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GOVERNING WELL-BEING FOR YOUTH IN CHILD WELFARE: WHAT INFLUENCES
DECISIONS TO REFER TO SERVICES AND AN EVALUATION OF SOCIAL
INTERVENTIONS

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GOVERNING WELL-BEING FOR YOUTH IN CHILD WELFARE: WHAT INFLUENCES
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A DISSERTATION APPROVED FOR THE

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ABSTRACT

My dissertation focuses on the well-being of children who have been involved in the child welfare system, which has been understudied within sociology. To conduct this research, I use theories of child welfare involvement to further our understanding of child well-being for this especially vulnerable population. My analyses use quasi-experimental methods that utilize a nationally representative panel dataset. Chapter Two explores how peer support groups impact depression symptoms for youth involved in the child welfare system. I find a statistically nonsignificant negative association (e.g., when youth participate in peer support groups, their depression symptoms decrease). Chapter Three investigates how extracurricular activities affect academic achievement, and finds that participating in structured activities increases academic achievement scores. Chapter Four classifies child welfare organizations based on organizational culture and climate measures before analyzing factors influencing service referral decisions within the child welfare system. I, along with my co-authors, identify three classes of child welfare organizations, and find case, caseworker, and external characteristics are associated with the decision to refer a youth to services. I conclude by discussing potential extensions to this research agenda, before discussing more broadly how sociology can continue incorporating child welfare research within the discipline.

Keywords: Child Welfare, Services, Well-Being, Decision-Making

Chapter One

Introduction

My dissertation focuses on the well-being of children involved with the child welfare system and practices that may influence it. Child maltreatment is an important, although understudied, area within sociology (Reich 2005; Woodward 2021). It touches the lives of a significant percentage of U.S. families, disproportionately impacting already vulnerable populations, and resulting in severe consequences for children and families. Through a sociological lens, my research takes an applied research approach to realize the implications of current child welfare practices more fully. In this chapter, I offer a short history of the child welfare system in the United States, before describing the current functions and definitions of child protective services and child abuse and neglect. I describe the prevalence and economic and racial disproportionality of child welfare system involvement. After this, I review the association between involvement with the child welfare system and poverty, and how it implicitly serves as a system of poverty governance. Finally, I provide an overview of the relevant literature on child well-being, before outlining subsequent chapters.

INTRODUCTION TO THE CHILD WELFARE SYSTEM

Brief History of the Child Welfare System

The roots of the current child welfare system date back to the 1800s. The New York Children's Aid Society laid the foundation for the modern foster care system with the, now controversial, Orphan Train Movement which started in 1853 and placed children from New York with families across the country (Rymph 2017). But it was not until 1875 that the first organization devoted to the protection of children, the New York Society for the Prevention of Cruelty to Children, was started (Myers 2008). The next several decades saw the expansion of

nongovernmental child protection agencies and the creation of the federal Children's Bureau to focus on improving the lives of children and families. With the onset of the Great Depression, the Social Security Act passed with the provision for the Children's Bureau to work with state agencies to provide child welfare services, signaling a shift to public investment in protecting children (Myers 2008). The right of the government to intervene in family life was confirmed in the 1944 Supreme Court case, *Prince v. the Commonwealth of Massachusetts,* when the court ruled that "although the care of children is entrusted to their parents, the state is the final guardian" (McCoy and Keen 2014:13). The same year as this ruling, physicians began drawing attention to child abuse through studies documenting physical injuries due to abuse. This research culminated with the 1962 article, "The Battered Child Syndrome" (Kempe et al. 1962), which brought large-scale national attention to child abuse (Myers 2008). This publication, along with two seminal meetings the same year convened by the Children's Bureau to discuss child abuse, resulted in the beginning of mandatory reporting laws, in which individuals are required to report suspected child abuse or neglect (McCoy and Keen 2014; Meyers 2008).

Current State of Child Abuse and Neglect in the U.S.

