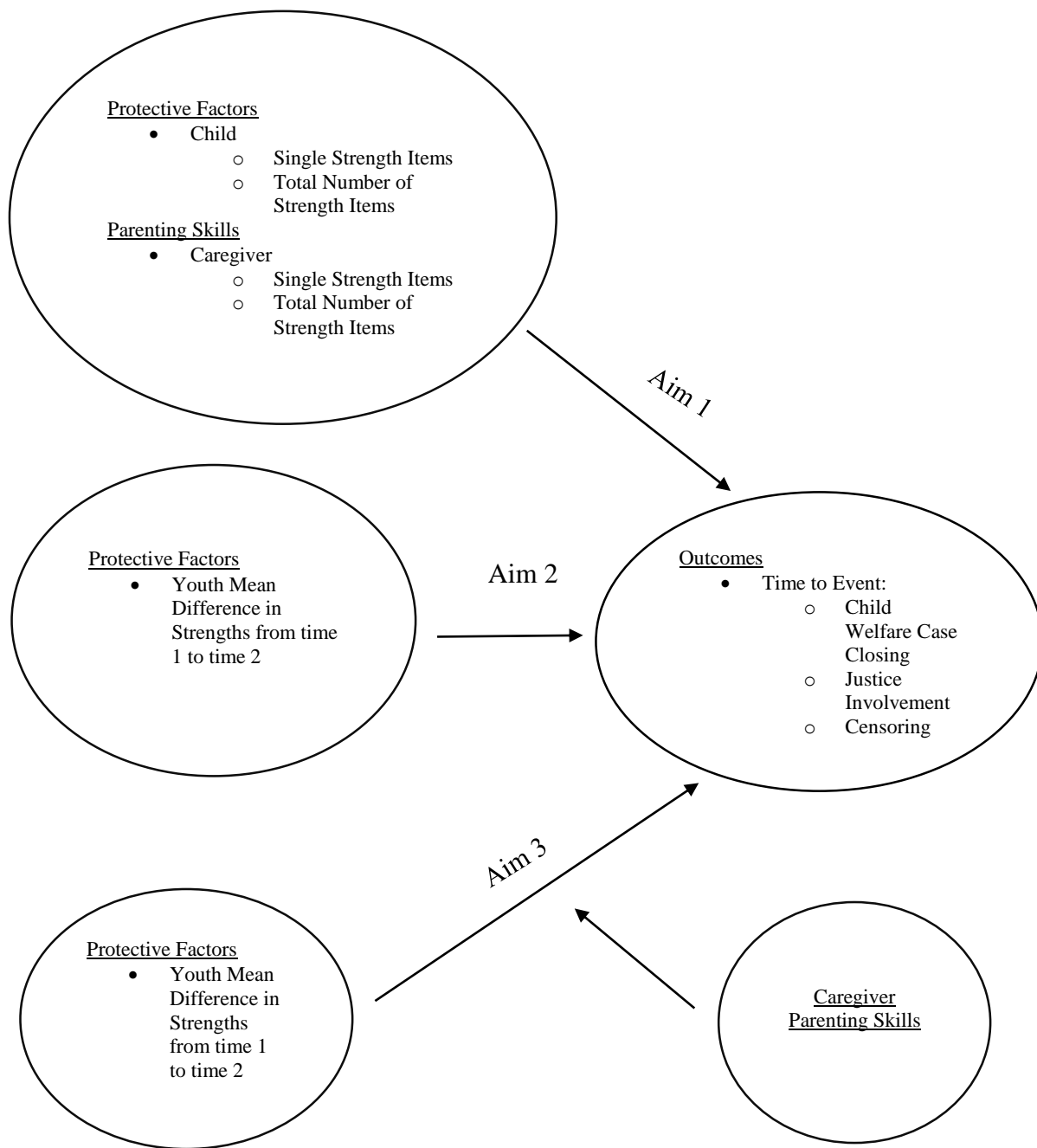
The second study sought to explore whether particular protective factors become more or less developed over time for youth involved in the child welfare system, and if the development of these protective factors is associated with reducing the risk of justice system involvement. The hope is that this study will assist with justifying that particular attention be paid to the development of youth protective factors during their involvement in the child welfare system to reduce the likelihood of future justice system involvement. In particular, based on the findings, interventions can be targeted towards maintaining and further developing critical protective factors or strengths that are found to be associated with lowering the risk of justice involvement.

The third study was an extension of the second study by examining the development of youth protective factors over time, categorized at multiple ecological levels (i.e., individual, family, and community), and the association of these protective factors with justice system involvement, to test whether caregiver parenting skills mediate this association. This research may encourage providers in the child welfare system to tailor interventions that focus on specific protective factors within the child's ecological system. This research may also encourage the

development of specific parenting skills for caregivers involved in the child welfare system that may reduce the likelihood of justice system involvement.

The following three studies are innovative because they provide a nuanced and focused investigation of youth protective factors and caregiver parenting skills for families involved in the child welfare system. Unlike previous studies, this study seeks to build upon prior work by investigating the impact of youth protective factors and caregiver parenting skills on juvenile justice outcomes. Previous research has certainly advanced the literature regarding the risk factors associated with juvenile offending among child welfare system youth (Ryan, Herz, Hernandez, & Marshall, 2007). However, this literature has used a deficit-based foundation by applying risk frameworks to identify the factors that influence justice system involvement. A major limitation of the deficit-based approach is that child and caregiver protective factors have not been included in these analyses to identify the factors that reduce justice system involvement. This is a missed opportunity to develop interventions emphasizing protective factors to help lower the risk for juvenile justice involvement. Thus, this project provides a vital opportunity to address this omission by examining youth protective factors and caregiver parenting skills during their time in the child welfare system that reduce justice system involvement.

Figure 1. Conceptual Model of Youth Protective Factors and Caregiver Parenting Skills with System Outcomes



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PART I:

An Examination of Youth Protective Factors and Caregiver Parenting Skills at Entry into the
Child Welfare System and Their Association with Justice System Involvement

In 2013, approximately 3.9 million children and adolescents in the United States were reported to the child welfare system at least once, with 20% of these allegations verified (Administration for Children and Families, 2015). Youth in the child welfare system may also become involved with other health and human services systems that serve children such as juvenile justice (Abram et al., 2004) and mental health (Burns et al., 2004). A history of child abuse and involvement with the child welfare system is a risk factor for delinquency (Ford, Chapman, Mack, & Pearson, 2006; Maschi, Bradley, & Morgen, 2008; Buffington, Dierkhising, & Marsh, 2010; Dierkhising et al., 2013; Kerig, Ward, Vanderzee, & Moeddel, 2009). Notably, research demonstrates that over 65% of youth involved with the juvenile justice system report a history of child welfare system involvement (Cusick, Goerge, & Bell, 2009; Halemba, & Siegel, 2011). An unfortunate fate, many youth in the child welfare system will have later contact with the criminal justice system.

Children in the child welfare system who have some level of involvement with the juvenile justice system are called “*dually-involved*,” as they are simultaneously receiving services from both the child welfare and juvenile justice systems (Abbott & Barnett, 2015). Juvenile justice is the system in the United States used to handle youth who are convicted of offenses. Youth exposed to multiple risk factors and engaging in illegal behaviors, referred to as delinquency or delinquent behaviors, are more likely to become involved with the juvenile justice system. Although males and African-American youth are more likely to be recommended for formal processing in the justice system compared to female and White offenders, when compared to youth solely involved in the child welfare system and youth solely involved in the juvenile justice system, dually-involved youth are disproportionately children of color, female,

involved in the child welfare system from a young age, and commit more violent offenses (Herz, Ryan, & Bilchik, 2010; Ryan, Herz, Hernandez, & Marshall, 2007). This depiction draws attention to the unfortunate characteristics of these youth's upbringing, as they often struggle with chronic disadvantage and trauma in their environment prior to their first contact with the court, lacking the individual, family, and community resources to improve their circumstances (Steinberg, Chung, & Little, 2004). More disturbing is that research suggests that dually-involved youth also receive harsher juvenile justice outcomes (e.g., longer sentences) than youth who are only juvenile justice involved (Ryan, Herz, Hernandez, & Marshall, 2007; Ryan, Marshall, Herz, & Hernandez, 2008; Morris & Freundlich, 2004; Conger & Ross, 2001; Jonson-Reid & Barth, 2000a; Jonson-Reid, 2002). Severe sanctions are imposed when individuals are perceived as poor targets for rehabilitation and not coming from "good" families (Albonetti & Hepburn, 1996; Feld, 1999). This perception is most crucial for youth in the child welfare system who are not traditionally viewed as having a "good" upbringing. In particular, their history of unstable placements and trancies support the perception of these youth as poor targets for rehabilitation (Ryan & Testa, 2005). Yet, this portrayal of youth, whose development is often marked by an accumulation of disadvantage, suggests that these children are more in need of treatment than punishment, as their trauma histories, trauma symptoms, and mental health symptoms may not have been adequately assessed, diagnosed, or treated before their dual involvement (Sampson & Laub, 1997).

Dually-involved youth have poorer functional outcomes than youth only involved in one of these systems (Jonson-Reid, & Barth, 2000b; Ryan, Marshall, Herz, & Hernandez, 2008; Ryan & Testa, 2005). Youth involved in both the child welfare and justice systems often have

substantial trauma histories that are reported by up to 76% of youth (Pecora, Jensen, Romanelli, Jackson, & Ortiz, 2009). These traumas are often chronic and include neglect, physical, sexual, and emotional abuse, and pervasive family and community violence (Finkelhor, Ormrod, & Turner, 2009; Kerig & Bennett, 2013). In addition to the behavioral violence that these youth experience and witness in their family and environmental systems, these youth are often exposed to violence embedded in the political and economic institutions that denies them access to the benefits of social and scientific advancement (Farmer et al., 2004; Farmer, Nizeye, Stulac, & Keshavjee, 2006). This violence, called structural violence, is subtle and invisible in the way that it harms and plagues disadvantaged communities (Farmer et al., 2004; Farmer, Nizeye, Stulac, & Keshavjee, 2006). Yet, the types of structural violence experienced by youth in both systems may not be surprising because the child welfare and juvenile justice systems are similarly and disproportionately overrepresented by racial/ethnic minorities and youth from disadvantaged backgrounds (Roberts, 2000; Roberts 2007). This disparity increases the chances of exposure to the justice system for children in the child welfare system, with racial/ethnic minority youth having the highest risk as they are disproportionately targeted by and overrepresented in the United States juvenile justice system (Puzzanchera, 2014; Piquero, 2008; Chapman, Desai, Falzer, & Borum, 2006).

Crossings of Two Systems: Disproportionate Minority Contact

The child welfare literature highlights the disproportionate overrepresentation of racial/ethnic minorities in the child welfare system (Hines, Lemon, Wyatt, & Merdinger, 2004; Chibnall et al., 2003; Harris & Courtney, 2003; Courtney & Skyles, 2003). Once racial/ethnic minority youth are in state protective custody, they remain in the system much longer than White

youth (Hines, Lemon, Wyatt, & Merdinger, 2004). Notably, findings emphasize the child welfare system as a contributing source to the disproportion that exists in the juvenile justice system (Ryan, Herz, Hernandez, & Marshall, 2007).

The risk for delinquency is significantly increased for minority youth in out-of-home placement (Ryan & Testa, 2005; Jonson-Reid & Barth, 2000a; Jonson-Reid & Barth, 2000b). In 2011, there were 1.47 million arrests of juveniles, with minority youth disproportionately targeted by the juvenile justice system (Puzzanchera, 2014). In the United States, youth of color ages 10-17 represent 16% of the general population, but comprise 34% of juvenile arrests, 38% of juvenile adjudications, and 68% of youth in juvenile residential placement (Cabaniss, Frabutt, Kendrick, & Arbuckle, 2007; Leiber & Fox, 2005; Rawal, Romansky, Jenuwine, & Lyons, 2004). Youth in the child welfare system most at-risk for juvenile justice involvement are Black, lived in a home where an injury resulted from the abuse the youth experienced, have unstable foster care placements, and have severe emotional and behavioral problems (Bogie, Johnson, Ereth, & Scharenbroch, 2011; Jonson-Reid, & Barth, 2000b; Ryan, Marshall, Herz, & Hernandez, 2008; Ryan & Testa, 2005). Nonsensically, youth coming into the juvenile justice system from the child welfare system are less likely to receive probation as a first-time offender and more likely to receive a correctional placement—the most restrictive placement (Ryan, Herz, Hernandez, & Marshall, 2007).

Crossings of Two Systems: Dually-Involved Youth

It is important to highlight the differences in demographic characteristics between delinquency cases originating in the child welfare system compared to those originating in the juvenile justice system. In particular, youth coming from the child welfare system into the

juvenile justice system are typically younger and female (Herz, Ryan, & Bilchik, 2010; Ryan, Herz, Hernandez, & Marshall, 2007). This suggests that child trauma may influence youth to engage in delinquency at a young age. Regarding gender, female youth represent the largest growing section of the juvenile justice population (Snyder, 2002). Gender-specific findings within the child trauma and delinquency literature are conflicting, and the different factors that explain the movement from the child welfare to juvenile justice system for females is inconsistent. A study using child welfare and juvenile justice administrative data from Los Angeles found that 37% of dually-involved youth were female compared with 24% of offenders entering the juvenile justice system from sources other than the child welfare system (Ryan, Herz, Hernandez, & Marshall, 2007). Dually-involved youth consume a disproportionate amount of resources from systems such as justice, healthcare, child welfare, and schools (Burns et al., 2004). Thus, to reduce the risk of youth delinquency and subsequent justice system involvement, it is of the utmost importance that child welfare researchers identify the factors that may protect youth in the child welfare from becoming involved in the justice system.

Crossings of Two Systems: A Resiliency Framework

Interest in the characteristics of dually-involved youth and their outcomes in the child welfare and juvenile justice systems is beginning to grow. Early intervention and the development of protective factors and resilience can help to reduce negative outcomes for these youth. Unfortunately, research may not be devoted to investigating the protective factors of these youth because of negative perceptions stemming from the stigma associated with being involved in the child welfare system. Thus, professionals working with disadvantaged youth are missing

an opportunity to discover the factors to promote in these youth that can circumvent justice system involvement.

Resilience is often defined as the maintenance of positive adaptation despite exposure to significant adversity (Luthar, Cicchetti, & Becker, 2000; Masten & Coatsworth, 1998).

Resiliency in youth is fostered by identifying and building protective factors or strengths.

Protective factors are the factors that are associated with positive outcomes, particularly among youth who are considered to be at “high-risk” for negative outcomes (Masten & Coatsworth, 1998; Pellegrini, 1990). While the terms protective factors and strengths are often used interchangeably, strengths are more often used in the mental health services literature or in clinical practice settings (Chapin, 2014; Cohen, 1999; Early & GlenMaye, 2000; Weick, 1992).

The strengths perspective assumes that all humans have the capacity for growth and change (Early & GlenMaye, 2000; Weick, 1992). The environment is also viewed as a resource and target for intervention as youth and families’ strengths are often embedded in their environmental systems (Chapin, 2014; Cohen, 1999; Early & GlenMaye, 2000). We will use the term protective factors more consistently throughout this paper in lieu of strengths, as strengths are often viewed as a component of protective factors.

The identification and utilization of youth protective factors and caregiver parenting skills during the course of treatment is an important first step towards helping youth and families in the child welfare system build resiliency and competency to prevent future justice involvement (Kisiel, Conradi, Fehrenbach, Torgersen, & Briggs, 2014). Protective factors related to youth’s identity formation, adaptive functioning, caregiver’s parenting practices, and community resources can be identified and used during the assessment, intervention planning,

and treatment processes (Early and GlenMaye 2000). The assessment of protective factors is relevant for treatment planning so that the factors identified can be translated into treatment goals (Walrath, Mandell, Holden, & Santiago, 2004). This information can then be used to guide and enhance treatment for youth and caregivers involved in the child welfare system by focusing on ways to support positive coping strategies, constructive parenting skills, and reunification and reconnection with their families and the communities (Kisiel, Summersett-Ringgold, Weil, McClelland, 2017).

Family functioning and parenting skills have a direct impact across several areas of children's adaptive functioning (Bean, Bush, McKenry, & Wilson, 2003; Mounts, 2008; Zimmerman, Ramirez-Valles, Zapert, & Maton, 2000). Youth require parental encouragement and nourishment to establish a secure and trusting relationship with their caregivers (Brumariu & Kerns, 2010). Therefore, an authoritative parenting style, which encompasses high responsiveness and demandingness, contributes to children's overall well-being and autonomy, and encourages secure attachments between parents and children (Karavasilis, Doyle, & Markiewicz, 2003). Children without parental support may develop low levels of self-confidence and have difficulties establishing positive relationships with others (Kraaij et al., 2003; Doumen et al., 2012). Furthermore, poor relationships between youth and parents may inhibit social and personality development (Bowlby, 2008), placing children at risk for negative outcomes. Research has established that poor parenting skills, specifically inadequate parental supervision and monitoring are associated with higher levels of youth delinquency and aggression (Patterson & Stouthamer-Loeber, 1984). In addition, inadequate parental support is frequently associated with youth delinquency (Clark & Shields, 1997). Research has also established that other

parenting variables such as poor discipline practices play an important role in the development of adolescent antisocial behavior (Gorman-Smith, Tolan, Zelli, & Huesmann, 1996). For instance, one study found that poor parental monitoring, lack of involvement in their child's care, and parent-child conflict made significant independent contributions to youth delinquency among high-risk youth (Wasserman, Miller, Pinner, & Jaramillo, 1996).

Sometimes caregivers encounter difficulties that make it difficult to adequately parent their children. The child welfare system was established to provide services to these families that need assistance in the care of their children, which is primarily done by arranging alternative placements for youth with relatives or foster families. Child placement in out-of-home care is an intervention aimed at controlling and managing dangerous behaviors or situations that threaten a child's safety (Administration for Children & Families, 2013). When children are removed from their families to ensure their safety, the primary goal is to reunite them with their families of origin as soon as possible. Child welfare agencies implement multidimensional plans that build family strengths and address concerns to achieve this goal (Administration for Children & Families, 2013). Thus, family reunification is often achieved by developing and building family strengths, particularly the parenting skills of the primary caregivers of the children involved in the child welfare system. Parenting styles that provide adequate monitoring and discipline, involvement in the planning of child welfare services and reunification goals, knowledge of the youth's personal strengths and weaknesses, and organization of daily activities may be effective at promoting positive interpersonal relationships among families involved in the child welfare system. Additionally, therapy that incorporates the development of these skills in parents may be

more successful at reconnecting families and reducing youth delinquency and involvement in the justice system.

Despite the abundance of research investigating risk factors and justice system involvement for youth in the child welfare system, it is unclear which factors may reduce youth from crossing over from the child welfare system into the juvenile justice system. The present investigation sought to determine and compare the prevalence of specific youth protective factors and caregiver parenting skills; the total *number* of youth protective factors; and the total *number* of caregiver parenting skills at entry into the child welfare system. The study examined the differences in youth protective factors and caregiver parenting skills between child welfare system youth who became involved with the juvenile justice system and child welfare system youth who did not become involved with the justice system. In addition, associations between youth's sociodemographic characteristics and youth protective factors and their caregiver's parenting strengths were explored.

We expect that the proportion of youth with identified protective factors who do not become involved in the justice system will be significantly higher, than the proportion of youth without identified protective factors who become involved in the justice system. In addition, it is hypothesized that youth with a higher number of identified protective factors and caregivers with a higher number of parenting skills at entry into the child welfare system will be less likely to become involved in the justice system, compared to youth and caregivers with a lower number of identified protective factors at entry. We also predict that ethnic minority youth and their caregivers will have fewer protective factors and parenting skills at entry into the child welfare system compared to White youth and their caregivers. Lastly, we expect that girls and older youth

who become involved with the justice system will have fewer protective factors at entry into the child welfare system.