Children today most frequently become involved with the child welfare system when they are reported to their local child welfare agency by an adult who believes a child is experiencing abuse or neglect. The definitions of child abuse and neglect vary by state, but the federal government has defined the term 'child abuse and neglect' to mean, "at a minimum, any recent act or failure to act on the part of a parent or caretaker, which results in death, serious physical or emotional harm, sexual abuse or exploitation, or an act or failure to act which presents an imminent risk of serious harm" (42 U.S.C. § 5106g (2)). States have mandatory reporting laws that require some or all their citizens to report any child they believe may be the

victim of abuse or neglect; some states even have penalties if a mandated reporter chooses not to report suspected abuse or neglect. Child welfare agencies, once notified of possible maltreatment, then investigate and determine if child abuse or neglect has occurred. If the report is substantiated with sufficient evidence to support the maltreatment report, the child may have an open child welfare case. The family may receive "in-home" services to address child safety needs or the child may be removed to foster care. Once a child is reported to child welfare, re-report rates are high (Kohl et al. 2009) with estimates, depending on datasets, suggesting a 22-40 percent chance of a re-report (Dolan et al. 2014). Each re-report of maltreatment also means another chance that a child may be removed from their home following each new investigation.

While most caregivers do not neglect or abuse their children, many different risk factors increase the likelihood of child maltreatment. For example, women are most likely to be the perpetrators of child neglect, which is predominantly because women are most often a child's primary caregiver (McCoy and Keen 2014). Men, on the other hand, are much more likely to be the perpetrators of physical and sexual abuse (Sedlak et al. 2010). Parental substance use disorders, mental health issues, younger parents, and those with less education are also risk factors for maltreatment (McCoy and Keen 2014). Children in families with domestic violence, single parents, families with four or more children, and families that are socially isolated and in poverty are also all at higher risk for maltreatment (McCoy and Keen 2014).

Prevalence of Maltreatment

In 2021, an estimated 3,016,000 children were investigated for maltreatment or received an alternative response (a response other than an investigation to determine service needs), with 600,000 of those investigated found to be victims of child abuse and neglect (USDHHS 2023). Following previous years' patterns, the most common type of maltreatment in 2021 was neglect

with over three-quarters of victims, then physical abuse, sexual abuse, other maltreatment (including drug/alcohol addiction, lack of supervision), and sex trafficking (USDHHS 2023). Children are also frequently the victims of multiple types of maltreatment (Higgins and McCabe 2001). Of the 600,000 victims of abuse and neglect in 2021, 671,159 types of maltreatment were reported because a child can be a victim of more than one type of maltreatment and therefore the maltreatment type is a duplicate count (UDSHHS 2023). Overall, approximately 606,000 children were in foster care in 2021, either because they were placed in care during the year or because they were already in foster care at the beginning of the year (AFCARS 2022). While these experiences influence the well-being of children and their overall development, child maltreatment also has a significant economic impact in the United States, with annual spending by child welfare agencies of $31.4 billion (Rosinsky et al. 2023), and child maltreatment incurring a total lifetime economic burden of approximately $428 billion (Peterson et al. 2018). Generally, it is estimated that in the U.S. one in three children will have at least one child maltreatment report by age 18 (Kim et al. 2017), one in nine children will ever experience a substantiated maltreatment investigation, and 1 in 20 will experience foster care placement (Yi et al. 2020). In addition, 1 in 100 U.S. children will ever experience the termination of parental rights, which is the dissolution of the legal relationship between child and parent and a prerequisite to adoption (Wildeman et al. 2020).

Disproportionality of Maltreatment

The risk of system involvement and different levels of child protective services (CPS) interventions are not equally distributed. Black children are more likely to be involved with the child welfare system compared to White children (Thomas and Waldfogel 2022), with recent research estimating that Black children's cumulative risk of a maltreatment report by age 18 is