Methods

Using child welfare administrative data, the current study will determine the proportion of youth in the child welfare system who achieve two outcomes: child welfare case closing or justice system involvement. The study population includes youth who entered the Illinois child welfare system, which is administered by the Illinois Department of Children and Family Services (DCFS), between July 2005 and April 2016, with no prior history of involvement in the juvenile or adult justice systems.

Procedures

A child's entry into the child welfare system is a vital time to identify the range of child and caregiver needs and strengths to inform the service recommendations and planning for the family. All youth entering DCFS custody are supposed to have a comprehensive Integrated Assessment (IA), which includes the Child and Adolescent Needs and Strengths (CANS) as the primary assessment tool upon entry (Burns et al., 2004; Stahmer et al., 2005). The primary purpose of the IA is to gather the data needed to make recommendations for services and appropriate placement. DCFS policy states that each youth must receive an IA within 45 days of entering state custody.

Participants

Participants include children and adolescents who entered into state protective custody in Illinois between July 2005 and April 2016 with no history of involvement in the juvenile or adult justice systems. There were several inclusion and exclusion criteria. Because youth over age 10

are more likely to experience justice involvement than younger children (Child Trends, 2017) and youth age out of the child welfare system when they turn 18 years old, the sample was limited to youth ages 10 to 17 at entry into the child welfare system. Youth who did not have a DCFS comprehensive CANS assessment completed within 45 days of entering DCFS custody were excluded. Youth with a history of justice involvement prior to their involvement in the child welfare system were excluded from the sample. Lastly, youth who passed away while in the child welfare system were excluded.

Data Sources

Study data came from 2 sources: 1) the CANS assessment, and 2) the DCFS Child and Youth Central Information System (CYCIS). These data sources and details about each measure are described below.

Child and Adolescent Needs and Strengths (CANS) Assessment

The DCFS CANS comprehensive assessment was developed by Northwestern University in collaboration with the National Child Traumatic Stress Network (NCTSN) and DCFS clinical staff to measure youth and their current caregivers' behavioral and emotional needs and strengths. The CANS Comprehensive contains 105 items across 8 domains: trauma experiences, traumatic stress symptoms, child strengths, life domain functioning, acculturation, child behavioral/emotional needs, child risk behaviors, and caregiver needs and strengths.

A clinician/provider (e.g., therapist, caseworker, psychologist) completes the CANS by integrating data from multiple sources, including interviews with the child and his or her caregivers; child, caregiver, and teacher self-report questionnaires; case worker observation of child and family; review of case records; and clinical judgment of the clinician completing the

CANS. The CANS was designed to inform service recommendations, so it uses a 4-point scoring system. The scoring for strengths and needs items is based on two criteria: (a) the degree of strength or impairment, and (b) the degree of urgency for intervention. The scoring system is structured as follows: 0 indicates no evidence of need/impairment or a core strength; 1 indicates a mild degree of need/difficulty or a useful strength; 2 indicates a moderate level of need/difficulty or a potential strength; 3 indicates a severe level of need/difficulty or no identified strength. In addition, the scoring system is based on “action levels” that can be used to inform clinicians’ ratings. “Actionable” needs are those rated as a 2 or 3. Higher strengths scores represent fewer strengths, so identifiable strengths are item scores of 0 or 1. Clinicians must complete a test case vignette with a reliability of 0.70 or higher to receive certification in the reliable use of the CANS.

CANS item level scores can also be aggregated to the domain level. Domain scores sum the item scores within each of the eight domains (e.g., Emotional/Behavioral Needs), offering an overall picture of difficulties in a given domain. CANS measurement properties have been studied extensively (Lyons 2004), and the eight domains of the CANS exhibit strong reliability and validity (Kisiel, Blaustein, Fogler, Ellis, & Saxe, 2009; Lyons & Weiner 2009). At the individual item level, psychometric studies suggest that individual CANS items may be reliably used in data analyses (Anderson, Lyons, Giles, Price, & Estes, 2002). The CANS is not intended, however, to offer a total or overall score. The psychometric properties of the CANS have been demonstrated across child-serving settings including child welfare, mental health, and juvenile justice (Kisiel, Summersett-Ringgold, Weil, McClelland, 2017; Kisiel, Blaustein, Fogler, Ellis, & Saxe, 2009; Leon, Ragsdale, Miller, & Spacarelli, 2008; Lyons, Uziel-Miller, Reyes, & Sokol, 2000; Lyons & Weiner, 2009; Sieracki, Leon, Miller, & Lyons, 2008). Further, while in some cases CANS

ratings are intended to capture the severity of needs or symptoms that may be associated with particular diagnoses, the CANS does not explicitly identify diagnoses.

The present study will use the following CANS domains: Strengths, Caregiver Needs and Strengths, and Life Domain Functioning.

DCFS Central Data System

Child welfare case open and close information, length of time in state custody, and demographic information will be obtained from CYCIS. Participants' demographic information will include race/ethnicity, age, and gender. Race/ethnicity will be categorized as Non-Hispanic Black, Non-Hispanic White, Hispanic, and Other. An estimated 2.1 million youth under 18 years of age are arrested annually in the United States (Puzzanchera, 2009). In addition, the number of children under the age of 10 years involved with the juvenile justice system is often not large enough to warrant their inclusion in analyses (Child Trends, 2017). Therefore, age will be grouped as 10-13 and 14-17 years to determine if there are differences in juvenile justice involvement between younger and older youth in the child welfare system.

Dependent Variable: Justice Involvement or Child Welfare Case Closing

The "legal" item from the Life Domain Functioning Domain identifies youth who became involved in the legal system. Youth with a history of justice involvement prior to their involvement in the child welfare system were excluded from the sample. Therefore, all youth included in the study received a rating of 0 on the legal item at entry into the child welfare system, which indicates no known legal difficulties. A rating of 1 indicates a history of legal problems but no current involvement with the legal system. A rating of 2 indicates that the youth has some legal problems, is currently involved in the legal system, and may have active parole and/or

probation mandates. A rating of 3 indicates that the youth has serious current or pending legal difficulties that place him/her at risk for a re-arrest, or the youth is currently incarcerated. The legal items is dichotomized so that a rating of 0 indicated no justice involvement and a rating of 2 and 3 indicated justice involvement. Because the focus of this study is legal system involvement after child welfare system involvement, we excluded from the sample youth with a rating of 1, which indicates a history of legal problems but no current involvement with the legal system.

The dependent variable was categorized into four groups because we wanted to determine differences not only between child welfare youth who became justice involved and those who did not, but also for youth whose child welfare cases remained opened during the study period compared to youth whose child welfare cases became closed. Youth who became justice involved during the study period but continued to have an open DCFS case were grouped into the “JJ-Involved—DCFS Case Open” group. Youth who became justice involved during the study period but had their DCFS case closed were placed into the “JJ-Involved—DCFS Case Closed” group. Youth without justice involvement and whose DCFS case remained opened during the study period were grouped into the “Not JJ-Involved—DCFS Case Open” group. Youth without justice involvement who achieved a child welfare case closing during the study period were grouped into the “Not JJ-Involved—DCFS Case Closed” group.

Independent Variables: Youth Protective Factors and Caregiver Parenting Skills

As delineated in Table 1, items from the Strengths Domain were used to identify youth protective factors. Consistent with other analyses of CANS data (Lyons, 2009; Dunleavy & Leon, 2011; Accomazzo, Shapiro, Israel, & Kim, 2017; Summersett-Ringgold, Jordan, Kisiel, Sax, & McClelland, 2018) we dichotomized CANS strength items as identifiable (a rating of 0

[centerpiece strength] or 1 [existing strength that requires some development]) or not identifiable (a rating of 2 [strength requires significant development] or 3 [strength not identified]). We calculated the total number of youth protective factors at baseline by summing the number of CANS strength items scored as identifiable (0 = a core strength and 1= useful strength) to create a sum of identifiable strength items at baseline, which ranged from 0 to 9.

Table 1. Youth Protective Factors

<i>Interpersonal:</i> interpersonal skills of the youth with peers and adults
<i>Coping Skills:</i> psychological strengths that the youth developed, including the ability to enjoy positive life experiences and manage negative life experiences
<i>Optimism:</i> the youth's positive future orientation and sense of self
<i>Talents/Interests:</i> the youth's broad talents, and creative or artistic skills
<i>Family:</i> all family members as defined by the youth, or biological relatives and significant others with whom the youth is still in contact
<i>Relationship Permanence:</i> stability of significant relationships in the youth's life
<i>Educational Setting:</i> school has an individualized plan for the youth and works well with the youth's family and caregivers to create a special learning environment that meets the youth's educational needs
<i>Spiritual/ Religious:</i> youth and family's involvement in spiritual or religious beliefs and activities
<i>Community Life:</i> youth's long-term involvement with the cultural aspects of life in his/her community (e.g., widely accepted by neighbors, involved in community activities, informal networks, etc.)

As shown in Table 2, items from the Caregiver Needs and Strengths Domain were used to identify caregivers' parenting skills. This study examined the key parenting practices among youth's biological parents, and separately all the caregivers identified in the youth's life at entry into the child welfare system. We defined biological parents as biological mothers and biological fathers. Additionally, caregivers that were indicated on the CANS included biological parents, relative caregivers [maternal and/or paternal grandparent, maternal and/or parental aunt or uncle], step-mother and/or father, adoptive mother and/or father, friend of family, and substitute caregivers. The study is focused on factors that may protect against justice involvement for at-risk

youth in the child welfare system; therefore, we examined the caregiver item scores that indicated the best scores of the biological parents and all the caregivers involved in the youth's life during their time in the system. Thus, we aggregated the minimum CANS scores for the key parenting skill variables for biological parents and separately for all the caregivers, as lower scores on the CANS indicate better functioning and more strengths. Caregiver parenting skill items were then dichotomized as not actionable (a rating of 0 [indicates an area where there is no evidence of any need because this area is a centerpiece strength] or 1 [indicates that this area requires monitoring and preventative activities to continue the development of this strength]) or actionable (a rating of 2 [indicates an area that requires action to ensure that this identified need or area of risk is addressed] or 3 [indicates an area that requires immediate or intensive action]) for biological parents and for all the caregivers. This strategy is recommended by the CANS developer and used at the system level by researchers (Lyons, 2009; Dunleavy & Leon, 2011; Accomazzo, Shapiro, Israel, & Kim, 2017; Summersett-Ringgold, Jordan, Kisiel, Sax, & McClelland, 2017). In addition, the importance of actionability is its relevance to the service and treatment planning process. This strategy also incorporates parsimony and clinical interpretability (Accomazzo, Shapiro, Israel, & Kim, 2017). We also calculated the total number of parenting skills at baseline for biological parents, and separately for all caregivers, by summing the number of CANS caregiver strength items scored as identifiable (0 = a core strength and 1 = useful strength) to create a sum of identifiable caregiver strength items at baseline, which ranged from 0 to 4.

Table 2. Caregiver Parenting Skills

<i>Supervision:</i> the caregiver's capacity to provide the level of monitoring and discipline needed by the child
<i>Involvement with Care:</i> level of involvement the caregiver has in planning and provision of child welfare and related services
<i>Knowledge of Child's Needs:</i> the caregiver's knowledge of the specific strengths of the child and any problems experienced by the child, and the caregiver's ability to understand the rationale for the treatment or management of these problems
<i>Organization:</i> ability of the caregiver to participate in or direct the organization of the household, services, and related activities

Statistical Analysis

Preliminary analyses consisted of frequencies and descriptive statistics to test variable distributions. The four "JJ-Involved" groups outlined above were compared with respect to demographic characteristics (age, gender, and race/ethnicity) using Pearson's chi-square tests of association. We also tested the association of youth protective factors and caregiver parenting skills with the dependent variable using Pearson's chi-square tests of association. We also used analysis of variance (ANOVA) to test the association of the total *number* of identifiable youth protective factors and caregiver parenting skills at entry to the child welfare system with the dependent variable. All statistical analyses were conducted using Statistical Packages for the Social Sciences (SPSS) software (Version 25).

Results

Participant Characteristics

See Table 1 for demographic characteristics of the overall sample. Of the 4611 youth who met the study inclusion and exclusion criteria, the average age was 13.2 years (SD=2.2), with most of the youth falling into the younger (10 – 13) age range (56%). Most youth were girls (59%), and predominantly Black (50%).

*Distribution of Juvenile Justice Involvement Groups and Within Group Demographic**Comparisons*

Table 1 also reports the associations of each demographic characteristic with juvenile justice system involvement. Nineteen percent of the youth in the sample became involved with the justice system, and 82% of the sample did not become juvenile justice involved during the study period. Among the justice involved youth, over one-third (7% of the entire sample) remained in the child welfare system after their justice system involvement began, while about two-thirds (12% of the entire sample) had their DCFS case closed upon becoming justice system involved. Among the youth who did not become justice involved during the study period, the majority (46% of the entire sample) had their DCFS case closed during the study period, and less than half (36% of the entire sample) still had an open DCFS case at the end of the study period.

Gender was significantly associated with juvenile justice system involvement. The proportion of girls who never become justice involved (Not JJ Involved—DCFS Case Open and Not JJ Involved—DCFS Case Closed Groups) was significantly higher than the proportion of girls who became justice involved (JJ Involved—DCFS Case Open and JJ Involved—DCFS Case Closed Groups; $p < .001$). Conversely, the proportion of boys who never became justice involved (Not JJ Involved—DCFS Case Open and Not JJ Involved—DCFS Case Closed Groups) was significantly lower than the proportion of boys who became justice involved (JJ Involved—DCFS Case Open and JJ Involved—DCFS Case Closed Groups; $p < .001$).

Race/ethnicity was also significantly associated with juvenile justice involvement. The proportion of Black youth who became involved with the justice system but their DCFS case remained open was significantly higher than the proportion of Black youth in the other three

groups ($p < .001$). On the other hand, the proportion of White youth who never become involved with the justice system and their DCFS case was closed was significantly higher than the proportion of White youth in the other three groups ($p < .001$). Also, the proportion of Hispanic youth who never became involved with the justice system but their DCFS case remained open was significantly higher than the proportion of Hispanic youth in the other three categories ($p < .001$).

The proportion of younger youth (ages 10-13) who never became involved with the justice system but their DCFS case remained open and the proportion of younger youth who became justice involved and their DCFS case remained open was significantly higher than the proportion of older youth (ages 14-17) who became justice involved and their DCFS case was closed and the proportion of younger youth who never became justice involved and their DCFS case was closed ($p < .001$). The proportion of older youth who became involved with the justice system and their DCFS case closed was significantly higher than the proportion of older youth in the three other categories ($p < .001$).

Associations of Youth Protective Factors with Youth Characteristics

In unadjusted models of youth protective factors at baseline for gender (Table 2), the proportion of girls with identifiable interpersonal ($p < .001$) and educational ($p = .01$) strengths was significantly higher than the proportion of boys with identifiable levels of these strengths. On the other hand, the proportion of boys with identifiable coping ($p = .02$), optimism ($p < .01$), talents/interests ($p < .01$), family ($p < .001$), and community life ($p = .03$) strengths was significantly higher than the proportion of girls with identifiable levels of these strengths. There were no

statistically significant differences between the proportion of girls and boys with identifiable relationship permanence and spiritual strengths.

In the models testing the association between youth protective factors at baseline and race/ethnicity, the proportion of White youth with identifiable coping skills ($p < .001$), talents/interests ($p < .001$), relationship permanence ($p < .001$), educational setting ($p < .001$), and community life ($p < .001$) strengths was significantly higher than the proportion of Black and Hispanic youths with identifiable levels of these strengths. In addition, the proportion of White youth with identifiable optimism ($p = .04$) was higher than the proportion of Black youth with identifiable levels of this strength. The proportion of Hispanics with identifiable family strengths ($p = .01$) was lower than the proportion of White and Black youth with identifiable levels of these strengths. There were no statistically significant differences by race/ethnicity for identifiable interpersonal and spiritual strengths.

Table 2 also reports the unadjusted association between youth protective factors at baseline and age. The proportion of younger youth (ages 10-13) with identifiable interpersonal ($p < .001$), coping ($p < .001$), optimism ($p < .001$), family ($p < .001$), relationship permanence ($p < .001$), educational ($p < .001$), spiritual ($p < .001$), and community life ($p < .001$) strengths was significantly higher than the proportion of older youth (14-17) with identifiable levels of these strengths. There were no statistically significant differences between the proportion of younger youth and older youth with identifiable talents/interests.

Associations of Parenting Skills with Participant Characteristics

In unadjusted models of parenting skills at baseline for gender (Table 3), the proportion of boys with biological parents involved in their care ($p = .01$) was significantly higher than the

proportion of girls with biological parents involved in their care. There were no statistically significant differences between the proportion of girls and boys among the other parenting skills measures for their biological parents. In addition, there were no statistically significant differences between the proportion of girls and boys for the parenting skill measures for all of their caregivers.

In the models testing the association between parenting skills at baseline and race/ethnicity, the proportion of White youth with biological parents providing adequate supervision ($p < .001$), knowledge of their needs ($p < .001$), and involvement in their care ($p < .001$), was significantly higher than the proportion of Black and Hispanic youth with biological parents with these parenting skills. In addition, the proportion of White youth with biological parents with adequate organizational skills surrounding their care ($p < .001$) was higher than the proportion of Black youth with biological parents with this skill. Furthermore, the proportion of Black youth with biological parents with knowledge of their needs ($p < .001$) was significantly higher than the proportion of Hispanic youth with biological parents with this skill. When examining the baseline scores for all caregivers in the youth's life, the results were similar to the results for biological parents at baseline. The proportion of White youth with all of their caregivers providing adequate supervision ($p < .001$), knowledge of their needs ($p < .001$), involvement in their care ($p < .001$), and organization ($p < .01$) was significantly higher than the proportion of Black and Hispanic youths with caregivers with these parenting skills at baseline.

Table 3 also reports the unadjusted association between parenting skills at baseline and youth's chronological age. The proportion of younger youth with biological parents involved in their care ($p < .001$) was significantly higher than the proportion of older youth with biological

parents with these skills. There were no statistically significant differences between the proportion of younger youth and older youth among the other parenting skills measures for their biological parents. When examining the baseline scores for all caregivers in the youth's life, the proportion of younger youth with all of their caregivers demonstrating adequate supervision ($p < .001$), knowledge of their needs ($p < .001$), and involvement in their care ($p < .001$) was significantly higher than the proportion of older youth with caregivers with these skills. There were no statistically significant differences between the proportion of younger and older youth with caregivers demonstrating organizational skills.

Associations of Youth Protective Factors with Justice System Involvement

In unadjusted models of baseline youth protective factors and justice system involvement (Table 4), the proportion of youth with identifiable interpersonal ($p < .001$), coping ($p < .001$), optimism ($p < .001$), and educational ($p < .001$) strengths at baseline who never became justice system involved was significantly higher than the level of those strengths among youth in the two groups who became involved with the justice system. The proportion of youth with identifiable talents/interests at baseline who never became involved with the justice system but their DCFS case was open was significantly higher than the proportion of youth with identifiable talents/interests in the other three groups ($p < .001$). The proportion of youth with identifiable family ($p < .001$) and relationship permanence ($p < .001$) strengths at baseline who never became involved with the justice system and achieved a DCFS case closure was significantly higher than the proportion of youth with identifiable family and relationship permanence strengths in the other three groups. The proportion of youth with identifiable community life ($p < .001$) strengths at baseline who never became involved with the justice system but did not achieve a DCFS case

closing during the study period was significantly higher than the youth with these strengths in the other three groups. Lastly, the proportion of youth with identifiable spiritual/religious (p<.001) strengths at baseline who become involved with the justice system and their DCFS case was closed, was significantly lower than the youth with these strengths in the other three groups.