53% (Kim et al. 2017). The means that more than half of black children will have an official report of child maltreatment against their parent(s). Black children also have the highest cumulative lifetime risk of experiencing a substantiated maltreatment investigation at 18.4%, while the risk is 15.8% for American Indian/Alaskan Native children, 11% for White and Hispanic children, and 3.5% for Asian/Pacific Islander children (Yi et al. 2020). This pattern is similar for foster care placement, with American Indian/Alaskan Native children having the highest cumulative risk at 11.4%, 9.1% risk for Black children, 5% for White children, 3.8% for Hispanic children, and 1.5% for Asian/Pacific Islander children (Yi et al. 2020). The risk of ever experiencing the termination of parental rights is also highest for American Indian/Alaskan Native (3%) and Black (1.5%) children (Wildeman et al. 2020). There is additional significant state-level variation in the cumulative risk of a maltreatment investigation (ranging from 14-63%), substantiated investigation (3-27%), foster care placement (2-18%), and termination of parental rights (0-18%; Yi et al. 2023). Black children still had a higher cumulative risk of experiencing child welfare involvement at any level in almost all states compared to White children (Yi et al. 2023). In addition, the risk differential between Black and American Indian/Alaskan Native children and White children increased as system involvement intensified across states (Yi et al. 2023). In other words, the racial differences in the cumulative risk of experiencing a maltreatment investigation were smaller than the racial differences in the cumulative risk of experiencing foster care placement or the termination of parental rights.

POVERTY AND CHILD WELFARE

Perhaps the most significant predictor of child welfare involvement is poverty (Feely et al. 2019; Kim et al. 2020; Pelton 2015; Slack et al. 2017; Thomas and Waldfogel 2022).

Regardless of race/ethnicity, as county-level child poverty rates increase, a child's risk of experiencing a child maltreatment report increases (Kim and Drake 2018), and a causal relationship between economic insecurity and child maltreatment has now been documented (Berger et al. 2017; Conrad-Hiebner and Byram 2020). When race and ethnicity are considered along with poverty, the picture gets more complex. For example, recent research controlling for poverty finds White children are more likely to have a maltreatment report compared to Black and Hispanic children (Kim et al. 2020; Kim and Drake 2018). At the same time, other studies find Black children are at higher risk for child welfare involvement even after accounting for poverty (Briggs et al. 2022; Culhane 2003; Rivaux et al. 2008).

Within child welfare, there is currently a debate about whether institutional racism or disproportionate levels of poverty among Black and Native American families explain their overrepresentation in child welfare, although both explanations have empirical support and help explain why this disproportionality exists. For example, Rivaux et al. (2008) found Black children were more likely to be referred to services and placed in foster care compared to White children, even after accounting for poverty and related risk factors (Rivaux et al. 2008). This finding has caused researchers to suggest racial bias within the child welfare system because Black children in the study were assessed by caseworkers as having a lower risk of future maltreatment than White children, but were still referred to services and removed from their homes at higher rates (Dettlaff and Boyd 2020; Rivaux et al. 2008), leading to some researchers to call for a change in the way risk is assessed within child welfare (Feely and Bosk 2021). Similarly, Briggs et al. (2022), using a sample of children receiving public assistance, conclude that Black children are three times more likely to have a maltreatment report substantiated and to then be placed in foster care compared to White children, indicating racial bias within the child

welfare system. Other researchers conclude that as long as Black and Native American families are overrepresented among those living in poverty, they will continue to be overrepresented in the child welfare system (Drake et al. 2021). This body of research both highlights the significance of the relationship between poverty and involvement with the child welfare system, and the complexity of how this relationship interacts with race and ethnicity.

The Child Welfare System and Poverty Governance

The overview above should look familiar to sociologists as this interplay of poverty, racial disproportionality, and inequality plays out through other institutions, namely the social welfare state and criminal justice system, which are well-studied in the discipline. Interestingly though, the child welfare system is still largely left out of sociological research (Reich 2005; Wildeman and Waldfogel 2014; Woodward 2021). This omission is a particularly glaring one considering the key role the child welfare system plays in U.S. poverty governance (Woodward 2021). Poverty governance refers to the way governments "manage low-income populations and transform them into cooperative subjects of the market and polity" without eliminating poverty or significantly ameliorating its effects (Soss et al. 2011:2).