Associations of Parenting Skills with Justice System Involvement

In unadjusted models of baseline parenting skills and justice system involvement (Table 4), the proportion of youth in the group who never became justice involved and achieved a closed DCFS case with biological parents demonstrating adequate supervision (p<.001), knowledge of their needs (p<.001), involvement in their care (p<.001), and organizational skills (p<.001) was significantly higher than the proportion of youth in the justice involved – DCFS case open group and the not justice involved DCFS case open group. The proportion of youth in the group who never became justice involved with a closed DCFS case, with biological parents demonstrating involvement in their care (p<.001) and organizational skills (p<.001) was significantly higher than the justice involved – DCFS case closed group. When examining the baseline scores for all caregivers in the youth's life, the proportion of youth in the group who never became justice involved and their DCFS case was closed at the end of the study period, had caregivers who demonstrated adequate supervision (p<.001), knowledge of their needs (p<.001), and involvement in their care (p<.001) compared to the three other groups. Conversely, the proportion of youth in the justice involved – DCFS case open group with caregivers with adequate organizational skills (p<.001) was significantly lower than the never justice involved – DCFS case closed and open groups.

Associations of Cumulative Youth Protective Factors and Parenting Skills with Justice System Involvement

We also tested the differences in the mean number of total identified youth protective factors at baseline across the four groups of justice involvement (Table 5). The majority of the youth had a considerable number of protective factors when entering the child welfare system. Yet, the mean number of protective factors at baseline was found to be associated with justice system involvement ($F(3, 4607) = 41.54, p < .001$), with more protective factors found in the groups without justice involvement. Youth who never became involved with the justice system (Not JJ-Involved—DCFS Case Open and Not JJ-Involved—DCFS Case Closed groups) had significantly higher numbers of protective factors at baseline compared to youth with later justice system involvement (JJ-Involved—DCFS Case Open and JJ-Involved—DCFS Case Closed groups; $p < .001$). In terms of parenting skills for the biological parents, youth who never became involved with the justice system and had a DCFS closed case and youth who became justice involved and their DCFS case was closed, had significantly higher numbers of biological parent parenting skills at baseline compared to youth in the other two groups (Not JJ-Involved—DCFS Case Open and JJ-Involved—DCFS Case Open groups; $F(3, 3301) = 36.93, p < .001$). Moreover, youth who never became justice involved and their DCFS case was closed had significantly higher number of caregiver parenting skills at baseline compared to youth in the other three groups (Not JJ-Involved—DCFS Case Open, JJ-Involved—DCFS Case Open, and JJ-Involved—DCFS Case Closed groups; $F(3, 4607) = 20.87, p < .001$).

Discussion

This study sought to distinguish youth in the child welfare system who became involved with the justice system from youth who did not become involved with the justice system based on the youth's protective factors and their caregivers' parenting skills. This was accomplished by examining the frequency of specific youth protective factors and their biological parents and all of their caregivers' parenting skills. It was also accomplished by examining the differences in the total *number* of youth protective factors and the total *number* of their caregivers' parenting skills at entry into the child welfare system based on justice system involvement. We also sought to describe the demographic characteristics of youth protective factors and caregiver parenting skills.

Study findings were consistent with our hypotheses regarding the demographic differences among justice system involvement and separately, youth's protective factors. While the majority of children did not become justice involved, of those kids who did become justice involved, the majority of them were minority youth. For instance, we found that of the youth who became involved in the justice system, most were Black which was expected given the disproportionate representation of ethnic/racial minority youth in the juvenile justice system. In addition, Black youth were more likely to become involved in the justice system while their DCFS case remained open over the course of the study period, Hispanic youth were more likely to remain in the child welfare system and never become justice involved, and White youth were more likely to have a child welfare case closing and never become justice involved. In regards to youth protective factors, girls in our sample generally had fewer identified protective factors than boys in our sample. Additionally, overall White youth and younger youth had more identified protective factors compared to racial/ethnic minorities and older youth. These findings are

consistent with previous research that indicates that minority youth are disproportionately overrepresented in the juvenile justice system (Huizinga et al., 2007; Nicholson-Crotty, Birchmeier, & Valentine, 2009; Bishop, Leiber, & Johnson, 2010).

As expected, there was a higher proportion of youth with identified child-specific protective factors at baseline without later justice involvement compared to the proportion of youth who later became involved with the justice system. Lastly, youth with a higher number of protective factors and caregiver parenting skills at baseline did not have future involvement with the justice system compared to youth with a lower number of protective factors and caregiver parenting skills. This speaks to the protective effect of specific child protective factors in helping to keep youth involved in the child welfare system from becoming dually involved with the justice system. In particular, one of the goals of the child welfare system is to incorporate identified youth protective factors in the treatment and service delivery process in an effort to achieve the goal of family reunification or permanency.

In terms of parenting practices, the most notable demographic differences were related to race/ethnicity. Findings indicated that the biological parents and caregivers of White youth had more parenting skills compared to the biological parents and caregivers of minority youth. In general, the biological parents and caregivers of youth who never became justice involved and their DCFS case became closed during the study period had more parenting skills compared to youth in the other three groups. Moreover, youth with caregivers with a higher number of parenting skills at baseline did not have future involvement with the justice system. Potential cultural differences in the parenting practices of minority caregivers compared to the parenting practices that have been found to be most effective in mainstream culture may account for some

of these racial/ethnic differences in the parenting skills reported. Parents of minority youth may implement a unique parenting approach that may encompass different practices than the parenting skills examined in this study. Therefore, assessing for parenting skills of minority caregivers at entry into the child welfare system is important to determine the skills that caregivers already obtain that work well in their family context as these skills might also work best with the skills that are taught in parenting skills training programs for caregivers of youth in child welfare.

Overall, these findings indicate that youth protective factors have a significant impact on helping prevent youth from becoming involved in the justice system over the course of time in the child welfare system. This suggests that the relationships between youth protective factors and future justice involvement is particularly salient, with both youth and caregiver parenting skills serving as important context variables impacting justice involvement. If protective factors are not considered in the context of reducing future delinquency and justice involvement, this is possibly an incomplete examination of the factors that influence outcomes for youth in child welfare. Therefore, it may be beneficial for child welfare and juvenile justice researchers and administrators to continue to investigate the factors that buffer against justice system involvement for vulnerable youth.

The findings from this study offer an important contribution to the literature given the limited research on protective factors and justice involvement for youth in the child welfare system. One of the implications of these findings is that promoting protective factors in youth and caregivers is a critical point of intervention that can mitigate the negative outcomes related to being involved in the child welfare system. Reducing dual involvement for youth in the child

welfare system may be achieved through strength building and providing additional services to youth and families at the beginning of the youth's care in the child welfare system. Evidence-based family focused practices should be made available to families in the child welfare system so that clinicians can help families work to create and maintain a safe and supportive environment for their children. In addition, parent management training may help to improve parental supervision, involvement in their child's care, knowledge, organizational skills, and other forms of parental monitoring and control for caregivers whose children are involved in the child welfare system. Providing opportunities for caregivers of youth involved in the child welfare system to develop and enhance their parenting skills may help them learn to become more proactive in their parenting, which may help protect their children from justice involvement, even when they are in high-risk environments. Early identification and building of youth's protective factors and strengths as well as caregivers' parenting skills can help clinicians effectively integrate these factors and skills in the context of treatment planning and service delivery to achieve a stable home environment. This has important implications for assessment, treatment, and service delivery in child welfare settings, but these results may also extend to mental health, juvenile justice, and educational settings.

Acknowledging the unique circumstances, difficulties, and protective factors of youth in the child welfare system is crucial to improving their outcomes and preventing their involvement in the justice system. Institutions that serve children and families should coordinate services that incorporate the development of protective factors and strengths to prevent youth from becoming dually involved in both systems. Coordinating services for youth and families involved in any

system that serves children has demonstrated effectiveness in improving youth outcomes and lowering recidivism rates (Pullmann et al., 2006).

This study makes several important contributions to the child welfare and juvenile justice literature. The study examined factors besides risk that are associated with justice involvement for vulnerable youth in the child welfare system. We examined youth protective factors and their caregivers' parenting skills that have the potential to circumvent justice involvement for at-risk youth in the child welfare system. The study also included a large sample size and used an inclusive assessment with a focus on specific youth protective factors and caregiver parenting skills for youth in the child welfare system. While child welfare service providers often imply that protective factors have an important role in preventing justice involvement for youth at-risk of engaging in delinquent behaviors, there is limited research to support the buffering effect of both youth protective factors and caregiver parenting skills on justice involvement for youth in child welfare custody. In addition, limitations of previous research focusing on parenting skills among the caregivers of high-risk youth are that some studies relied on self-reports from a single family member (Farrell & White, 1998; Stice & Barrera, 1995); however, caregivers and adolescents may view family processes differently, especially for youth in the child welfare system. Therefore, this study used an assessment of caregiver parenting practices by a trained professional working in the child welfare system. This study of youth protective factors and caregiver parenting skills in relation to justice involvement for youth involved in the child welfare system addresses an important gap in the field of child welfare and juvenile delinquency.

Study findings should be interpreted in light of study limitations. While the assessment timeframe of this study represents entry into the child welfare system and DCFS case closing or

time to justice involvement, our data did not examine differences in outcomes by the reason for the child welfare case closing for the youth whose cases closed during the study period.

Additionally, although the study determined when youth became justice involved, our data do not allow us to determine the youth's offense type which may also limit the conclusions that can be drawn from this study. Also, the examination of youth protective factors and caregiver parenting skills among youth involved in the child welfare system is multifaceted, and these analyses are limited to an examination of specific measures. A multitude of other protective factors may influence the course of these outcomes. Moreover, this study only examined youth protective factors at baseline in relation to their child welfare and justice outcomes at the conclusion of the study. However, an examination of the development of the youth's protective factors over the course of their involvement in child welfare custody may determine if particular protective factors become more or less developed over time for youth involved in the child welfare system as these protective factors relate to reducing justice system involvement. Future research should consider each of these areas of limitation.

Conclusions

Overall, this study offers much needed empirical support for the importance of the identification of youth protective factors and the parenting skills of all of the caregivers involved in the lives of youth during their entry into the child welfare system in reducing the likelihood of future justice involvement. This fills an important gap in the field by providing evidence related to the role of youth protective factors and caregiver parenting skills at entry into the child welfare system in relation to youth's outcomes. The stigma for youth and their families involved in the child welfare system is one that assumes that these children and their caregivers may be exposed

to more risk factors compared to protective factors. This thinking may indirectly cause research in this area to be overlooked. Notably, our study found that most of the youth involved in the study had identifiable protective factors at baseline regardless of their juvenile justice and child welfare status at the conclusion of the study. This speaks to the critical importance of early identification of protective factors for all youth and their families in the child welfare system.

This study offers an opportunity for the researchers involved in the study to share the findings with not only the Illinois child welfare and juvenile justice systems, but also the local and state community organizations that represent these marginalized communities. Our hope is that discussions surrounding these findings with child welfare and juvenile justice policymakers and advocates will encourage improvements to the child welfare system. Conversations that promote the protective factors and parenting skills identified in the study as well as encourage investment in future research will help to continue the examination of factors that may circumvent justice involvement for vulnerable children and families.

Table 1. Demographics and Juvenile Justice Involvement

	Total	Juvenile Justice Involvement				†P-value
	N=4611	JJ Involved – DCFS Case Open	JJ Involved— DCFS Case Closed	Not JJ Involved— DCFS Case Open	Not JJ Involved— DCFS Case Closed	
		309 (7%)	542 (12%)	1651 (36%)	2109 (46%)	
Gender:						<.001
Girls	2716 (59%)	149 (48%) ^a	285 (53%) ^a	1003 (61%) ^b	1279 (61%) ^b	
Boys	1895 (41%)	160 (52%) ^a	257 (47%) ^a	648 (39%) ^b	830 (39%) ^b	
Race/Ethnicity:						<.001
Black	2312 (50%)	206 (67%) ^a	297 (55%) ^b	838 (51%) ^b	971 (46%) ^c	
White	1913 (42%)	85 (28%) ^a	212 (39%) ^b	638 (39%) ^b	978 (46%) ^c	
Hispanic	304 (7%)	15 (5%) ^a	28 (5%) ^a	145 (9%) ^b	116 (6%) ^a	
Other	82 (2%)	3 (1%) ^a	5 (1%) ^a	30 (2%) ^a	44 (2%) ^a	
Age at Entry into State Custody:						<.001
10-13	2564 (56%)	188 (61%) ^a	169 (31%) ^b	1057 (64%) ^a	1150 (55%) ^c	
14-17	2047 (44%)	121 (39%) ^a	373 (69%) ^b	594 (36%) ^a	959 (46%) ^c	

†P-values demonstrate differences between juvenile justice involvement on each participant characteristic from chi-square tests of associations. Different superscripts indicate significant differences among the groups in the row.

Table 2. Youth Protective Factors at Baseline by Youth Characteristics

N= 4611	Gender			Race/Ethnicity					Age			
	Proportion with Identifiable Strengths [†] N (%)	Girls 2716 (59%)	Boys 1895 (41%)	P-value	Black 2312 (50%)	White 1913 (42%)	Hispanic 304 (7%)	Other 82 (2%)	P-value	Ages 10-13 2564 (56%)	Ages 14-17 2047 (44%)	P-value
<u>Youth Protective Factors</u>												
Interpersonal	2138 (79%)	1404 (74%)	<.001	1764 (76%) ^a	1487 (78%) ^a	224 (74%) ^a	67 (82%) ^a	0.26	2027 (79%)	1515 (74%)	<.001	
Coping Skills	1822 (67%)	1331 (70%)	0.02	1532 (66%) ^a	1378 (72%) ^b	186 (61%) ^a	57 (70%) ^{a,b}	<.001	1836 (72%)	1317 (64%)	<.001	
Optimism	2246 (83%)	1627 (86%)	<0.01	1914 (83%) ^a	1637 (86%) ^b	249 (82%) ^{a,b}	73 (89%) ^{a,b}	0.04	2205 (86%)	1668 (82%)	<.001	
Talents/Interests	2238 (82%)	1628 (86%)	<.01	1878 (81%) ^a	1671 (87%) ^b	247 (81%) ^a	70 (85%) ^{a,b}	<.001	2163 (84%)	1703 (83%)	0.29	
Family	1174 (43%)	986 (52%)	<.001	1073 (46%) ^a	932 (49%) ^a	117 (39%) ^b	38 (46%) ^{a,b}	0.01	1337 (52%)	823 (40%)	<.001	
Relationship Permanence	1420 (52%)	1011 (53%)	0.48	1170 (51%) ^a	1081 (57%) ^b	141 (46%) ^a	39 (48%) ^{a,b}	<.001	1449 (57%)	982 (48%)	<.001	
Educational Setting	2073 (76%)	1383 (73%)	0.01	1676 (73%) ^a	1497 (78%) ^b	220 (72%) ^a	63 (77%) ^{a,b}	<.001	2028 (79%)	1428 (70%)	<.001	
Spiritual/Religious	2286 (84%)	1597 (84%)	0.92	1945 (84%) ^a	1610 (84%) ^a	254 (84%) ^a	74 (90%) ^a	0.50	2201 (86%)	1682 (82%)	<.01	
Community Life	1933 (71%)	1404 (74%)	0.03	1584 (69%) ^a	1476 (77%) ^b	216 (71%) ^a	61 (74%) ^{a,b}	<.001	1922 (75%)	1415 (69%)	<.001	

[†]P-values demonstrate differences between CANS strength items on each participant characteristic from Person Chi-square tests of associations. Different superscripts indicate significant differences among the groups.

Table 3. Caregiver Parenting Skills at Baseline by Youth Characteristics

N= 4611	Gender			Race/Ethnicity				Age			
	Girls 2716 (59%)	Boys 1895 (41%)	P-value	Black 2312 (50%)	White 1913 (42%)	Hispanic 304 (7%)	Other 82 (2%)	P- value	Ages 10-13 2564 (56%)	Ages 14-17 2047 (44%)	P- value
Proportion with Identifiable Strengths[†]											
Biological Parent Parenting Strengths											
Supervision	1130 (57.9%)	827 (61.1)	.06	825 (54.7%) ^a	968 (65.1%) ^b	126 (51.2%) ^a	38 (58.5%) ^{a,b}	<.001	1199 (59%)	758 (59.5)	.79
Knowledge of Child's Needs	1192 (61.1%)	828 (61.2%)	.94	889 (59.0%) ^a	988 (66.5%) ^b	110 (44.7%) ^c	33 (50.8) ^{a,c}	<.001	1258 (61.9%)	762 (59.8)	.22
Involvement with Care	1316 (67.4%)	968 (71.5%)	.01	936 (62.1%) ^a	1155 (77.7%) ^b	148 (60.2%) ^a	45 (69.2%) ^{a,b}	<.001	1475 (72.6%)	809 (63.5%)	<.001
Organization	1624 (83.2%)	1134 (83.8%)	.64	1212 (80.4) ^a	1284 (86.4%) ^b	203 (82.5%) ^{a,b}	59 (90.8%) ^b	<.001	1692 (83.3%)	1066 (83.7%)	.78
Caregiver Parenting Strengths											
Supervision	2456 (90.4%)	1731 (91.3%)	.29	2055 (88.9%) ^a	1784 (93.3%) ^b	271 (89.1%) ^a	77 (93.9%) ^{a,b}	<.001	2384 (93.0%)	1803 (88.1%)	<.001
Knowledge of Child's Needs	2342 (86.2%)	1636 (86.3)	.92	1950 (84.3%) ^a	1699 (88.8%) ^b	257 (84.5%) ^a	72 (87.8%) ^{a,b}	<.001	2271 (88.6%)	1707 (83.4%)	<.001
Involvement with Care	2430 (89.5%)	1725 (91.0%)	.08	2006 (86.8%) ^a	1802 (94.2%) ^b	269 (88.5%) ^{a,c}	78 (95.1%) ^{b,c}	<.001	2401 (93.6%)	1754 (85.7%)	<.001
Organization	2621 (96.5%)	1835 (96.8%)	.54	2217 (95.9%) ^{a,b}	1869 (97.7%) ^c	288 (94.7%) ^b	82 (100%) ^{a,c}	<.01	2487 (97.0%)	1969 (96.2%)	.13

[†]P-values demonstrate differences between CANS caregiver strength items on each participant characteristic from Person Chi-square tests of associations. Different superscripts indicate significant differences among the groups.

Table 4. Juvenile Justice Involvement by Youth Protective Factors and Caregiver Parenting Strengths at Baseline

N= 4611

Proportion with Identifiable Strengths N (%)	JJ Involved –DCFS Case Open 309 (7%)	JJ Involved—DCFS Case Closed 542 (12%)	Not JJ Involved— DCFS Case Open 1651 (36%)	Not JJ Involved—DCFS Case Closed 2109 (46%)	P-value [†]
<u>Youth Protective Factors</u>					
Interpersonal Strengths	204 (66%) ^a	343 (63%) ^a	1314 (80%) ^b	1681 (80%) ^b	<.001
Coping Skills	168 (54%) ^a	306 (57%) ^a	1177 (71%) ^b	1502 (71%) ^b	<.001
Optimism	237 (77%) ^a	395 (73%) ^a	1441 (87%) ^b	1800 (85%) ^b	<.001
Talent/Interests	251 (81%) ^{a,b}	422 (78%) ^b	1428 (87%) ^c	1765 (84%) ^a	<.001
Family Strengths	115 (37%) ^a	223 (41%) ^{a,b}	728 (44%) ^b	1094 (52%) ^c	<.001
Relationship Permanence	138 (45%) ^a	255 (47%) ^a	819 (50%) ^a	1219 (58%) ^b	<.001
Educational Setting	189 (61%) ^a	340 (63%) ^a	1266 (78%) ^b	1661 (79%) ^b	<.001
Spiritual/Religious	261 (85%) ^{a,b}	423 (78%) ^c	1448 (88%) ^b	1751 (83%) ^a	<.001
Community Life	202 (65%) ^a	352 (65%) ^a	1250 (76%) ^b	1533 (73%) ^c	<.001
<u>Biological Parent Parenting Skills</u>					
Supervision	91 (50.8%) ^a	197 (64.2) ^b	615 (51.1%) ^a	1054 (65.3%) ^b	<.001
Knowledge of Child’s Needs	95 (53.1%) ^{a,b}	190 (61.9%) ^{b,c}	643 (53.4%) ^a	1092 (67.6%) ^c	<.001
Involvement with Care	103 (57.5%) ^a	206 (67.1%) ^b	754 (62.6%) ^{a,b}	1221 (75.6%) ^c	<.001
Organization	140 (78.2%) ^a	252 (82.1%) ^a	971 (80.6%) ^a	1395 (86.4%) ^b	<.001
<u>Caregiver Parenting Skills</u>					
Supervision	259 (83.8%) ^a	474 (87.5%) ^{a,b}	1484 (89.9%) ^b	1970 (93.4%) ^c	<.001
Knowledge of Child’s Needs	244 (79.0) ^a	442 (81.5%) ^a	1409 (85.3%) ^b	1883 (89.3%) ^c	<.001
Involvement with Care	257 (83.2%) ^a	463 (85.4%) ^a	1478 (89.5%) ^b	1957 (92.8%) ^c	<.001

Organization	289 (93.5%) ^a	519 (95.8%) ^{a,b}	1604 (97.2%) ^b	2044 (96.9%) ^b	<.001
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†P-values demonstrate differences between CANS strength items by juvenile justice involvement from chi-square tests of associations. Different superscripts indicate significant differences among the groups in the row.

Table 5. Juvenile Justice Involvement by the Total Number of Youth Protective Factors and Caregiver Parenting Strengths at Baseline
N= 4611

	JJ Involved – DCFS Case Open N=309 (7%)	JJ Involved— DCFS Case Closed N=542 (12%)	Not JJ Involved— DCFS Case Open N=1651 (36%)	Not JJ Involved— DCFS Case Closed N=2109 (46%)	P- value [†]
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	
<u>Total Number of Identifiable Youth Protective Factors</u>	5.7 (2.3) ^a	5.6 (2.5) ^a	6.6 (2.1) ^b	6.6 (2.3) ^b	<.001
<u>Total Number of Identifiable Biological Parent Parenting Skills</u>	2.4 (1.3) ^a	2.8 (1.3) ^b	2.5 (1.3) ^a	2.9 (1.2) ^b	<.001
<u>Total Number of Identifiable Caregiver Parenting Skills</u>	3.4 (1.0) ^a	3.5 (1.0) ^a	3.6 (.90) ^b	3.7 (0.8) ^c	<.001

[†]P-values for mean differences of the sum of strength items for each justice involvement category from the ANOVA tests. Different superscripts indicate significant differences among the groups in the row from Tukey post-hoc test.

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PART II:

**Can the Development of Protective Factors Help Disrupt the Foster-Care-To-Prison Pipeline? An
Examination of the Association between Justice System Involvement and the Development of
Youth Protective Factors**

Violence and trauma among youth remain a significant public health concern (Centers for Disease Control and Prevention, 2010). Exposure to violence can have a significant impact on children's and adolescents' daily functioning, interpersonal relationships, and physical and mental health. Trauma and violence exposure can leave youth vulnerable to negative consequences such as mental health and trauma symptoms, substance use, and delinquency, all of which may lead to criminal justice involvement. These youth often appear on the caseloads of both child welfare and juvenile justice systems, and studies suggest that between 9% and 29% of youth involved with the child welfare system later engage in illegal activities (Herz, Ryan, & Bilchik, 2010). Youth in both the child welfare and juvenile justice systems are considered dually-involved as they represent a subgroup of youth who are receiving services from both systems. This occurrence may indicate, in part, a shortcoming of the child welfare system in its ability to assist youth and families in resolving the concerns or addressing the needs that brought these youth into the system's care (Roberts, 2000; Roberts 2007).

It is important for the perception of violence to change from the belief of *bad* people in *bad* situations to a trauma-informed and strength-based approach that emphasizes that violence is oftentimes a negative outcome resulting from exposure to multiple environmental risk factors. Due to the socio-political nature of violence exposure, the inaccurate perception that often takes place in society, and the potential resulting trauma symptoms, youth and families with trauma histories often exhibit problematic behavioral and emotional responses because of barriers to adequate and culturally competent mental health care (Gary, 2005; Alegría et al., 2008; Betancourt, Green, Carrillo, & Owusu Ananeh-Firempong, 2016). Access to mental health care is challenging in the United States with estimates that only 25-30% of youth that need mental

health services receive them; these numbers are likely even lower in under-resourced neighborhoods characterized by high levels of poverty and violence. Thus, families who are not able to consistently provide a stable and protective environment for their children often become involved with the child welfare system. However, involvement with the child welfare system is typically mandatory which sometimes involves the removal of youth from the home. Consequently, this can generate tension between the child welfare agencies and the families with whom they work.

Unfortunately, for many maltreated youth involved in the child welfare system, their traumatic experiences do not end when they enter into foster care because these youth are at an increased risk of experiencing additional traumas throughout their lifetime (McDonald, Allen, Westerfelt, & Piliavin, 1996). Youth in the child welfare system may lack the appropriate coping resources to handle the multiple stressors associated with their involvement in child-serving systems, which may contribute to their increased risk of emotional and behavioral problems. As a result, youth in the child welfare system may be more likely to experience additional traumatic events because they often engage in behaviors that place them at greater risk and lead to their dual involvement in the juvenile justice system.

Of course, not all adolescents who spend time in the child welfare system engage in delinquent behavior. Instead, these youth may be protected by factors that counteract or mitigate the detrimental effects of trauma and subsequent involvement in the child welfare system. Research within the child welfare system demonstrates that building strengths for youth in the child welfare system may improve outcomes separate from success related to treating their mental illnesses (Lyons, Uziel-Miller, Reyes, & Sokol, 2000). Moreover, findings from cross-

sectional studies indicate that youth's identifiable strengths were associated with better global functioning and reduced likelihood of engaging in risky behaviors (Griffin, Germain, & Wilkerson, 2012; Griffin et al., 2011; Griffin, Martinovich, Gawron, & Lyons, 2009). In addition, research focused on the specific strengths of racial/ethnic minority youth in the child welfare system found that strengths help reduce the likelihood of multiple placement changes (Summersett-Ringgold, Jordan, Kisiel, Sax, & McClelland, 2018). Thus, early identification and the development of protective factors can help to circumvent negative outcomes for youth in the child welfare system by developing youth resiliency (Kisiel, Conradi, Fehrenbach, Torgersen, E., & Briggs, 2014; Kisiel, Summersett-Ringgold, Weil, & McClelland, 2017). The term resilience refers to a dynamic process in which individuals demonstrate positive adaptation despite exposure to significant risk or trauma (Luthar, Cicchetti, & Becker, 2000; Masten & Coatsworth, 1998). Resiliency can be developed for youth in the child welfare system by identifying and building protective factors or strengths, which are factors known to be associated with positive adaptation, particularly among youth who are considered to be the most at-risk for negative outcomes (Masten & Coatsworth, 1998; Pellegrini, 1990). Protective factors are often defined as any traits, skills, strengths, resources, or coping strategies that help youth and families who are considered to be at "high-risk" for negative outcomes more effectively deal with adversity and mitigate or eliminate risk (Masten & Coatsworth, 1998; Pellegrini, 1990). Strengths related to a child's functioning, abilities, family supports, and community resources can be identified and used during the assessment and planning process to have relevance for treatment and service goals and delivery (Early & GlenMaye 2000; Walrath, Mandell, Holden, & Santiago, 2004). For the purposes of this paper, we will use the term protective factors when discussing strengths, as

strengths are one component of protective factors and the study is examining the factors in youth and caregivers that may reduce the likelihood of juvenile justice involvement for youth in the child welfare system.

Family, peers, school, and community environments can play a vital role in promoting a youth's personal strengths, to the extent that these environments offer positive experiences and opportunities that can promote autonomy, competency, and social functioning. Specifically, protective factors related to youth's adaptive and interpersonal functioning, talents/abilities, and caregiver and community resources can be identified and used during the treatment and service delivery process (Early & GlenMaye, 2000). Protective factors that are identified through the assessment process can help providers in the child welfare system with treatment and service goals, which in turn may help reduce the likelihood of justice involvement for this vulnerable population. Thus, identification and promotion of youth protective factors during the course of services while in the child welfare system may be a paramount step towards helping youth in the system build resiliency to reduce the risk of future justice involvement.

There has been a shift in research regarding child wellbeing to focus on both risk and protective factors as both perspectives are required for a comprehensive understanding of youth justice system involvement for youth already involved in the child welfare system. In addition, both rates of delinquent behavior (Puzzanchera Sladky, & Kang, 2013) and exposure to violence and trauma (Pearce, Jones, Schwab-Stone, & Ruchkin, 2003; Sheidow, Gorman-Smith, Tolan, & Henry, 2001) are higher among racial/ethnic minorities, which suggests that identifying protective factors that buffer youth from the adverse effects of violence exposure has important implications for addressing racial/ethnic disparities in youth outcomes. However, less attention

has been paid to the protective factors that reduce the risk of justice system involvement, particularly for youth in the child welfare system, who may be at a greater risk of future juvenile system involvement compared to youth in the general population.

Knowledge of the determinants of the course towards juvenile justice involvement is crucial to develop tailored prevention and intervention programs. Researchers have examined numerous individual, familial, school, peer-related, and neighborhood risk factors for youth violence and subsequent juvenile justice involvement (Hawkins et al., 2000). Individual characteristics such as race/ethnicity, gender, mental illness, substance use, trauma exposure, academic failure, and delinquency have demonstrated an increase in the risk of justice system involvement (Dembo, 1996; Grisso, 1999; Hawkins et al., 2000; Wasserman, Larkin, & McReynolds, 2004; Maschi, Hatcher, Schwalbe, & Rosato, 2008; Ford, Hartman, Hawke, & Chapman, 2008). Similarly, familial or community/social risk factors, such as parental incarceration, family conflict, parent-child separation, poverty, and community disorganization, have been found to increase the likelihood that youth will engage in violence and have subsequent encounters with the juvenile justice system (Evens & Stoep, 1997; Government Accounting Office, 2003; Hawkins et al., 2000). In comparison to risk factors, protective factors lower the risk of adverse outcomes for youth; therefore, we expect that the identification and development of youth protective factors would similarly reduce the risk of juvenile justice involvement among youth in the child welfare system. The considerable social consequences of justice involvement and its high prevalence among youth involved in the child welfare system calls for research that can identify a broad spectrum of protective factors that may buffer against justice system involvement. Although there is not a strong established

research base regarding the factors that reduce the likelihood of justice system involvement for youth in the child welfare system, research on the protective factors that reduce youth delinquency covers a broad range of variables from the individual youth level (e.g., biological and personality traits), family level, and community level (Ttofi et al., 2016; Werner & Smith, 1992; Lösel & Bliesener, 1994; Stattin, Romelsjö, & Stenbacka, 1997; Cummings & Davies, 1996; Greenberg, Speltz, & Deklyen, 1993; Wyman, Cowen, Work, & Parker, 1991; Loeber, Farrington, Stouthamer-Loeber, & White, 2008; Stouthamer-Loeber et al., 1993).

Child welfare administrators can benefit from data from large, population-based studies to better understand the breadth of factors associated with justice involvement among youth, especially protective factors that distinguish youth who are in the child welfare system from becoming justice involved. Such information will help advance the field in understanding the protective factors most strongly associated with actual reduction of justice involvement among youth. Knowing which protective factors best reduce justice involvement also can assist child welfare practitioners with identifying and assessing youth who may demonstrate an increased likelihood of becoming justice involved.

The current investigation sought to address gaps in existing child welfare and juvenile justice research using an administrative-based sample of youth involved in the Illinois child welfare system. This study sought to explore whether particular protective factors become more or less developed over time for youth involved in the child welfare system, and if the development of these protective factors is associated with reducing the risk of justice system involvement. Based on our previous research about the role of protective factors for youth in the child welfare (Summersett-Ringgold, Jordan, Kisiel, Sax, & McClelland, 2018; Kisiel,

Summersett-Ringgold, Weil, & McClelland, 2017; Griffin, Martinovich, Gawron, & Lyons, 2009; Griffin et al., 2011), we hypothesize that youth with less developed protective factors during their time in the child welfare system will be more likely to become justice involved than youth with more developed protective factors over time. Our previous research also leads us to hypothesize that protective factors at the family (e.g., a permanent and healthy relationship with at least one family member) and community levels (e.g., strengths of the educational system) will be more developed for youth who never became justice involved compared to youth who become justice involved (Summersett-Ringgold, Jordan, Kisiel, Sax, & McClelland, 2018). Studies have found that female youth represent the largest growing section of the juvenile justice population, with more females coming from the child welfare system into the juvenile justice system (Herz, Ryan, & Bilchik, 2010; Ryan, Herz, Hernandez, & Marshall, 2007; Snyder, 2002). Therefore, based on the literature, we hypothesize that youth in child welfare who are older, female, or a racial/ethnic minority will have less developed protective factors and thus a higher probability of being involved in the justice system than youth in child welfare who are younger, male, or White.

Methods

This study utilized child welfare administrative data from the Illinois Department of Children and Family Services (IDCFS) collected between July 2005 and April 2016.

Participants

Participation in the study was limited to youth who entered the Illinois child welfare system, which is administered by the Illinois Department of Children and Family Services (DCFS), between July 2005 and April 2016 and who had no prior history of involvement in the juvenile or adult justice systems. All participants were between the ages of 10 to 17 at entry into

the child welfare system. All participants entering DCFS care were required to have a comprehensive integrated assessment process which incorporates the Child and Adolescent Needs and Strengths (CANS) assessment within 45 days of entry into the system.

Assessment Procedures and Measures

Study data came from 2 sources: (1) CANS assessments, and (2) the DCFS Child and Youth Central Information System (CYCIS). These data sources and details about each measure are described below.

Child and Adolescent Needs and Strengths (CANS) Assessment: The DCFS CANS comprehensive assessment was developed by Northwestern University in collaboration with the National Child Traumatic Stress Network (NCTSN) and DCFS clinical staff to measure youth and their current caregivers' behavioral and emotional needs and strengths. The CANS contains 105 items across eight domains: trauma experiences, traumatic stress symptoms, child strengths, life domain functioning, acculturation, child behavioral/emotional needs, child risk behaviors, and caregiver needs and strengths.

A provider (e.g., therapist, caseworker, psychologist) ideally completes the CANS by integrating data from multiple sources, including interviews with the child and his or her caregivers; child, caregiver, and teacher self-report questionnaires; case worker observation of child and family; review of case records; and incorporating the clinical judgment of the provider completing the CANS. The CANS was designed to inform service recommendations, so it uses a 4-point scoring system to determine action levels for urgency of intervention. The scoring for strengths and needs items is based on two criteria: (a) the degree of strength or impairment, and (b) the degree of urgency for intervention. The scoring system is structured as follows: 0 indicates

no evidence of need/impairment or a core strength; 1 indicates a mild degree of need/difficulty or a useful strength; 2 indicates a moderate level of need/difficulty or a potential strength; 3 indicates a severe level of need/difficulty or no identified strength. In addition, the scoring system is based on “action levels” that can be used to inform clinicians’ ratings. “Actionable” needs are those rated as a 2 or 3. Higher strengths scores represent fewer strengths, so identifiable strengths are strengths with an item score of 0 or 1. Strengths are also described as protective factors, particularly in the juvenile justice literature (Hawkins et al., 2000; Ttofi, Farrington, Piquero, & Delisi, 2016; Ttofi et al., 2016; Kim, Gilman, Hill, & Hawkins, 2016; Dubow, Huesmann, Boxer, & Smith, 2016; Jolliffe, Farrington, Loeber, & Pardini, 2016; Farrington, Ttofi, & Piquero, 2016). Therefore, for the purposes of this paper, the strengths that are assessed using the CANS will be discussed in terms protective factors for the purposes of interpretation. Clinicians must complete a test case vignette with a reliability of 0.70 or higher to receive certification in the reliable use of the CANS.

CANS item-level scores can also be aggregated at the domain level. Domain scores sum the item scores within each of the eight domains (e.g., Emotional/Behavioral Needs) and offer an overall picture of difficulties in a given domain. CANS measurement properties have been studied (Lyons, 2004), and the eight domains of the CANS exhibit strong reliability and validity (Kisiel et al., 2018; Kisiel, Blaustein, Fogler, Ellis, & Saxe, 2009; Lyons & Weiner 2009). At the individual item level, psychometric studies suggest that individual CANS items may be reliably used in data analyses (Anderson, Lyons, Giles, Price, & Estes, 2002). The CANS is not intended, however, to offer a total or overall score. The psychometric properties of the CANS have been demonstrated across child-serving settings including child welfare, mental health, and juvenile justice (Kisiel et

al., 2009; Leon, Ragsdale, Miller, & Spacarelli, 2008; Lyons, Uziel-Miller, Reyes, & Sokol, 2000; Lyons & Weiner, 2009; Sieracki, Leon, Miller, & Lyons, 2008). Further, while in some cases CANS ratings are intended to capture the severity of needs or symptoms that may be associated with particular diagnoses, the CANS does not identify diagnoses.

The present study will only use the CANS Strengths and Life Domain Functioning domains.

DCFS Child and Youth Central Information System (CYCIS): Child welfare case open and close information, length of time in state custody, and demographic information was obtained from CYCIS. Participants' demographic information includes race/ethnicity, age, and gender. Race/ethnicity will be categorized as Non-Hispanic Black, Non-Hispanic White, Hispanic, and Other. Youth 10 and older are more likely to experience justice involvement and youth age out of the child welfare system when they turn 18 years old; therefore, age was categorized into two groups: ages 10-13 and ages 14-17 (Child Trends, 2017) to determine if there are differences in juvenile justice involvement between younger and older youth in the child welfare system.

Dependent Variable: Justice Involvement: The "legal" item from the Life Domain Functioning Domain identifies youth who became involved in the legal system. Youth with a history of justice involvement prior to their involvement in the child welfare system were excluded from the sample. Therefore, all youth included in the study received a rating of 0 on the legal item at entry into the child welfare system, which indicates no known legal difficulties. A rating of 1 indicates a history of legal problems but no current involvement with the legal system. A rating of 2 indicates that the youth has some legal problems, is currently involved in the legal system, and may have active parole and/or probation mandates. A rating of 3 indicates that the

youth has serious current or pending legal difficulties that place him/her at risk for a re-arrest, or the youth is currently incarcerated. I dichotomized the legal item so that a rating of 0 indicated no justice involvement and a rating of 2 and 3 indicated justice involvement. Because our study focus is legal system involvement after child welfare system involvement, we excluded from the sample youth with a rating of 1, which indicates a history of legal problems but no current involvement with the legal system.

The dependent variable was categorized into two groups. Youth who never became justice involved during the study period (Not JJ-Involved group) and youth who became justice involved during the study period (JJ-Involved group). This grouping variable was used in bivariate analyses. Time to justice involvement was measured by the number of days to an actionable rating of a 2 or 3 on the legal item on the CANS within the study timeframe.

Independent Variables: Youth Protective Factors. Youth protective factors (or strengths) were assessed at entry into the Illinois child welfare system and at their child welfare case closing or at time of justice involvement. To determine child welfare case status, child welfare case closure was obtained from CYCIS.