Poverty governance scholars over the past decade and a half have documented how the rise of neoliberalism, an ideology emphasizing individual responsibility and free-market capitalism, at the end of the 20th century has impacted bureaucratic policies that manage the poor through the welfare and criminal justice systems. Referencing Pierre Bourdieu's conception of the state, Loic Wacquant (2009:6) concludes that the "Left hand" which governs social provision (i.e., education, health, social assistance) has, with the rise of neoliberalism, been "supplanted…by regulation through its 'Right hand,' that of the police, justice, and correctional administrations." This "generalized hardening" of criminal justice policy contributes to "a triple

transformation of the state, which it helps simultaneously to accelerate and obfuscate, wedding the amputation of its economic arm, the retraction of its social bosom, and the massive expansion of its penal fist" (Wacquant 2009:4). In other words, Wacquant argues that the rise of neoliberal ideology has led to constricted and punitive welfare policy simultaneous with the expansion of the penal system. Other scholars (Soss, Fording, and Schram 2011) contradict Wacquant's argument in two key aspects. First, they draw attention to the rise of paternalism in conjunction with neoliberalism. This "new paternalism is a project of civic incorporation that aims to draw its targets [(i.e., the poor)] toward full citizenship" (Soss et al. 2011:25). With the influence of both neoliberalism and paternalism, Soss et al. (2011:28) define the goal of poverty governance today as "transform[ing] the poor into subjects who, under conditions of apparent autonomy, choose to act in ways that comply with market imperatives and political authorities." To accomplish this, they argue, there have been policy changes and a coinciding expansion of the penal system, and in some cases, also the welfare system, contradicting Wacquant's assertion that the welfare system has been supplanted by the penal system.

Kerry C. Woodward (2021) illustrates how the child welfare system is an integral institution within neoliberal paternalist poverty governance today. Woodward (2021) argues that each of the key priorities of neoliberal paternalist poverty governance (Soss et al. 2011), namely shaping the poor into good citizens, expanding privatization and collaboration to manage the poor, and coercing the poor into work compliance, are part of the modern child welfare system. Indeed, Jennifer A. Reich's (2005) qualitative study of the California child welfare system highlights how much power case workers have to shape the lives of (poor) families. For example, how parents react to their social worker is often a primary predictor of a child's removal from the home (Reich 2005). The message to parents then is clear; if they want to keep

their children, they must follow all requirements of the social worker, which often includes

mandated services and work requirements that are untenable, while maintaining a differential

demeanor throughout the investigation (Reich 2005). In this way, social workers in the child

welfare system fulfill two key priorities of neoliberal paternalist poverty governance: they both

prescribe what they feel is an appropriate attitude and services to shape parents into good parent-

citizens, and they coerce parents into work even though this creates a new childcare burden that

parents do not have the resources to deal with.

The child welfare system also fulfills the final priority of neoliberal paternalist poverty

governance by expanding privatization and collaboration to assist in the management of poor

families. Although there is little research in this area, child welfare agencies in some parts of the

country contract collection agencies to collect payment for foster care and other services from

parents who are "deemed able to pay" (Woodward 2021:442). Since the late 1990s states have

also increasingly contracted out foster care case management services, with 13% of states

delegating most or all foster care decision-making and case planning to non-profit or for-profit

private organizations by 2008 (Collins-Camargo et al. 2011; Huggins-Hoyt et al. 2019). Research

examining the impact of this shift finds privatization frequently results in higher costs and mixed

outcomes compared to public systems (Huggins-Hoyt et al. 2019). In addition, many child

welfare agencies take a multi-disciplinary approach to responding to reports of child

maltreatment. These multi-disciplinary teams use a collaborative approach that includes police,

child welfare, and therapeutic service agencies with the stated goal of working in the best interest

of children (Herbert and Bromfield 2019). In reality, this collaboration often is designed around

the needs of the criminal justice system, calling the efficacy of this method into question for

improving child well-being (Herbert and Bromfield 2019). In other words, multi-disciplinary

teams have been criticized for focusing on catching and prosecuting a perpetrator, rather than centering the needs and well-being of the children involved. These examples align with a neoliberal and paternalist approach to poverty governance that "both promote efforts to extend the state's governing capacity to using privatization and collaboration to enlist civil society institutions" (Soss et al. 2011:27).

Woodward (2021:445) also emphasizes the gendered and racialized way poverty governance works in the child welfare system:

> Inherent to the child welfare system is the convergence of patriarchy (e.g., the burden of child-rearing falls mostly to mothers, virtually without question), capitalism (e.g., the expectation that one must work to live and care for their children), and white supremacy (e.g., the history and ongoing pattern of removing children from Black, indigenous, and now brown immigrant mothers).