The following items from the CANS Strengths Domain were used to identify youth protective factors: interpersonal (i.e., interpersonal skills of the youth with peers and adults), coping skills (i.e., psychological strengths that the youth developed including the ability to enjoy positive life experiences and manage negative life experiences), optimism (i.e., the youth's positive future orientation and sense of self), talents/interests (i.e., the youth's talent, creative, or artistic skills), family (i.e., all family members with whom the youth is still in contact), relationship permanence (i.e., stability of significant relationships in the youth's life), educational

setting (i.e., strengths of the school system), spiritual/religious (i.e., youth and family's involvement in spiritual or religious beliefs and activities), and community life (i.e., youth's involvement in the cultural aspects of life in his/her community). Consistent with other analyses of CANS data, we dichotomized CANS strength items as identifiable (a rating of 0 [centerpiece strength] or 1 [existing strength that requires some development]) or not identifiable (a rating of 2 [strength requires significant development] or 3 [strength not identified]) (Lyons, 2009; Dunleavy & Leon, 2011; Accomazzo, Shapiro, Israel, & Kim, 2017; Summersett-Ringgold, Jordan, Kisiel, Sax, & McClelland, 2017). We also calculated change scores for each individual strength item by taking the difference between the CANS strength scores at entry into the child welfare system and the CANS strength scores at the final assessment. The final assessment was the case closing CANS assessment for youth who never became justice involved or the CANS assessment closest to when the youth became involved with the justice system for justice-involved youth. We also calculated residual gain scores for each individual strength item, which were used to examine the associations between protective factors and time to justice system involvement. We calculated residual gain scores for each strength item by using linear regressions for each strength score and taking the difference between the regression predicted pre-score at entry into the child welfare system and the post-score at the final CANS assessment. Residual gain scores were used instead of change scores to account for the influence of youth baseline strength scores (Cronbach, & Furby, 1970).

Statistical Analysis

Initial analyses consisted of frequencies and descriptive statistics to test variable distributions. For each strengths item, we examined the change in the proportion of youth for

whom that strength was identifiable upon child welfare system entry (time 1) compared to their last CANS assessment (time 2). One sample z-tests (normal approximation for sign tests) for each strength were then used to assess if the proportion of youth improving from not identifiable to identifiable was significantly greater than the proportion of youth whose strength level declined from identifiable to not identifiable. These values were separately calculated for the whole sample, youth who did not become JJ-involved, and youth who became JJ-involved. Bivariate analyses were conducted to determine the direction, magnitude, and significance level of associations by youth characteristics (i.e., gender, race/ethnicity, and age) and each of the youth strength items at baseline and across time. Further, bivariate analyses were conducted to determine the direction, magnitude, and significance level of associations between the two JJ-involvement groups and each of the youth strength items at baseline and across time.

Cox proportional hazards regression models were used to test the association between the residual gain scores for each individual strength item and time to justice involvement. All statistical analyses were conducted using SPSS software (Version 25).

Results

Participant Characteristics

Participants' full demographic and case closure information is summarized in Table 1. Of 4811 youth, 59% were girls, 50% were non-Hispanic Blacks, and 55% were between 10 and 13 years of age at entry into the Illinois child welfare system. During their time in the child welfare system, 19% of youth in the sample became JJ-involved.

Participant Characteristics by Juvenile Justice Status

Table 2 provides information on the demographic differences by juvenile justice status. Boys were more likely to become justice involved than girls ($p < .001$). Black youth were more likely to be involved in the justice system than youth from other racial/ethnic backgrounds ($p < .001$). Older youth, aged 14-17, were more likely to become justice involved compared to younger youth ($p < .001$).

Percentage of Youth Change in Protective Factors

Table 3a demonstrates that youth in the total sample endorsed relatively high rates of identifiable strengths or protective factors for most types of protective factors upon entry into the child welfare system. Over 80% of youth in the sample had identifiable protective factors related to spirituality/religion (84.1%), optimism (83.8%), and talents/interests (83.8%). Even the least frequently occurring identifiable protective factor, family, was at an identifiable level for 46% of youth in the sample. Table 3a also illustrates that, for every youth protective factor, the proportion of youth with identifiable strength scores at baseline was significantly higher at time 2 than at baseline. In addition, Table 3a reports two other metrics of interest: the proportion of youth with a non-identifiable strength at time 1 that become identifiable at time 2 (improvement), and the proportion of youth with an identifiable strength at time 1 that become not identifiable at time 2 (worsening). The strength for which the largest improvement occurred was family strengths ($\Delta\% = 34\%$). This 34% increase may be due to 73.6% improvement among youth for whom family strengths were not identifiable at time 1, compared to only 11.9% worsening among youth for whom family strengths were identifiable at time 1. Relationship permanence also showed substantial overall improvement ($\Delta\% = 29.1\%$). In order of percent improvement, effect coping skills, community life, interpersonal skills, educational setting, talents/interests,

optimism, and spiritual/religious showed more modest overall improvements ($\Delta\%$ from 15.2% to 4.3%). Across all strength items, the “worsening rate” did not exceed 13.4% (relationship permanence) and the “improvement rate” was never lower than 71.5% (educational setting).

Similarly, the proportion of youth not JJ-involved with identifiable strength scores was significantly higher at time 2 for every strength item (Table 3b). Among the strength scores for the youth not JJ-involved, the largest improvement in overall identifiable scores at time 1 versus time 2 occurred for family ($\Delta\% = 35.2\%$). Similar overall improvement was noted for relationship permanence ($\Delta\% = 30.6\%$). Estimates of conditional improvement and worsening scores for the strength items were consistent with the overall sample with improvement rates ranging from 76.4% (family strengths) to 84.4% (optimism), and worsening rates ranging from 6.4% (interpersonal skills) to 11.1% (relationship permanence).

For JJ-involved youth, similar trends were observed (Table 3c), with one exception: the proportion of youth with an identifiable level of spiritual/religious strengths at time 2 (80.3%) was not significantly higher than at time 1 (79.6%, $\Delta\% = -0.7$, $z = .36$, $p = .721$). The largest overall improvement in identifiable scores at time 1 versus time 2 occurred for family strengths ($\Delta\% = 29.1\%$) and relationship permanence ($\Delta\% = 22.7\%$), which was similar to the youth not JJ-involved. However, the proportion of JJ-involved youth who demonstrated improvement at time 2 was less than the not JJ-involved group for all strength items. Estimates of conditional improvement scores for the strength items for JJ-involved youth ranged from 58.0% (educational setting) to 79.8% (talents/interests), and worsening rates ranging from 16.9% (talents/interests) to 27.9% (educational setting).

Associations of Youth Characteristics with Change in Youth Protective Factors

In unadjusted models of youth protective factors at baseline by gender (Table 4a), girls demonstrated higher levels of interpersonal ($x = 0.87, p = .01$) and educational strengths ($x = 0.94, p < .01$) compared to boys, with lower scores indicating higher levels of protective factors based on the CANS scoring system. Boys demonstrated statistically more identifiable optimism ($x = 0.79, p = .02$), talents/interests ($x = 0.68, p = .02$), and family ($x = 1.4, p < .001$) strengths at baseline than girls. The overall model of the baseline scores for coping skills by gender was statistically significant ($p = .01$). There were no statistically significant differences in the baseline mean scores of relationship permanence, spiritual/religious, and community life strengths between boys and girls. In unadjusted models of the change in youth protective factors for gender (Table 4b), the girls demonstrated a significantly larger mean change in family strengths ($x = -0.74$) compared to boys ($x = -0.63, p < .001$), with negative scores indicating positive change based on the CANS scoring system. Girls also had a significantly larger mean change in community life strengths ($x = -0.40$) compared to boys ($x = -0.31, p = .01$). There were no statistically significant differences between the mean change of interpersonal, coping skills, optimism, talents/interests, relationship permanence, educational setting, and spiritual/religious strengths between girls and boys.

In the unadjusted models of baseline youth protective factors by race/ethnicity (Table 4a), White youth had more identifiable coping skills ($x = 1.0, p < .01$), optimism ($x = 0.78, p = .01$), talents/interests ($x = 0.64, p < .001$), relationship permanence ($x = 1.29, p < .01$), educational ($x = 0.90, p < .001$), and community life ($x = 0.82, p < .001$) strengths compared to these strengths for Black youth at baseline. White youth also had more talents/interests ($x = 0.64, p < .001$), relationship permanence ($x = 1.29, p < .01$), educational ($x = 0.90, p < .001$), and community life ($x = 0.82, p < .001$) strengths compared to Hispanic youth. There were no statistically significant

differences between the baseline scores of interpersonal, family, and spiritual/religious strengths by race/ethnicity. In contrast, in the models testing the association between the change in youth protective factors by race/ethnicity, Black youth demonstrated a significantly larger mean change for coping skills ($x = -0.44$, $p < .001$), optimism ($x = -.30$, $p < .01$), talents/interests ($x = -0.26$, $p = .01$), family ($x = -0.72$, $p = .01$), relationship permanence ($x = -0.71$, $p < .001$), and community life ($x = -0.43$, $P < .001$) compared to the mean change for these protective factors for White youth ($x = -0.30$, $x = -0.20$, $x = -0.16$, $x = -0.64$, $x = -0.58$, and $x = -0.27$ respectively). Hispanic youth had a significantly larger mean change in coping skills ($x = -0.46$, $p < .001$) and family strengths ($x = -0.81$, $p = .01$) compared to the mean change for these strengths for White youth. The overall model of the change in spiritual/religious strengths by race/ethnicity was statistically significant ($p = .02$); however, there were no significant differences among the groups. There were no statistically significant differences for the mean change in interpersonal strengths and educational setting strengths by race/ethnicity.

Table 4a also reports the unadjusted associations between baseline strengths and age groups. For all youth strength items at baseline, youth aged 10-13 had significantly higher levels at baseline than youth aged 14-17. In the unadjusted associations of the change in youth protective factors by age, younger youth had a greater mean change for optimism ($x = -0.29$, $p = .01$) and talents/interests ($x = -0.28$, $p < .001$) compared to older youth ($x = -.22$ and $x = -0.15$, respectively). Younger youth also had a greater mean change for spiritual/religious ($x = -0.29$, $p < .01$) and community life strengths ($x = -.39$, $p = .04$) compared to older youth ($x = -.19$, $x = -.32$, respectively). There were no statistically significant differences for the mean change in

interpersonal, coping skills, family, relationship permanence, and educational setting strengths by age.

Associations of Justice Involvement with Change in Youth Protective Factors

In unadjusted models of baseline youth protective factors and justice system involvement (Table 5a), all of the strength scores at baseline for youth who never became involved with the justice system were significantly higher than the strength scores at baseline for youth who later became involved with the justice system. Similarly, the mean change scores for the strength items of youth who never became justice involved were significantly higher for all of the items compared to youth who became involved with the justice system (Table 5b), meaning that youth who did not become justice-involved improved their strength levels for every strength more than youth who became justice-involved.

Youth Protective Factors Predicting Relative Risk of Justice Involvement

There were several youth protective factors that were inversely associated with becoming justice-involved (Table 6). Talents/interests ($p < .001$), educational setting ($p < .001$), spiritual/religious strengths ($p < .001$), and community life ($p < .01$) were negatively associated with the risk of justice involvement. For every one-point deviation in the residual gain scores, youth with community life strengths are at an 8% lower risk of becoming justice involved, youth with talents/interests are at a 9% lower risk of becoming justice involved, youth with educational strengths are at a 10% lower risk of becoming justice involved, and youth with spiritual/religious strengths are at a 12% lower risk of becoming justice involved at any given time. There were no statistically significant associations of interpersonal strengths, coping skills, optimism, family strengths, and relationship permanence with justice status.

Discussion

In this study the impact of protective factors or strengths were considered in relation to justice involvement for youth in the child welfare system. Youth protective factors were assessed at entry into the Illinois child welfare system and at their child welfare case closing or at time of justice involvement. Findings from this study suggest that youth protective factors have a significant role in buffering the likelihood of justice system involvement for youth already involved in the child welfare system over the course of time in child welfare.

As hypothesized, youth who later became justice system involved exhibited fewer identifiable protective factors overall at baseline compared to youth who did not become justice involved. However, when examining changes in protective factors over the course of child welfare services, all youth regardless of justice status demonstrated significant increases in all of their protective factor scores. Notably, the magnitude of the change in youth protective factors over time was greater for youth who never became justice involved. Therefore, while youth with later justice system involvement had significantly lower protective factor scores at baseline and less change in protective factors over time compared to youth without later justice system involvement, all types of protective factors increased and improved over the course of services regardless of justice system involvement. In short, youth who went from the child welfare to the justice system made gains with protective factor development even if their outcome was poor, contrary to what was expected. This is an important implication for providers in the juvenile justice system as youth in the justice system are often viewed as lacking protective factors to use as points for intervention. Understanding that youth originating from the child welfare system who come into contact with the justice system have identifiable protective factors can help

juvenile justice providers capitalize on these protective factors to achieve the primary goals of the system, such as youth skill development, rehabilitation, treatment needs, and successful reintegration into the community. These findings also demonstrate that protective factors are important when considered in the context of reducing justice involvement; however, this warrants further investigation as there may be certain protective factors that are more effective at reducing justice involvement for specific youth. Therefore, future research should consider looking at individual differences among youth and also the differences in the protective factors to determine which specific factors are most helpful in reducing the likelihood of justice involvement for which youth. In addition, future research should determine if there is a certain threshold or number of protective factors that youth should develop during their time in the child welfare system that may be more protective of justice involvement compared to a lower number.

The findings for racial/ethnic differences based on youth protective factors determined that minority youth entered child welfare with fewer reported protective factors compared to White youth. Yet, minority youth demonstrated more development in their protective factors over time compared to White youth. On the other hand, younger youth came into the system with more reported strengths than older youth. Younger youth also had more development of their protective factors compared to older youth. Results for gender were mixed regarding their differences in protective factors at entry into child welfare as girls had more skills in some areas and boy had more skills in others. In the context of the development of protective factors, girls developed more family and community life protective factors compared to boys.

The Cox regression model supports the expected findings related to the impact of protective factors on justice system involvement. Youth with more developed protective factors

had a lower likelihood of justice system involvement. Specifically, talents/interests, educational strengths, spiritual/religious strengths, and community life strengths made the largest individual contributions to lowering the risk of justice system involvement. This speaks to the protective effect that positive self-concept in the form of individual talents or creativity, community resources, educational supports, and spiritual/religious encouragement have on youth development and functioning while in the child welfare system, in addition to the potential role of the child welfare system in helping to develop each of these specific protective factors. Particularly, one focus of the child welfare system is on building and enhancing family relationships in an effort to stabilize and maintain the foster care placement, while strengthening the family of origin to achieve reunification (Child Welfare Information Gateway, 2013). The child welfare system also emphasizes developing and improving positive coping strategies for youth and families (Child Welfare Information Gateway, 2013). Child welfare caseworkers also advocate for youth in their school systems by ensuring that they receive academic and behavioral accommodations (e.g., Individualized Education Programs (IEP), tutoring, social work services, and occupational or speech therapy), which can enrich youth experiences at their school.

It was expected that youth protective factors would play a critical role in reducing the likelihood of justice system involvement. The findings were consistent with these hypotheses, indicating that certain youth protective factors lowered the risk of justice involvement for youth in child welfare. This suggests that an examination of youth protective factors is particularly vital when examining the factors that contribute to youth delinquency and subsequent justice system involvement, as they serve as important context variables impacting the probability of justice system involvement. It is likely an incomplete picture if child welfare and juvenile justice

research continues to exclude a comprehensive examination of youth protective factors in the context of the risk factors that contribute to justice system involvement for youth in child welfare. It is encouraged that future research further explores these relationships.

The findings from this study offer an important contribution to the literature on juvenile justice prevention, particularly given the limited empirical research in this area. While existing literature supports the relationship between youth protective factors reducing juvenile delinquency (Ttofi et al., 2016; Werner & Smith, 1992; Lösel & Bliesener, 1994; Stattin, Romelsjö, & Stenbacka, 1997; Cummings & Davies, 1996; Greenberg, Speltz, & Deklyen, 1993; Wyman, Cowen, Work, & Parker, 1991; Loeber, Farrington, Stouthamer-Loeber, & White, 2008; Stouthamer-Loeber et al., 1993), these findings do not examine the protective factors of youth in the child welfare system that reduce justice system involvement for this vulnerable population.

One of the most powerful implications of these findings is that building specific youth protective factors is a critical point of intervention that can mitigate the negative outcomes related to child welfare involvement. Early strength-building through treatment and service planning and practice can reduce the risk of justice system involvement for this vulnerable population. These findings have important clinical implications for assessment, treatment, and service delivery in child welfare and juvenile justice settings, and the implications can also extend to other systems serving youth in the child welfare system such as mental health and educational departments. While youth in the child welfare system typically present with a wide range of service needs, it is vital that child welfare providers determine useful strategies to detect and cultivate protective factors that promote optimal functioning for these youth. These

strategies can then be translated into approaches that emphasize protective factors for providers to integrate in assessments and interventions. Although a detailed assessment of youth protective factors may not be routine in the context of child welfare or juvenile justice assessments, this study supports the need to more consistently incorporate the assessment of youth protective factors into the assessment process given their potential role in reducing negative outcomes for child welfare-involved youth. In turn, as protective factors are more correctly and consistently identified, an important resulting step is for child welfare providers to share this information with youth and families. Gathering and sharing information on specific youth protective factors can help to encourage youth and families during the assessment, treatment, and service delivery process.

This study has a number of distinctive aspects, including its large sample size and the use of an inclusive strength-based assessment strategy to measure a range of specific youth protective factors among youth in the child welfare system. This study also evaluated youth over the course of their involvement in child welfare custody, examining the role of youth protective factors in reducing the risk of justice system involvement. While service providers working in state-level systems often suggest that protective factors have a vital function in reducing the risk of justice involvement for youth at-risk of engaging in delinquent behaviors, there is limited research to support the buffering effect of protective factors on justice involvement for youth in child welfare custody. This longitudinal study of youth protective factors as they relate to justice involvement for youth involved in the child welfare system is among the first in this area and offers an important contribution to the field of child welfare and juvenile delinquency.

There are also limitations to consider in this study. The sample represents a vulnerable population of youth in the child welfare system at risk for justice involvement. Thus, the responses of these youth may not be generalizable to the general population of youth. Additionally, while the assessment timeframe of this study represents entry into the child welfare system and case closing or time to justice involvement, our data do not allow us to determine what services the youth received prior to entering and while in the child welfare system. For instance, some of the youth may have participated in services which may have reduced their likelihood for justice involvement as well as helped to develop their protective factors; thus, this may also limit the conclusions that can be drawn from this study. Also, the examination of youth protective factors among youth involved in the child welfare system is multifaceted; these analyses are limited to an examination of selected variables. A multitude of biological, interpersonal, familial, and community protective factors, may influence the course of these outcomes. Therefore, future research should consider these other types of protective factors.

Moreover, there are potential limitations in providers' usage of the CANS in practice. The CANS is an information integration tool designed to incorporate information from multiple sources. The assessment requires that providers are trained to reliably complete the CANS; yet there may be some variation in providers' use of the CANS in practice. While the use of the CANS as an information integration tool is a benefit in terms of its ability to incorporate a range of information, there is also a possibility that all of the information available to the provider may not be utilized, possibly compromising the reliability of the ratings. Therefore, future research should consider each of these areas.

Conclusions

Overall, this study highlights the important role and impact of youth protective factors on the likelihood of justice involvement among youth in child welfare. This study offers much needed empirical support for the importance of the development of youth protective factors over time in reducing the risk of juvenile justice involvement. This fills an important gap in the field by providing evidence related to the role of protective factors in relation to outcomes among vulnerable youth in child welfare custody. Youth were able to develop protective factors over time regardless of justice status; however, youth who never became justice involved during the study period had more development of their protective factors compared to youth who became justice involved. This speaks to the critical importance of early identification and building of protective factors among all youth in the child welfare system to support their positive development, functioning, and recovery from the trauma that brought them into child welfare. We encourage future research that explores the relationship between protective factors and justice involvement to help further understand how both specific individual-level and caregiver-level protective factors can buffer against justice involvement.