While other poverty governance scholars acknowledge that systemic racism is constitutive of poverty governance (Soss et al. 2011; Wacquant 2009), Woodward (2021) goes further to call out the "matrix of domination" (Collins 2000), or this interplay of classism, racism, and gender discrimination, inherent to the child welfare system and other institutions of poverty governance. Within this context of CPS primarily intervening in the lives of women (as mothers are the primary caregiver in 80% of households; Fong 2023), the high correlation between child welfare system involvement and poverty, and the racial disproportionality in involvement begin to add up. While this macro-level explanation is vital, particularly in policy reform discussions, it doesn't negate the need to consider the individual children who are involved in this system every day. At the individual level, it is still important to understand how children are harmed by maltreatment, what is being done to improve the well-being of maltreated children, and how these interventions are helping (or not).

Diminished Well-Being Outcomes for Children Involved with the Child Welfare System

While the child welfare system is generally understudied in sociology, currently, the study of adverse childhood experiences (ACEs) is flourishing across a variety of disciplines, including sociology. This tradition of research finds that experiences in childhood can have long-lasting consequences on a range of adult outcomes. Most of the conceptualization of ACEs, including half of the traditional items used to measure them, are explicit measures of child abuse and neglect. Researchers who focus on the childhood-adulthood linkages understand that this connection varies by individuals' "physiological development, subsequent life events and transitions, and the individual assertion of choice" (McLeod and Almazan 2003:392). ACEs are defined as traumatic experiences during childhood, such as physical or sexual abuse, parental separation, domestic violence, or living with adults experiencing substance abuse or mental health issues (Felitti et al. 1998). ACEs interfere with healthy brain development in children, which is what increases the risk of adverse outcomes as children age into adulthood (Dube and McGiboney 2018). In addition, dosage matters, in that, a higher number of ACEs increases the risk of harmful outcomes in adulthood (Felitti et al. 1998). These outcomes include negative physical (Rich-Edwards et al. 2012) and mental (Dube and McGiboney 2018) health in adulthood. While ACEs research extends well beyond the child welfare system, it is particularly applicable to child welfare because children and adolescents involved with the child welfare system in the United States are at a much higher risk of ACEs and adverse outcomes (Brewsaugh et al. 2022) compared to the general population and, by definition, often already have ACEs stacked up. Additionally, because the traditional ACEs measurement covers various domains of abuse and neglect as well as family factors that contribute to it (i.e., parental mental health,

substance use, domestic violence), in some respects, the number of ACEs is a measure of risk for child welfare involvement.

Research continues to find that children who experience maltreatment and are involved in the child welfare system have worse outcomes across multiple well-being domains compared to peers without child welfare involvement (Anda et al. 2006; Arteaga 2010; Courtney et al. 2018; Gilbert et al. 2009). Child maltreatment negatively affects the mental health, substance use, risky sexual behavior, obesity, and criminal behavior of individuals well into adulthood (Gilbert et al. 2009). Child welfare involvement results in diminished well-being in adulthood even when compared to poor, non-child welfare-involved individuals (Jonson-Reid et al. 2009). For example, in a cohort study of low-income minority children, researchers found that child welfare involvement by age nine was a significant predictor of substance abuse prevalence by age 26, including an increased risk of earlier substance use and an almost doubled risk of substance use dependency (Arteaga 2010).

The negative consequences of child maltreatment extend to economic outcomes in adulthood as well (Currie and Widom 2010). Using a matched cohort design, researchers find adults who experience abuse or neglect as children have lower levels of education, employment, earnings, and assets (Currie and Widom 2010). Studies also find that having a maltreatment report is associated with an increased risk of poor outcomes, regardless of whether the report is substantiated or unsubstantiated (Hussey et al. 2005). A population-based study out of California finds that a prior maltreatment report is the most significant predictor of mortality (from an injury) before the age of five, after controlling for socioeconomic and other demographic characteristics (Putnam-Hornstein 2011). The cumulative disadvantage for poor children with a maltreatment report, substantiation notwithstanding, results in higher rates of future maltreatment

reports, an increased chance of involvement in the juvenile justice system, and an increased rate of hospitalization for violence compared to non-poor children with a maltreatment report and compared to poor children without a maltreatment report (Jonson-Reid et al. 2009).

Some youth who are involved in the child welfare system are removed from their homes and placed in foster care. Although the stated aim of foster care is to improve the environment for youth who have faced abuse or neglect, youth in foster care still face a higher risk for negative well-being outcomes compared to the general population (Engler et al. 2022; Kolivoski et al. 2014; Romano et al. 2015; Yang et al. 2017). A recent review finds children in foster care have higher rates of mental health disorders (most commonly oppositional defiant disorder, depression, PTSD, and reactive attachment disorder) than the general population (Engler et al. 2022). In addition, while generally, welfare-involved youth experience diminished academic performance compared to the general population, that performance is further diminished for youth in foster care (Romano et al. 2015). Unfortunately, youth in foster care are also more likely to be involved in the juvenile justice system (Kolivoski et al. 2014) and are at an increased risk of chronic offending into adulthood (Yang et al. 2017). While research can identify diminished well-being outcomes for youth in foster care, it is difficult to disentangle the impact of experiences of abuse and neglect from the trauma of removal, placement instability, and lack of family permanence that children in foster care often experience.

Theoretical Explanations of How Child Maltreatment Harms Children

Recognizing that multiple dimensions of well-being are diminished for maltreated youth, it is important to discuss how and why the maltreatment they experience during childhood causes these negative outcomes in adulthood. Life course theory is a natural starting point for understanding how children develop and the importance of this development throughout an

individual's life. The different stages that people pass through from birth until their death is called the life course. Life course research explores how social forces impact the life course and the consequences this has on development (Elder 1975). Each stage impacts individuals' behaviors and orientations moving forward, and these stages are influenced by social position (i.e., social class, race/ethnicity, and gender). Sociologists have long taken this life course approach to explain how life events and history impact later experiences and development (Mortimer and Shanahan 2003). Through the linked lives principle within life course theory sociologists also claim that individuals' life course trajectories cannot be fully realized independently from their social relationships (Landes and Settersten 2019). Psychologist Erik Erikson's psychosocial development theory enhances the life course research within sociology (Gilleard and Higgs 2016). Erikson detailed the developmental stages of individuals from birth to old age, with attention to how social forces can aid or hinder the accomplishment of each crisis at each stage of development (Erikson 1950). For example, during early childhood, a toddler must navigate the crisis of autonomy versus shame and doubt. When adults support a young child by promoting their self-sufficiency while still providing a safe and secure environment in which the child can explore, the child will develop a healthy sense of autonomy. When this support is not in place, a child will experience shame and doubt which will result in maladaptive characteristics. The Children's Bureau, informed by Erikson's psychosocial stages of development, also takes a life course approach by detailing outcomes across multiple domains (Table 1.1) by age category (Biglan 2014). Table 1.1 details key areas of development, but also common negative events that occur during different developmental periods. For example, during the period of early adolescence from approximately age 12-14 youth begin to prioritize their peer group, at the same time, they are at an increased risk for violent behaviors and drug use. Knowledge of "key

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outcomes" during different developmental phases of childhood allows researchers and child welfare professionals to more accurately identify children whose development is not following the standard life course stages and intervene with support or other services. Following the logic of life course theory, by intervening during childhood, individuals can grow into adults with higher functioning and improved well-being. My research follows this approach as well. Since research finds that children who are involved in the child welfare system experience more harmful life events that may alter or impede their development during childhood and adolescence, I will investigate how services or interventions are used to help mitigate damaging experiences to support well-being throughout the life course.