Table 1. Demographics and Juvenile Justice Involvement

Total Sample = 4811		
	N	%
Gender		
Girls	2822	59
Boys	1989	41
Race/Ethnicity		
Black	2426	50
White	1984	41
Hispanic	319	7
Other	82	2
Age at Entry into State Custody		
10-13	2630	55
14-17	2181	45
JJ Involvement		
Yes	912	19
No	3899	81

Table 2. Juvenile Justice Involvement by Demographics

N= 4811 [†]	Gender		P-value	Race/Ethnicity				P-value	Age		P-value
	Girls	Boys		Black	White	Hispanic	Other		10-13	14-17	
	2822 (59%)	1989 (41%)		2426 (50%)	1984 (41%)	319 (7%)	82 (2%)		2630 (55%)	2181 (45%)	
<u>Juvenile Justice Involvement</u>			<.001					<.001			<.001
JJ Involved – Closed and Open DCFS Cases	466 (16.5%) ^a	446 (22.4%) ^b		537 (22.1%) ^a	318 (16.0%) ^b	49 (15.4%) ^b	8 (9.8%) ^b		373 (14.2%) ^a	539 (24.7%) ^b	
Not JJ Involved – Closed and Open DCFS Cases	2356 (83.5%) ^a	1543 (77.6%) ^b		1889 (77.9%) ^a	1666 (84.0%) ^b	270 (84.6%) ^b	74 (90.2%) ^b		2257 (85.8%) ^a	1642 (75.3%) ^b	

[†]P-values demonstrate differences between juvenile justice status and each participant characteristic from chi-square tests of association. Different superscripts indicate significant differences among the groups in the row.

Table 3a. Percentage of Youth Change in Strengths for the Total Sample

	Total Sample	Time 1 Identifiable		Time 2 Identifiable		Δ%	z	p	<u>Not Identifiable at Baseline</u>			<u>Identifiable at Baseline</u>		
		N	%	N	%				N	% Unch.	% Improved	N	% Unch.	% Worse
Family Relationship	4811	2228	46.3	3863	80.3	34.0	-35.14	<.001	2583	26.4%	73.6%	2228	88.1%	11.9%
Permanence	4811	2523	52.4	3923	81.5	29.1	-30.73	<.001	2288	24.0%	76.0%	2523	86.6%	13.4%
Coping Skills	4811	3283	68.2	4014	83.4	15.2	-18.53	<.001	1528	25.1%	74.9%	3283	87.4%	12.6%
Community Life	4811	3474	72.2	4097	85.2	13.0	-15.94	<.001	1337	19.6%	80.4%	3474	87.0%	13.0%
Interpersonal Skills	4811	3689	76.7	4226	87.8	11.1	-15.64	<.001	1122	23.5%	76.5%	3689	91.3%	8.7%
Educational Setting	4811	3586	74.5	4016	83.5	9.0	-11.83	<.001	1225	28.5%	71.5%	3586	87.6%	12.4%
Talents/Interests	4811	4034	83.8	4301	89.4	5.6	-8.40	<.001	777	17.8%	82.2%	4034	90.8%	9.2%
Optimism	4811	4032	83.8	4301	89.4	5.6	-8.49	<.001	779	18.2%	81.8%	4032	90.9%	9.1%
Spiritual/Religious	4811	4048	84.1	4254	88.4	4.3	-6.40	<.001	763	18.6%	81.4%	4048	89.7%	10.3%

*The CANS strength scoring system is based on the degree of strength or impairment, and the urgency for intervention to inform clinicians' ratings. "Identifiable" scores are considered those rated as a 0 or 1, indicating that there is no evidence of need/impairment because an area of strength.

Table 3b. Percentage of Youth Change in Protective Factors for Youth Not Involved in JJ

	Total Sample	Time 1 Identifiable		Time 2 Identifiable		Δ%	z	p	Not Identifiable at Baseline			Identifiable at Baseline		
		N	%	N	%				N	% Unch.	% Improved	N	% Unch.	% Worse
Family	3899	1873	48.0	3243	83.2	35.2	-32.98	<.001	2026	23.6%	76.4%	1873	90.5%	9.5%
Relationship Permanence	3899	2104	54.0	3297	84.6	30.6	-29.29	<.001	1795	20.6%	79.4%	2104	88.9%	11.1%
Coping Skills	3899	2777	71.2	3370	86.4	15.2	-17.37	<.001	1122	21.7%	78.3%	2777	89.7%	10.3%
Community Life	3899	2879	73.8	3442	88.3	14.5	-16.57	<.001	1020	15.8%	84.2%	2879	89.7%	10.3%
Interpersonal	3899	3094	79.4	3523	90.4	11.0	-14.94	<.001	805	22.1%	77.9%	3094	93.6%	6.4%
Educational Setting	3899	3019	77.4	3407	87.4	10.0	-12.50	<.001	880	23.2%	76.8%	3019	90.5%	9.5%
Talents/Interests	3899	3310	84.9	3549	91.0	6.1	-8.79	<.001	589	17.0%	83.0%	3310	92.4%	7.6%
Optimism	3899	3354	86.0	3585	91.9	5.9	-8.80	<.001	545	15.6%	84.4%	3354	93.2%	6.8%
Spiritual/Religious	3899	3316	85.0	3528	90.5	5.5	-7.72	<.001	583	17.2%	82.8%	3316	91.8%	8.2%

*The CANS strength scoring system is based on the degree of strength or impairment, and the urgency for intervention to inform clinicians' ratings. "Identifiable" scores are considered those rated as a 0 or 1, indicating that there is no evidence of need/impairment because an area of strength.

3c. Percentage of Youth Change in Strengths for JJ Involved Youth

	Time 1 Identifiable		Time 2 Identifiable		$\Delta\%$	z	p	Not Identifiable at Baseline			Identifiable at Baseline			
	Total Sample	N	%	N				%	N	% Unch.	% Improved	N	% Unch.	% Worse
Family	912	355	38.9	620	68.0	29.1	-12.65	<.001	557	36.8%	63.2%	355	75.5%	24.5%
Relationship Permanence	912	419	45.9	626	68.6	22.7	-10.14	<.001	493	36.7%	63.3%	419	74.9%	25.1%
Coping Skills	912	506	55.5	644	70.6	15.1	-6.97	<.001	406	34.7%	65.3%	506	74.9%	25.1%
Interpersonal	912	595	65.2	703	77.1	11.9	-5.74	<.001	317	27.1%	72.9%	595	79.3%	20.7%
Community Life	912	595	65.2	655	71.8	6.6	-3.11	.002	317	31.9%	68.1%	595	73.8%	26.2%
Educational Setting	912	567	62.2	609	66.8	4.6	-2.22	.026	345	42.0%	58.0%	567	72.1%	27.9%
Optimism	912	678	74.3	716	78.5	4.2	-2.14	.033	234	24.4%	75.6%	678	79.5%	20.5%
Talents/Interests	912	724	79.4	752	82.5	3.1	-1.70	.090	188	20.2%	79.8%	724	83.1%	16.9%
Spiritual/Religious	912	732	80.3	726	79.6	-0.7	0.36	.721	180	23.3%	76.7%	732	80.3%	19.7%

*The CANS strength scoring system is based on the degree of strength or impairment, and the urgency for intervention to inform clinicians' ratings. "Identifiable" scores are considered those rated as a 0 or 1, indicating that there is no evidence of need/impairment because an area of strength.

Table 4a. Baseline Youth Protective Factors by Youth Characteristics

	N= 4811 [†]			Gender				Race/Ethnicity				Age	
	Girls 2822 (59%)	Boys 1989 (41%)	P-value	Black 2426 (50%)	White 1984 (41%)	Hispanic 319 (7%)	Other 82 (2%)	P-value	Ages 10-13 2630 (55%)	Ages 14-17 2181 (45%)	P-value		
<u>Youth Protective Factors</u>	Mean (SD)	Mean (SD)		Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)		Mean (SD)	Mean (SD)			
Interpersonal	0.87 (0.79)	0.94 (0.83)	.01	0.92 (0.80)	0.87 (0.81)	0.96 (0.83)	0.78 (0.80)	.07	0.85 (0.81)	0.97 (0.80)	<.001		
Coping Skills	1.1 (0.79)	1.05 (0.80)	.01	1.1 (0.79) ^a	1.0 (0.79) ^b	1.2 (0.82) ^{ab}	1.1 (0.78) ^{ab}	<.01	1.0 (0.79)	1.2 (0.79)	<.001		
Optimism	0.84 (0.74)	0.79 (0.72)	.02	0.85 (0.73) ^a	0.78 (0.73) ^b	0.85 (0.74) ^{ab}	0.73 (0.69) ^{ab}	.01	0.77 (0.72)	0.87 (0.75)	<.001		
Talents/Interests	0.73 (0.78)	0.68 (0.75)	.02	0.76 (0.78) ^a	0.64 (0.75) ^b	0.76 (0.79) ^{ac}	0.61 (0.77) ^{ab,c}	<.001	0.68 (0.76)	0.74 (0.77)	.01		
Family	1.6 (0.81)	1.4 (0.82)	<.001	1.50 (0.81)	1.48 (0.83)	1.61 (0.85)	1.59 (0.79)	0.7	1.4 (0.80)	1.6 (0.82)	<.001		
Relationship Permanence	1.4 (0.89)	1.3 (0.87)	.83	1.38 (0.85) ^a	1.29 (0.90) ^b	1.44 (0.89) ^{ac}	1.39 (0.89) ^{ab,c}	<.01	1.3 (0.86)	1.4 (0.89)	<.001		
Educational Setting	0.94 (0.92)	1.0 (0.89)	<.01	1.05 (0.92) ^a	0.90 (0.87) ^b	1.04 (0.98) ^{ac}	0.90 (0.90) ^{ab,c}	<.001	0.87 (0.85)	1.1 (0.95)	<.001		
Spiritual/Religious	0.70 (0.86)	0.69 (0.85)	.67	0.71 (0.84)	0.68 (0.88)	0.76 (0.89)	0.54 (0.76)	.11	0.66 (0.83)	0.74 (0.88)	=.01		
Community Life	0.94 (0.94)	0.89 (0.92)	.05	1.0 (0.95) ^a	0.82 (0.90) ^b	1.0 (0.92) ^{ac}	0.87 (0.93) ^{ab,c}	<.001	0.86 (0.92)	0.99 (0.95)	<.001		

[†] P-values for differences in means of the strength items at baseline for each participant characteristic category from the independent samples t-tests (gender and age) and ANOVA tests (race/ethnicity). Different superscripts indicate significant differences among the groups from the Tukey post-hoc tests.

Table 4b. Associations of Youth Characteristics with Change in Youth Protective Factors

	N= 4811 [†]			Gender				Race/Ethnicity				Age	
	Girls 2822 (59%)	Boys 1989 (41%)	P- value	Black 2426 (50%)	White 1984 (41%)	Hispanic 319 (7%)	Other 82 (2%)	P- value	Ages 10-13 2630 (55%)	Ages 14-17 2181 (45%)	P- value		
<u>Youth Protective Factors</u>	Mean (SD)	Mean (SD)		Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)		Mean (SD)	Mean (SD)			
Interpersonal	-.28 (.91)	-.32 (.93)	.16	-.32 (.94)	-.26 (.88)	-.34 (.92)	-.26 (.91)	.11	-.30 (.90)	-.28 (.94)	.41		
Coping Skills	-.39 (1.0)	-.37 (.99)	.51	-.44 (1.0) ^a	-.30 (.97) ^b	-.46 (1.0) ^{a,c}	-.55 (.92) ^{a,b,c}	<.001	-.41 (.98)	-.36 (1.0)	.10		
Optimism	-.27 (.94)	-.24 (.92)	.27	-.30 (.94) ^a	-.20 (.92) ^b	-.33 (.94) ^{a,b}	-.37 (.84) ^{a,b}	<.01	-.29 (.91)	-.22 (.96)	.01		
Talents/Interests	-.23 (1.0)	-.22 (.94)	.76	-.26 (1.0) ^a	-.16 (.95) ^b	-.26 (1.0) ^{a,b}	-.28 (.93) ^{a,b}	.01	-.28 (.95)	-.15 (1.0)	<.001		
Family	-.74 (1.0)	-.63 (1.0)	<.001	-.72 (1.0) ^a	-.64 (1.0) ^b	-.81 (1.0) ^{a,c}	-.79 (.91) ^{a,b,c}	.01	-.70 (1.0)	-.69 (1.1)	.85		
Relationship Permanence	-.65 (1.1)	-.69 (1.1)	.19	-.71 (1.1) ^a	-.58 (1.1) ^b	-.75 (1.1) ^{a,c}	-.91 (1.1) ^{a,c,d}	<.001	-.67 (1.1)	-.66 (1.1)	.86		
Educational Setting	-.29 (1.1)	-.33 (1.1)	.21	-.31 (1.2)	-.28 (1.1)	-.36 (1.3)	-.44 (.96)	.42	-.30 (1.0)	-.31 (1.2)	.94		
Spiritual/Religious	-.26 (1.1)	-.22 (1.1)	.20	-.27 (1.1)	-.19 (1.1)	-.36 (1.1)	-.20 (1.0)	.02	-.29 (1.0)	-.19 (1.2)	<.01		
Community Life	-.40 (1.1)	-.31 (1.2)	.01	-.43 (1.2) ^a	-.27 (1.1) ^b	-.40 (1.2) ^{a,b}	-.46 (1.1) ^{a,b}	<.001	-.39 (1.1)	-.32 (1.2)	.04		

[†] P-values for change scores of the strength items at time 1 and time 2 for each participant characteristic category from the independent samples t-tests (gender and age) and ANOVA tests (race/ethnicity). Different superscripts indicate significant differences among the groups from the Tukey post-hoc tests.

Table 5a. Baseline Youth Protective Factors by Juvenile Justice Involvement

N= 4811

	JJ Involved –Closed and Open DCFS Cases 912 (19%)	Not JJ Involved— Closed and Open DCFS Cases 3899 (81%)	P-value [†]
<u>Youth Protective Factors</u>			
Interpersonal Strengths	1.2 (.83)	.84 (.79)	<.001
Coping Skills	1.28 (.82)	1.04 (.78)	<.001
Optimism	1.0 (.80)	.77 (.71)	<.001
Talent/Interests	.81 (.80)	.68 (.76)	<.001
Family Strengths	1.63 (.84)	1.5 (.81)	<.001
Relationship Permanence	1.48 (.90)	1.31 (.87)	<.001
Educational Setting	1.28 (.94)	.91 (.89)	<.001
Spiritual/Religious	.79 (.90)	.68 (.84)	<.001
Community Life	1.05 (.98)	.89 (.92)	<.001

[†] P-values for differences in means of the strength items at baseline for each participant characteristic category from the independent samples t-tests

Table 5b. Associations of Juvenile Justice Involvement with Change in Youth Protective Factors

N= 4811	JJ Involved –Closed and Open DCFS Cases 912 (19%)	Not JJ Involved— Closed and Open DCFS Cases 3899 (81%)	P-value [†]
<u>Youth Protective Factors</u>			
Interpersonal Strengths	-.22 (1.1)	-.31 (.88)	.02
Coping Skills	-.26 (1.1)	-.41 (.97)	<.001
Optimism	-.13 (1.1)	-.29 (.89)	<.001
Talent/Interests	-.05 (1.1)	-.26 (.95)	<.001
Family Strengths	-.49 (1.1)	-.74 (1.0)	<.001
Relationship Permanence	-.45 (1.2)	-.71 (1.1)	<.001
Educational Setting	-.15 (1.4)	-.34 (1.1)	<.001
Spiritual/Religious	-.06 (1.3)	-.28 (1.0)	<.001
Community Life	-.10 (1.3)	-.42 (1.1)	<.001

[†] P-values for change scores of the strength items at time 1 and time 2 for each participant characteristic category from the independent samples t-tests

Table 6. Cox Proportional Hazards Regression Models of Youth Protective Factors Predicting Relative Risk of Justice Involvement

Youth Protective Factors	N=4811 B	SE	Exp(B)	95.0% of CI for Exp(B)		P-value [†]
				Lower	Upper	
Interpersonal Strengths	-.011	.025	.99	.94	1.04	.66
Coping Skills	.035	.025	1.04	.99	1.09	.15
Optimism	.008	.025	1.01	.96	1.06	.76
Talent/Interests	-.095	.027	.91	.86	.96	<.001
Family Strengths	.017	.025	1.02	.97	1.07	.50
Relationship Permanence	-.001	.026	1.00	.95	1.05	.96
Educational Setting	-.108	.026	.90	.85	.94	<.001
Spiritual/Religious	-.130	.029	.88	.83	.93	<.001
Community Life	-.079	.027	.92	.88	.98	<.01

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PART III

An Examination of the Relationship between the Development of Youth Protective Factors and
Justice System Involvement Explained by Caregiver Parenting Styles

In 2016, 2.3 million allegations of child maltreatment were reported to Child Protective Services and received an investigation or alternative response, which was a 9.5% increase from 2012 (Administration for Children and Families, 2016). Children who experience maltreatment, abuse, or neglect are at an increased risk of engaging in delinquent and violent behaviors (Ford, Chapman, Mack, & Pearson, 2006; Maschi, Bradley, & Morgen, 2008; Buffington, Dierkhising, & Marsh, 2010; Dierkhising et al., 2013; Kerig, Ward, Vanderzee, & Moeddel, 2009), especially once in the child welfare system (Ko et al., 2008; Ryan, Marshall, Herz, & Hernandez, 2008; Grogan-Kaylor, Ruffolo, Ortega, & Clarke, 2008). These children are often very difficult to place, manage, and treat in the child welfare system, as engagement of youth in violence and delinquency during early developmental stages is a risk factor for criminal justice involvement and social and mental health problems (Farrington, 1991; Robins & Price, 1991). Consequently, this can have grave societal consequences as persistent and serious youth offending with multiple contact with law enforcement often entail costs of approximately \$4.2 –\$7.2 million for society (Cohen, & Piquero, 2009; Muntz, Hutchings, Edwards, Hounsome, & O’Ceilleachair, 2004).

Between 25 and 70 percent of state prison inmates have previously spent time in the foster care system (Levine, 2018). Youth in contact with both the child welfare and juvenile justice systems are called dually-involved. This term reflects a growing understanding of the dynamic between child maltreatment and delinquency. The multifaceted needs and unique challenges of dually-involved youth may be difficult for each system to address individually as they often carry a high financial burden (Levine, 2018). One study found that dually-involved youth cost about three times more public service dollars than youth who are only in the foster care system, with the largest share of these costs attributed to criminal justice costs (Culhane et

al., 2011). Thus, child welfare practitioners need a feasible preventative solution that treats the unique needs and challenges faced by youth in the child welfare system who engage in or are at-risk for engaging in delinquent behavior that lead to their involvement with the justice system. An integrated approach that focuses on the strengths or protective factors in the youth's individual, family, and community systems may be a more ideal approach.

Many researchers have discussed the need to study protective factors as well as risk factors, and to strengthen protective factors as well as to reduce risk factors in intervention programs. Some researchers have found that focusing on protective factors and building resilience among children is a more positive method, and more appealing to communities, compared to focusing on deficits and problems (Pollard, Hawkins, & Arthur, 1999). However, the term "protective factors" can lack a clear definition and has been used inconsistently in research. Some researchers have defined protective factors as the variables that predict a low probability of an undesirable outcome such as offending, or as the exact opposite of a risk factor (White, Moffitt, & Silva, 1989), while other researchers have defined protective factors as the variables that interact with risk factors to negate their impact (Rutter, 1985) or as the variables that predict a low probability of a negative outcome among an at-risk group (Werner & Smith, 1982). Loeber, Farrington, Stouthamer-Loeber, and White (2008) attempted to resolve this operational issue by proposing that a variable that predicted a low probability of offending should be termed a protective factor. For the purposes of this paper, we will use the term protective factors when discussing strengths, as strengths are one component of protective factors and the study is examining the factors in youth and caregivers that may reduce the likelihood of juvenile justice involvement for youth in the child welfare system.