Table 1.1. Key Outcomes by Developmental Phase

	Outcome Domain			
Developmental Phase	**Cognitive development**	**Social & emotional competence**	**Psychological & behavioral development**	**Physical health**
Prenatal-infancy (birth-age 2)	Language development; executive functioning	Social/emotional development; attachment	Self awareness develops; behavioral development	Birth weight; physical and motor skill development; injuries
Early childhood (3-5)	Language and early literacy development (e.g., picture naming, rhyming, letter naming); executive functioning	Self-regulation; emotional symptoms; social relations; prosocial behavior, skills, attitudes	Self-concept develops; behavioral development; attentional and hyperactivity difficulties; conduct problems	Physical development; injuries; asthma-like illness; diet; physical activity; height/weight percentiles; oral health
Childhood (6-11)	Reading proficiency; mathematics proficiency (at or above grade level); executive functioning	Same as above, plus: gradual shift in control from parents to child; peers assume a more central role	Same as the above, plus: self-concept becomes more complex; disruptive and aggressive behavior; depressive symptoms	Same as above, plus: strength and athletic skills improve
Early adolescence (12-14)	Same as above, plus: intellectual development, abstract thinking	Same as above, plus: central role of peer group, identity formation	Same as above, plus: violent behaviors; drug use; risky sexual behaviors	Same as above, plus: more rapid physical growth and changes; puberty and reproductive maturity; diet; physical activity; BMI; type 2 diabetes; self-inflicted injuries; STDs; unplanned pregnancy; repeat pregnancy; any pregnancy injuries
Adolescence (15-19)	Executive functioning; intellectual development; critical and rational thinking; high school graduation	Same as above, plus: moral development; intimacy development	Same as above	Same as above

Source: Biglan 2014

The social aspect of life course theory is particularly important when examining the experiences of children who have faced abuse and neglect. Psychologist Urie Bronfenbrenner (1979) first brought attention to the system of relationships that influence children as they develop with his ecological systems approach. He recognized that not only are parents important to children's development, but education and religious organizations, extended family, neighbors, mass media, cultural attitudes, and environmental changes are all interrelated and influence children as they develop and move through the life course. The child welfare system emphasizes the importance of an ecological systems approach to their work with children and families.

The Children's Bureau takes a systems approach in its efforts to prevent child abuse and neglect, as seen in the most recent prevention resource guide (Figure 1.1), which is a free resource from the Children's Bureau to child abuse prevention service providers. They explain, "[t]o prevent maltreatment, it is often necessary to act at multiple levels of the model at the same time" (USDHHS 2023:3). The resource guide is organized around the ecological systems approach, with each chapter focusing on one level to provide data and resources to support organizations around the country in their work to prevent child abuse and neglect.

Figure 1-1. The Children's Bureau Social-Ecological Approach to Primary Prevention

A SOCIAL-ECOLOGICAL APPROACH

FAMILY COMMUNITY ORGANIZATION SYSTEM SOCIETY

An ecological systems approach is also useful after child abuse or neglect has occurred because it suggests how interventions provided at different levels may mitigate the harm of maltreatment and support well-being into adulthood. The Children's Bureau (Biglan 2014) adopts The Promise Neighborhoods Research Consortium Framework (Komro et al. 2011) that provides additional details about the needs of all children, including those who have experienced abuse or neglect (Figure 1.2). This framework, expanding on Bronfenbrenner's ecological system, specifies how external characteristics like income, norms, and physical environment (distal influences) influence family, schools, and peers (proximal influences). These influences,

when mediated by individual neurological development and stress reactivity, come together to impact well-being outcomes of academic performance, social-emotional competence, psychological and behavioral issues, and physical health (Biglan 2014; Komro et al. 2011). What the research previously outlined finds is that children involved in the child welfare system have more negative influences in these domains which then results in poor outcomes compared to children who do not enter this system. Using this framework, Biglan's (2014) report provides examples of evidence-based interventions at each level of influence that improve the primary outcomes for children involved in the child welfare system. My research follows this framework by looking at how two different interventions impact the primary outcomes of youth who have been involved in the child welfare system.