Much less is known about protective factors than about risk factors, but a number of individual, family, and community factors have been identified as potential protective factors among youth engaging in delinquent behavior in the general population (Losel & Farrington, 2012). A large number of studies have shown that intelligence and temperament factors such as sociability, positive mood, low irritability, and low impulsivity seem to have a protective function against youth delinquency and violence (Ttofi et al., 2016; Werner & Smith, 1992; Lösel & Bliesener, 1994; Stattin, Romelsjö, & Stenbacka, 1997). A positive parent–child relationship has protective effects for youth in preventing a broad range of behavior problems in the presence of risk factors (Cummings & Davies, 1996; Greenberg, Speltz, & Deklyen, 1993; Wyman, Cowen, Work, & Parker, 1991). Positive parenting behavior such as intensive supervision, consistent discipline, minimal physical punishment, and strong involvement of the child in the family’s activities has a protective effect in reducing youth delinquency (Loeber, Farrington, Stouthamer-Loeber, & White, 2008; Stouthamer-Loeber et al., 1993). There is also evidence for the positive effects of school achievement, school liking, motivation, support and supervision by teachers, and other supportive features of the school environment (Herrenkohl, Tajima, Whitney, & Huang, 2005; Mortimore, 1995, Gottfredson, 2001). Living in a safe neighborhood with good housing quality also has a protective effect (Loeber, Farrington, Stouthamer-Loeber, & White, 2008). More research is needed using different samples and multiple aspects of protective factors to determine whether there are systematic patterns of relationships between youth protective factors, their caregivers parenting skills, and justice system involvement, especially for youth in the child welfare system. To date, the majority of research examining associations of youth protective factors with justice system involvement has

focused on domains at the individual or family level among youth in the general population (Brady, Gorman-Smith, Henry, & Tolan, 2008; Brookmeyer, Fanti, & Henrich, 2006; Brookmeyer, Henrich, & Schwab-Stone, 2005; McGee, 2003; Pearce, Jones, Schwab-Stone, & Ruchkin, 2003; Gorman-Smith, Henry, & Tolan, 2004). However, community level protective factors may also likely influence the relationship between youth protective factors and justice involvement, especially for youth in the child welfare system. Unfortunately, only a handful of studies have considered these community characteristics with regard to community violence exposure and youth problem behaviors (Hardaway, McLoyd, & Wood, D 2012; Henrich Brookmeyer, Shrier, & Shahar, 2005; Hill, Levermore, Twaite, & Jones, 1996; Kliwer et al., 2004; O'Donnell, Schwab-Stone, & Muyeed, 2002). As individual differences in youth outcomes are affected by individual, family, and community level factors, it is important to identify protective factors within these domains that may protect against justice system involvement for vulnerable youth in the child welfare system. (Voisin, DiClemente, Salazar, Crosby, & Yarber, 2006).

A substantial body of research has demonstrated that parenting practices have profound influences on adolescent development and delinquency. Good parenting can optimize an adolescent's potential and contribute to their individual strength development (DeVore & Ginsburg 2005). An abundance of research has documented the positive effects of authoritative parenting which is characterized by parental warmth and support, firm limit setting, open communication, and high levels of supervision (Steinberg, Lamborn, Dornbusch, & Darling, 1992; Gray & Steinberg, 1999; Jackson, Henriksen & Foshee, 1998; O'Reilly & Peterson, 2014). Conversely, considerable evidence suggests that unsupportive parents increase the probability of

delinquency among children and adolescents (Cernkovich & Giordano, 1987; Whitbeck, 1997; Moffitt, 1993; Sampson & Laub 1997; Thornberry 1997). These studies demonstrate that poor parenting practices such as ineffective supervision, harsh and inconsistent discipline, and hostility and rejection are a major link to youth participation in risky and delinquent behavior (Sampson and Laub 1997; Simons, Sutton, Simons, Gibbons, & Murry, 2016; Reid, Patterson, & Snyder, 2002; Simons, Simons, & Wallace, 2004; DeVore & Ginsburg 2005; Simons, Simons, Chen, Brody, & Lin, 2007).

Poor parenting practices may also contribute to youth's involvement in the child welfare system. Some of the duties of the child welfare system include investigating reports of possible child abuse and neglect, and providing services to caregivers that require help with the protection and care of their children (Child Welfare Information Gateway, 2013). The Child Abuse Prevention and Treatment Act defines child abuse and neglect as any recent action or failure to act by a parent or caregiver that presents an imminent risk of serious harm to a child or adolescent in his or her care (Child Welfare Information Gateway, 2013). Therefore, given the perception that caregivers of youth involved in the child welfare system lack appropriate parenting practices, most research on the parenting practices of caregivers involved in the child welfare system focus on evidence-based parenting skills training programs in this population (Barth et al., 2005). While implementing evidence-based parenting skills training programs is important, especially in this population, assessing for their parenting skills at entry into the system may also be beneficial to understand the strengths and weakness in their current parenting practices to inform treatment and services. Moreover, optimal parenting practices of this population may be different than those of caregivers of children in the general population, as

parental objectives in the child welfare system typically focus on reunification and may include specific factors based on the child's unique needs identified while in the system's care. More specifically, in addition to the parenting skills found in authoritative parenting, the practices for caregivers of children in child welfare may also include: *involvement* in the planning and/or provision of child welfare services and effective advocacy for their child's needs and concerns while in the system; *knowledge* about their children's specific strengths and needs and their ability to understand the rationale for the treatment and management of their children's needs while in the system, and the ability to *organize* their household, services, and related activities.

Although the definition and perception of child abuse and neglect implies that maltreatment is an event occurring within the family system, abuse and neglect of children may also be understood as an indicator of underlying problems located within the community, cultural, and political systems (Pecora, Whittaker, Maluccio, & Barth, 2000). Many children and caregivers in the child welfare system experience a range of emotional, psychological, behavioral, and social problems; therefore, an understanding of child maltreatment from an ecological perspective based on Bronfenbrenner's ecological theory of human development is important for both child welfare practitioners and policy makers because it enables professionals and researchers to identify not only the individual, familial, and communal factors that contribute to the development and maintenance of maladaptive behaviors, but also the positive factors that contribute to optimal youth development (Bronfenbrenner, 1979; Ryan & Testa, 2005). Thus, it is important for providers in the child welfare system to not only focus on the deficits of the caregivers that may have brought them to the attention of child protective services, but also the practices that these caregivers currently apply that have been beneficial to their child's

development. Once these factors are identified, professionals working with systems that serve children can tailor services and policies to meet the unique needs of children and caregivers to reduce the risk of justice involvement.

The purpose of this study was to examine the development of youth's individual, familial, and community protective factors over time and to assess their association with justice system involvement for youth in the Illinois child welfare system. We also examined whether caregiver parenting skills mediate these associations (Figure 1). Caregiver's parenting skills included supervision, involvement in their children's care, knowledge of their child's needs, and organizational skills. We hypothesized that the initial relationship between the development of youth protective factors over time and justice involvement will operate through the presence of caregiver parenting skills.

Methods

Participants

Participation in the study was limited to youth who entered the Illinois child welfare system, which is administered by the Illinois Department of Children and Family Services (DCFS), between July 2005 and April 2016 who had no prior history of involvement in the juvenile or adult justice systems. Because youth over age 10 are more likely to experience justice involvement than younger children (Child Trends, 2017) and children usually age out of the child welfare system when they turn 18 years old, the sample was limited to participants between the ages of 10 to 17 at entry into the child welfare system. All participants entering DCFS care were required to have a comprehensive integrated-assessment (IA) including the Child and Adolescent Needs and Strengths (CANS) assessment within 45 days of entry.

Assessment Procedures and Measures

This study utilized child welfare administrative data from the Illinois Department of Children and Family Services (DCFS) collected between July 2005 and April 2016. Study data came from 2 sources: (1) CANS assessments, and (2) the DCFS Child and Youth Central Information System (CYCIS). These data sources and details about each measure are described below.

Child and Adolescent Needs and Strengths (CANS) Assessment: The CANS comprehensive contains 105 items across eight domains: trauma experiences, traumatic stress symptoms, child strengths, life domain functioning, acculturation, child behavioral/emotional needs, child risk behaviors, and caregiver needs and strengths.

A DCFS provider (e.g., therapist, caseworker, psychologist) completes the CANS by integrating data from multiple sources, including interviews with the child and his or her caregivers; child, caregiver, and teacher self-report questionnaires; case worker observation of child and family; review of case records; and clinical judgment of the clinician completing the CANS. The CANS was designed to inform service recommendations, so it uses a 4-point scoring system. The scoring for strengths and needs items is based on two criteria: (a) the degree of strength or impairment, and (b) the degree of urgency for intervention. The scoring system is structured as follows: 0 indicates no evidence of need/impairment or a core strength; 1 indicates a mild degree of need/difficulty or a useful strength; 2 indicates a moderate level of need/difficulty or a potential strength; 3 indicates a severe level of need/difficulty or no identified strength. In addition, the scoring system is based on “action levels” that can be used to inform clinicians’ ratings. “Actionable” needs are those rated as a 2 or 3. Higher strengths scores represent fewer

strengths, so identifiable strengths are strengths with an item score of 0 or 1. Clinicians must complete a test case vignette with a reliability of 0.70 or higher to receive certification in the reliable use of the CANS.

CANS item-level scores can also be aggregated to the domain level. Domain scores sum the item scores within each of the eight domains (e.g., Emotional/Behavioral Needs) and offer an overall picture of difficulties in a given domain. CANS measurement properties have been studied extensively (Lyons, 2004), and the eight domains of the CANS exhibit strong reliability and validity (Kisiel, Blaustein, Fogler, Ellis, & Saxe, 2009; Lyons & Weiner, 2009). At the individual item level, psychometric studies suggest that individual CANS items may be reliably used in data analyses (Anderson, Lyons, Giles, Price, & Estes, 2002). The CANS is not intended, however, to offer a total or overall score. The psychometric properties of the CANS have been demonstrated across child-serving settings including child welfare, mental health, and juvenile justice (Kisiel et al., 2009; Kisiel et al., 2018; Leon, Ragsdale, Miller, & Spacarelli, 2008; Lyons, Uziel-Miller, Reyes, & Sokol, 2000; Lyons & Weiner, 2009; Sieracki, Leon, Miller, & Lyons, 2008). Further, while in some cases CANS ratings are intended to capture the severity of needs or symptoms that may be associated with particular diagnoses, the CANS does not explicitly identify diagnoses. The present study will use the CANS Strengths and Life Domain Functioning domains.

DCFS Child and Youth Central Information System (CYCIS): Child welfare case open and close information, length of time in state custody, and demographic information were obtained from CYCIS. Participants' demographic information includes race/ethnicity, age, and gender.

Dependent Variable: Time to Justice Involvement: The "legal" item from the Life Domain Functioning Domain identifies youth who became involved in the legal system. Youth with a

history of justice involvement prior to their involvement in the child welfare system were excluded from the sample. Therefore, all youth included in the study received a rating of 0 on the legal item at entry into the child welfare system, which indicates no known legal difficulties. A rating of 1 indicates a history of legal problems but no current involvement with the legal system. A rating of 2 indicates that the youth has some legal problems, is currently involved in the legal system, and may have active parole and/or probation mandates. A rating of 3 indicates that the youth has serious current or pending legal difficulties that place him/her at risk for a re-arrest, or the youth is currently incarcerated. I dichotomized the legal item so that a rating of 0 indicated no justice involvement and a rating of 2 and 3 indicated justice involvement. Because our study focus is legal system involvement after child welfare system involvement, we excluded from the sample youth with a rating of 1, which indicates a history of legal problems but no current involvement with the legal system.

Time to justice involvement was measured by the number of days to an actionable rating of a 2 or 3 on the legal item on the CANS within the study timeframe.

Independent Variables: Youth Protective Factors. Youth protective factors were assessed at entry into the Illinois child welfare system and at child welfare case closing or at time of justice involvement. To determine child welfare case status, child welfare case closure was obtained from CYCIS.

Youth CANS strength items were used to assess for protective factors and organized at the individual, family, and community levels. Strengths at the individual level are the youth's personal resources that contribute to his/her well-being. Interpersonal (e.g., interpersonal skills of the youth with peers and adults), coping and savoring skills (e.g., psychological strengths that the

youth developed including the ability to enjoy positive life experiences and manage negative life experiences), optimism (e.g., the youth's positive future orientation and sense of self), and talents/interests (e.g., the youth's talent, creative, or artistic skills) are classified as individual level strengths. Familial strengths are sources of support within one's immediate or extended family network. Family (e.g., all family members with whom the youth is still in contact) and relationship permanence (e.g., stability of significant relationships in the youth's life) are strengths at the familial level. Community strengths measure youths' social and cultural supports in their environment. Educational setting (e.g., strengths of the school system), spiritual/religious (e.g., youth and family's involvement in spiritual or religious beliefs and activities), and community life (e.g., youth's involvement in the cultural aspects of life in his/her community) are community level strengths. We calculated residual gain scores for each strength item by using linear regressions for each strength score and taking the difference between the regression predicted pre-score at entry into the child welfare system and the post-score at the final CANS assessment. Residual gain scores were used instead of change scores to account for the influence of youth baseline strength scores (Cronbach & Furby, 1970). Residual gain scores were then used to examine the association between protective factors and time to justice system involvement.

Mediator Variables: Caregiver Parenting Skills. Items from the Caregiver Needs and Strengths Domain were used to identify caregivers' parenting skills. Parenting skill items included supervision (the caregiver's capacity to provide the level of monitoring and discipline needed by the child), involvement with care (level of involvement the caregiver has in planning and provision of child welfare and related services), knowledge of child's needs (the caregiver's

knowledge of the specific strengths of the child and any problems experienced by the child, and the caregiver's ability to understand the rationale for the treatment or management of these problems), and organization (the ability of the caregiver to participate in or direct the organization of the household, services, and related activities).

This study examined these key parenting practices among youth's biological parents, and separately all the caregivers identified in the youth's life at entry into the child welfare system. We defined biological parents as biological mothers and biological fathers. Additionally, caregivers that were indicated on the CANS included biological parents, relative caregivers [maternal or paternal grandparent, maternal or parental aunt or uncle], step-mother or father, adoptive mother or father, friend of family, and substitute caregivers. The study is focused on factors that may protect against justice involvement for at-risk youth in the child welfare system; therefore, we wanted to examine the caregiver item scores that indicated the best scores of the biological parents, and separately for all the caregivers involved in the youth's life during their time in the system. Thus, we aggregated the minimum CANS item scores for the key parenting skill variables for biological parents and separately for all the caregivers, as lower scores on the CANS indicate better functioning. Caregiver parenting skill items were then dichotomized as not actionable (a rating of 0 [indicates an area where there is no evidence of any need because this area is a centerpiece strength] or 1 [indicates that this area requires monitoring and preventive activities to continue the development of this strength]) or actionable (a rating of 2 [indicates an area that requires action to ensure that this identified need or area of risk is addressed] or 3 [indicates an area that requires immediate or intensive action]) for biological parents and for all the caregivers. This strategy is recommended by the CANS developers and used at the system

level by researchers (Lyons, 2009; Dunleavy & Leon, 2011; Accomazzo, Shapiro, Israel, & Kim, 2017; Summersett-Ringgold, Jordan, Kisiel, Sax, & McClelland, 2017). This strategy also incorporates parsimony and clinical interpretability (Accomazzo, Shapiro, Israel, & Kim, 2017).

Statistical Analysis

Initial analyses consisted of frequencies and descriptive statistics to test variable distributions. We used Baron and Kenny's (1986) four-step regression approach to demonstrate mediation with Cox proportional hazards regression models to examine the mediating role of caregiver parenting skills at baseline in the association between the development of youth protective factors and justice involvement. In the first step of the Cox regression models, separate regression models were used to test the association between each youth protective factor item and time to justice system involvement. Youth strength items that were significant at the $p < .05$ level in this step were added as a direct effect in the subsequent steps for each regression model for justice system involvement. In the second step, logistic regression models were used to test the associations between each of the youth protective factors and the caregiver parenting skill items, as the parenting skill variables were the binary outcome variables in these models. Separate logistic regression models were examined for each youth protective factor item found significant in step one and each parenting skill item, stratified by caregiver type (biological parents versus all caregivers). In steps three and four, the caregiver parenting skill items operated as a mediator block and one youth protective factor item was the predictor. All analyses were performed using SPSS software (Version 25).

Results

The sample included 4608 youth (Table 1). The sample was predominantly female (59%), most youth identified as Black (50%), and the majority fell into the younger age group (56%). Nearly one-fifth (18%) of youth in the sample became justice system involved.

Mediating Associations of Caregiver Parenting Skills in the Relationship between the Development of Youth Strengths and Justice System Involvement

Following Baron and Kenny's (1986) mediation regression approach, each predictor (youth protective factor) was entered into a separate model with the outcome variable (justice system involvement). Talents/interests ($p < .01$), educational setting ($p < .001$), spiritual religious ($p < .001$), and community life ($p = .01$) were negatively associated with the risk of justice involvement (Table 2).

Subsequently, there were no statistically significant associations found in the separate logistic regression models for each youth protective factor found significant in step 1 with the parenting skill items of the biological parents (Table 3a). In contrast, in the separate logistic regression models for each youth protective factor found significant in step 1 with each of the parenting skill items among all of the caregivers, all of the associations were significant except for the association between youth's educational ($p = .11$) and spiritual/religious ($p = 0.27$) strengths with caregiver organization (Table 3b).

There was not a significant indirect effect of the development of youth protective factors on justice system involvement through caregiver parenting skills (Table 4). The model indicated that a significant percent of the association between youth protective factors and justice involvement was not mediated by parenting skills. Thus, there is no evidence that any of the parenting skills items mediated this association.

Discussion

This study examined whether the relationship between the development of youth protective factors over time and justice system involvement was explained by caregiver parenting skills. We hypothesized that the initial relationship between the development of specific youth protective factors over time and justice involvement will operate through the presence of the following specific caregiver parenting skills: supervision, involvement with their children's care, knowledge of their child's needs, and organizational skills.

The results of the present study did not support the hypothesis that the relationship between the development of youth strengths and justice system involvement is mediated by parenting skills. However, these results should not negate the body of existing research in demonstrating an association between youth protective factors and parenting styles, and separately, parenting styles and youth delinquency. A limitation of the present study that may have prevented detection of an indirect effect of the development of youth protective factors on justice system involvement through caregiver parenting styles was the measurement of caregiver parenting skills. The caregiver strengths section of the CANS is used to measure the strengths of any current caregiver, or any person under consideration for caring for the child when completing the assessment. This study used the data of the best parenting skills scores for the all the caregivers indicated on the youth's CANS assessment. This may make it difficult to determine which specific caregivers are actually responsible for the daily implementation of the parenting skills items measured, which may have impacted the study's findings. Therefore, future research using child welfare administrative data would ideally have an indication of the

primary caregiver(s) of the youth to help determine which parent has the greatest responsibility for the youth's daily care and rearing.

Another potential limitation is that some of the caregiver strength items can also capture potential needs. The CANS youth and caregiver strength items are rated in the context of the existing needs of youth at entry into the program which may influence these scores. Many caregivers in the child welfare system likely have problematic and/or underdeveloped parenting practices, given they and their children were brought to the attention of child protective services. With this in mind, when caregivers have several areas of need and concern professionals in the child welfare system may have difficulty accurately and objectively identifying and assessing the caregiver's parenting skills. Given that this sample included caregivers with a broad range of difficulties with caring for their children, there may have been some inconsistency in providers' ability to fully identify the caregivers' parenting skills in the context of their difficulties. This may be due to instances in which caregivers are stigmatized and blamed for their child's involvement in the child welfare system which may impact the caseworker's objective assessment of the caregivers' needs and strengths. Alternately, the use of a larger ecological view may enhance providers' abilities to refocus their attention from parental psychopathology and family dysfunction to the protective community and cultural factors that influence child development and identity formation (Testa & Furstenberg, 2002). Applying this approach may help providers during their interactions with caregivers to fully understand the caregivers' strengths and abilities to assist them in the process of recovery and reunification with their children.

Characteristics of authoritative parenting provide a mix of structure and freedom that

promotes healthy youth development (Steinberg, Lamborn, Dornbusch, & Darling, 1992; Gray & Steinberg, 1999; Jackson, Henriksen & Foshee, 1998; O'Reilly & Peterson, 2014). This study used a selection of caregiver parenting skills items that are unique to the caregivers involved in the child welfare system. In addition to these parenting skills, we encourage future researchers to examine parenting skill variables that are also directly related to authoritative parenting. This will provide a more comprehensive view of parenting styles as they may relate to the development of youth protective factors and justice system involvement for youth in the child welfare system.

This study examined a population of youth and their caregivers in the Illinois child welfare system. The characteristics of this unique population may have influenced the association of the variables in question. Therefore, the youth and caregivers' ratings may not be representative of the child welfare population as a whole or generalizable to the general population of youth and caregivers. There may be additional outside factors that could better explain the relationship between the development of youth protective factors and justice system involvement. This analysis was limited to a narrow selection of youth protective factors and caregiver parenting skills. Future research should consider the range of other factors applicable to the general population such as youth and caregiver demographic information (e.g., race/ethnicity, age, gender, socioeconomic status, and location) and factors specific to youth in the child welfare system such as services and treatments received, placement type, and length of time in the child welfare system, which may help shed more light on this topic and further explain the relationship between the development of youth protective factors and justice system involvement for youth in the child welfare system.

Despite these limitations, the study has important strengths. This study used the CANS, an information integration tool, which offers the benefit of incorporating multiple sources of information to provide a comprehensive assessment of the child and family. This study also highlights the importance of assessing and tracking a variety of protective factors for youth in the child welfare system that have a buffering effect on justice system involvement for this vulnerable population. Identifying and tracking youth protective factors at entry into the child welfare system and over time may help child welfare providers to incorporate protective factors into treatment and service plans, given their role in reducing negative outcomes such as justice involvement. In addition to assessing for strengths at intake and developing specialized plans for youth with few strengths, child welfare providers should also consider assisting youth develop new areas and continue to develop existing strengths over time. Likewise, it may be useful for child welfare staff to be trained to help youth identify ways their strengths can be used to actively buffer against justice system involvement.

Conclusions

There is not always a clear distinction between the factors that contribute to youth in the child welfare system becoming involved in the juvenile justice system. Youth who have experienced maltreatment may come into contact with the justice system due to many contributing causes. For the child welfare system to work better, it may help to continue to develop more understanding of youth at-risk for becoming involved in the justice system by allowing practitioners in the child welfare system to approach these children with a comprehensive lens of the child's unique needs and capabilities. This will allow practitioners in the child welfare system

to have a more collective view of healing and treatment, and re-centers strength-based care as a central feature in conceptualization, treatment, and service delivery.

Figure 1. Mediation Model

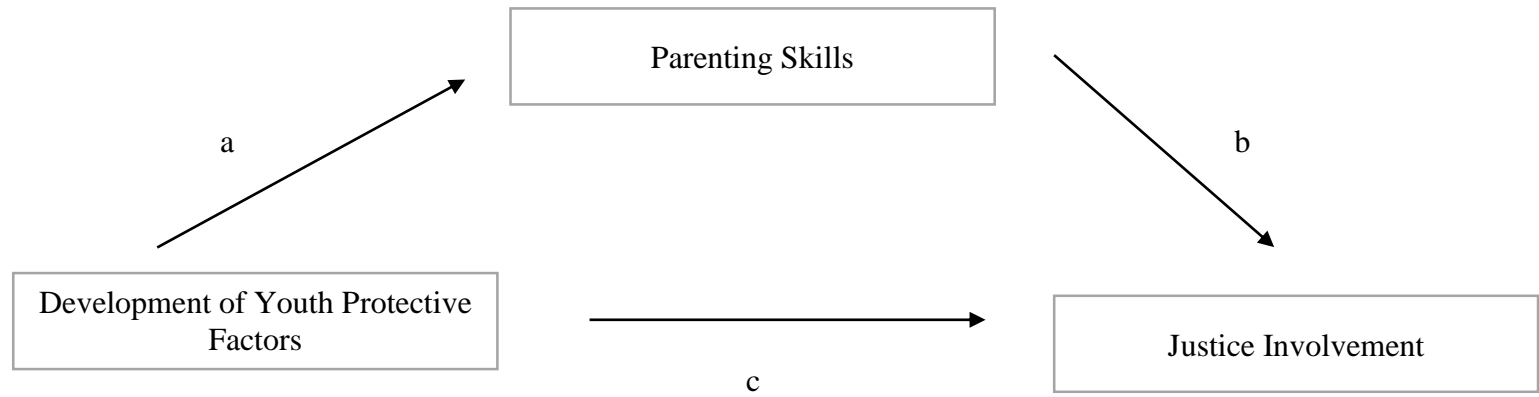


Table 1. Demographics Information

Total Sample = 4608		
	N	%
Gender		
Girls	2715	58.9
Boys	1893	41.1
Race/Ethnicity		
Black	2312	50.2
White	1912	41.5
Hispanic	303	6.6
Other	81	1.8
Age at Entry into State Custody		
10-13	2562	55.6
14-17	2046	44.4
Juvenile Justice Involvement		
No	3758	81.6
Yes	850	18.4

Table 2. Cox Proportional Hazards Regression Models of Youth Protective Factors Associated with Justice Involvement (Step 1, Path c)

Youth Protective Factors	N=4608	B	SE	Hazard Ratio Exp(B)	95.0% of CI for Exp(B)		P-value
					Lower	Upper	
Interpersonal Strengths		-.012	.025	.99	.94	1.04	.63
Coping Skills		.036	.025	1.04	.99	1.09	.16
Optimism		.015	.026	1.02	.97	1.07	.56
Talent/Interests		-.090	.027	.91	.87	.97	<.01
Family Strengths		.013	.025	1.01	.97	1.06	.60
Relationship Permanence		.001	.026	1.00	.95	1.05	.97
Educational Setting		-.113	.026	.89	.85	.94	<.001
Spiritual/Religious		-.130	.029	.88	.83	.93	<.001
Community Life		-.079	.028	.92	.88	.98	.01

Table 3a. Logistic Regression of the Relationship between Youth Protective Factors and Biological Parents' Parenting Skills (Step 2, Path a)

	N=3303	b	95% CI for Relative Risk		P-value	
			Lower	Odds		Upper
<u>Biological Parent Parenting Skills:</u>						
<u>Supervision</u>						
Talents/Interests		-0.05	0.88	0.95	1.02	0.17
Educational Setting		0.02	0.95	1.02	1.09	0.62
Spiritual/Religious		-0.06	0.88	0.95	1.02	0.12
Community Life		-0.02	0.91	0.98	1.05	0.56
<u>Biological Parent Parenting Skills:</u>						
<u>Knowledge of Child's Needs</u>						
Talents/Interests		0.02	0.95	1.02	1.10	0.65
Educational Setting		0.04	0.97	1.04	1.12	0.25
Spiritual/Religious		0.001	0.93	1.00	1.08	0.98
Community Life		-0.01	0.92	0.99	1.07	0.80
<u>Biological Parent Parenting Skills:</u>						
<u>Involvement with Care</u>						
Talents/Interests		0.05	0.97	1.05	1.13	0.23
Educational Setting		0.07	0.99	1.07	1.16	0.07
Spiritual/Religious		0.04	0.97	1.04	1.13	0.27
Community Life		-0.01	0.92	0.99	1.07	0.81
<u>Biological Parent Parenting Skills:</u>						
<u>Organization</u>						
Talents/Interests		-0.03	0.88	0.97	1.07	0.60
Educational Setting		0.05	0.95	1.05	1.15	0.35
Spiritual/Religious		-0.06	0.86	0.95	1.04	0.27
Community Life		-0.08	0.84	0.93	1.02	0.13

Table 3b. Logistic Regression of the Relationship between Youth Protective Factors and Caregivers' Parenting Skills (Step 2, Path a)

N=4608	b	95% CI for Relative Risk			P-value
		Lower	Odds	Upper	
<u>Caregiver Parenting Skills: Supervision</u>					
Talents/Interests	0.14	1.05	1.15	1.26	<.01
Educational Setting	0.23	1.15	1.26	1.38	<.001
Spiritual/Religious	0.18	1.09	1.20	1.31	<.001
Community Life	0.24	1.17	1.28	1.40	<.001
<u>Caregiver Parenting Skills: Knowledge of Child's Needs</u>					
Talents/Interests	0.12	1.04	1.12	1.22	<.01
Educational Setting	0.11	1.03	1.12	1.21	.01
Spiritual/Religious	0.12	1.04	1.13	1.22	<.01
Community Life	0.17	1.09	1.18	1.28	<.001
<u>Caregiver Parenting Skills: Involvement with Care</u>					
Talents/Interests	0.17	1.08	1.18	1.29	<.001
Educational Setting	0.15	1.07	1.17	1.28	<.01
Spiritual/Religious	0.15	1.06	1.16	1.27	<.01
Community Life	0.22	1.14	1.25	1.36	<.001
<u>Caregiver Parenting Skills: Organization</u>					
Talents/Interests	0.25	1.12	1.28	1.47	<.001
Educational Setting	0.12	0.97	1.13	1.32	0.11
Spiritual/Religious	-0.06	0.86	0.95	1.04	0.27
Community Life	0.20	1.06	1.22	1.40	0.01

Table 4. Caregiver Parenting Skills as Mediators in the Relationship between the Development of Youth Protective Factors and Justice Involvement (Steps 3 &4, Path b)

N=4608	B	SE	Hazard Ratio Exp(B)	Percent Not Mediated	95% of CI for Exp(B)		P-value
					Lower	Upper	
Talents/Interests Base Effect	-0.09	0.03	.91	-	0.87	0.97	<.01
Talents/Interests Controlling for Mediators	-0.09	0.03	0.92	88.89%	0.87	0.97	<.01
Educational Setting Base Effect	-0.11	0.03	0.89	-	0.85	0.94	<.001
Educational Setting Controlling for Mediators	-0.11	0.03	0.89	100%	0.85	0.94	<.001
Spiritual/Religious Base Effect	-0.13	0.03	0.88	-	0.83	0.93	<.001
Spiritual/Religious Controlling for Mediators	-0.13	0.03	0.88	100%	0.83	0.93	<.001
Community Life Base Effect	-0.08	0.03	0.92	-	0.88	0.98	=.01
Community Life Controlling for Mediators	-0.08	0.03	0.92	100%	0.87	0.97	<.01

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PART IV: Overall Discussion

The previously described studies have sought to clarify the associations among a number of protective factors among youth and caregivers in the child welfare system that reduce the risk of juvenile justice involvement. Although not all hypotheses were fully supported as demonstrated by Figure 1, several notable findings stand out as important contributions to the current literature informing child welfare policies and best practices for youth in the child welfare system to reduce the risk of justice involvement for this vulnerable population. The study findings from the first study demonstrated a higher proportion of youth with identified child-specific protective factors at baseline without later justice involvement, compared to the proportion of youth who later became involved with the justice system. In addition, youth with a higher number of protective factors and caregiver parenting skills at baseline did not have future involvement with the justice system compared to youth with a lower number of protective factors and caregiver parenting skills. Results from the second study illustrated that youth with developed protective factors including community life, talents/interests, educational, and spiritual/religious strengths are at a significantly lower risk of becoming justice involved at any given time compared to youth without the development of these strengths. Lastly, the results from the third study indicated that there is no evidence that any of the parenting skills items mediated the association between the development of youth protective factors and justice system involvement.

A finding that stands out across the studies is that the relationship between youth protective factors and future justice involvement is particularly salient, with both youth protective factors and caregiver parenting skills serving as important variables in reducing the risk of justice involvement. The policy implications from this study are clear – advocating for

funding for the implementation of interventions that promote youth protective factors and parenting skills to enhance family strengths may be beneficial in reducing the risk of justice involvement for this vulnerable population. There is increasing recognition that prevention efforts focused on youth and family engagement with an emphasis on identifying and building strengths, is integral to the success of youth in the child welfare and juvenile justice systems. Strength-centered engagement offers a departure from viewing youth in the child welfare system through a deficit-based lens, and instead focuses on strategies driven by the youth and families' protective factors that highlight possibilities for strengths-based treatment and service delivery. Strategies driven by youth protective factors acknowledge that youth are more than the tragedy that occurred in their life and build upon their specific skills and strengths as positive aspects to enhance through the course of services.

Implementing treatments and services that promote youth and families' unique assets requires youth and family engagement. More work is needed in the child welfare system to help youth and families become full partners in the process, from entry into the child welfare system to the assessment, treatment and service plan development, and case management process. Blaming families and excluding them from this process, which may sometimes occur, can result in unsuccessful and ineffective treatment or service plans. Rather, families should be integrally involved and have a voice in their care as well as not only hearing about their needs and limitations, but also hearing about their assets.

One of the great challenges that children of color may encounter while living in the United States is the assumption of guilt that often follows them throughout life. Consistent with other research, we expected racial/ethnic differences when considered in the context of similar

child welfare and juvenile justice research (Puzzanchera, 2014; Piquero, 2008; Chapman, Desai, Falzer, & Borum, 2006). We found that most youth in our study did not become justice involved; however, of the youth who did become justice involved, the majority were Black. Minority youth are disproportionately overrepresented at nearly every level of the juvenile justice system, seemingly as it is more probable for minorities to be drawn into the justice system than whites. The massive detention of Black youth inflicts damage on the youth involved with the justice system, but also has collateral damage on Black communities (Roberts, 2000). The repressive impact of the justice system on Black youth and families is reason to continue to discover strength-based alternatives to detention.

The second study findings demonstrate that most youth come into the child welfare system with identified protective factors or strengths and their protective factors are developed over time regardless of becoming involved with the justice system. This may indicate that systems that serve children, particularly the child welfare and juvenile justice systems, may want to consider alternatives to incarceration such as diversion programs. With this in mind, it may be beneficial for policies to focus on investing in family and community programs, such as diversion programs, to prevent the dismantlement of families, as children function best when they are raised in their families, not in institutions. These diversion programs may work best if they are structured to continue to build the protective factors for youth in the child welfare system who are at-risk for justice involvement, especially as the findings from these three studies demonstrate that these youth have considerable protective factors. Similar to youth in the justice system, children in the child welfare system may be best served by diversion programs that offer as redirection away from the juvenile justice system. Research has demonstrated that community

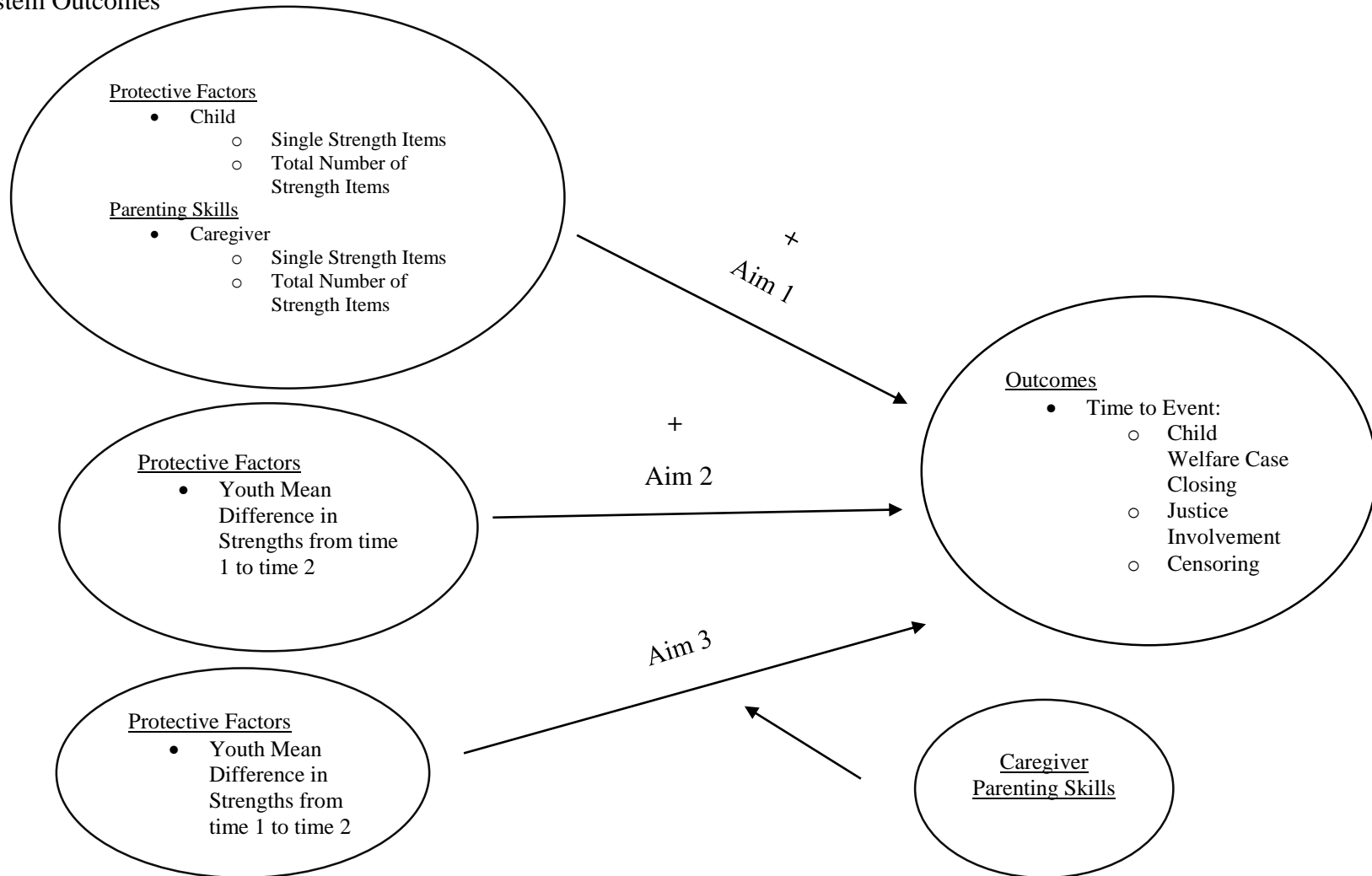
supervision and evidence-based treatment programs focused on the development of youth protective factors are more effective and much more cost-effective than detaining youth who pose minimal danger to public safety. Thus, early identification and assessment of the unique needs and strengths of youth in the child welfare system who engage in risky or delinquent behaviors may be key to help divert these youth from the potential of future justice system involvement.

The examination of youth protective factors and caregiver parenting skills among youth involved in the child welfare system is multifaceted, and existing studies are mostly limited to an examination of specific protective factors. A multitude of biological, interpersonal, familial, and community, and political protective factors, may influence the course of these outcomes. Therefore, future research should consider the range of other factors applicable to the general population such as youth biological and mental health factors, youth and caregiver demographic information (e.g., race/ethnicity, age, gender, socioeconomic status, and location), parenting skills, and factors specific to youth in the child welfare system such as services and treatments received, placement type, and length of time in the child welfare system, which may help shed more light on this topic and further explain the relationship between the development of youth protective factors and justice system involvement for youth in the child welfare system.

When youth are provided with more resources and opportunities that enhance and capitalize on their strengths, they will cost the public less money. Youth in the child welfare system are often overrepresented among other systems that serve children such as the mental health and juvenile justice systems (Blumberg, Landsverk, Ellis-MacLeod, Ganger, & Culver, 1996; Halfon, Berkowitz, & Klee, 1992). The good news is that this population of youth in the

child welfare system can be easily targeted with assistance through treatment, interventions, services, and policies that promote their overall wellbeing through strength development. This requires the systems that serve children, particularly the child welfare and juvenile justice systems to collaborate on best practices, streamlined case management, and more effective data collection and usage.

Figure 1. Conceptual Model Demonstrating Significant Findings of Youth Protective Factors and Caregiver Parenting Skills with System Outcomes



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