Figure 1.2. The Promise Neighborhoods Research Consortium Framework (Komro et al. 2011)
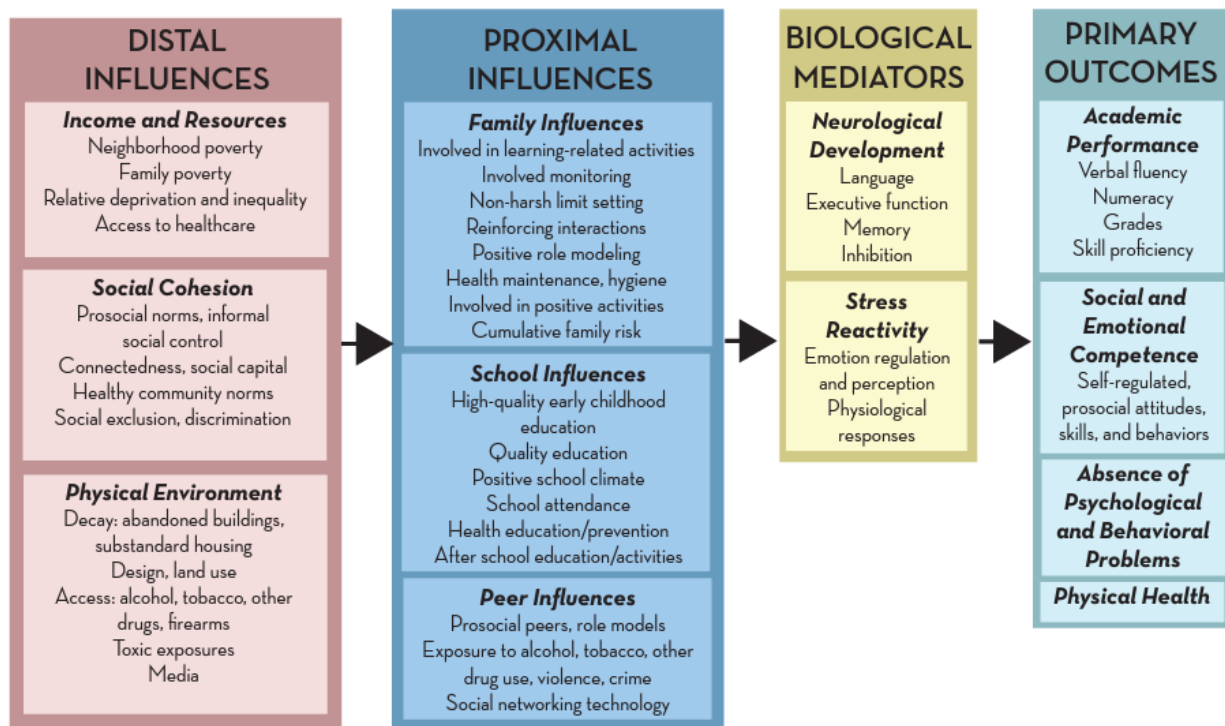
Sociological theory can further elucidate why children involved in the child welfare system have diminished primary outcomes compared to children in the general population. Figure 1.2 details the importance of distal and proximal influences on wellbeing, which means that when these influences are lacking or of poor quality, negative impacts on wellbeing are expected. Another way of conceptualizing this relationship is to understand how the cultural, social, and human capital of youth involved in the child welfare system compare to those in the general population. Overall, children involved with the child welfare system have higher barriers to accumulating the type of human, social, and cultural capital during childhood necessary for stable and healthy adult functioning.

Pierre Bourdieu (1973) emphasizes the importance of the acquisition of cultural, social, and human capital on a range of adult outcomes. Lower rates of human capital, or education and training, may be due to higher rates of poverty in this population and a higher number of school disruptions. When children are removed from their biological home, they may move between multiple foster homes and even group homes before finding a more permanent placement or being reunited with their biological parents. Over their lifetime, these disruptions can result in lower levels of human capital (Laurens et al. 2020; Goyette et al. 2021). Since a college education is now a common requirement of white-collar entry-level positions, this means that adults who were involved with the child welfare system as children are less likely to have the human capital needed to spur upward mobility as they have higher rates of dropping out of college compared to the general college population (Pecora et al. 2006) and face more hardship during college (Cheatham et al. 2021). Because of this, they have fewer employment prospects compared to the general population (Goyette et al. 2021). I investigate this further in a following

chapter, when I examine how extracurricular activities can improve academic achievement, and therefore human capital, for youth involved in the child welfare system.

Children involved in the child welfare system, who are disproportionately poor, Black, and American Indian, and have experienced abuse and neglect, are less likely to gain cultural capital, or the behaviors, tastes, and skills, that could help them become socially mobile. Without the same cultural capital of a particular group, individuals are unable to enter and be accepted into the group. Lareau (2011) finds that regardless of race, middle and upper-class families engage in "concerted cultivation," or the purposeful development of knowledge and skills that will allow their children to maintain or surpass their own social class as adults. For example, these families teach their children how to navigate bureaucracy, like schools, to get what they need to be successful. On the other hand, working-class families allow for the "accomplishment of natural growth", or natural child development paired with the expectation that, as a child, you do as you are told and do not question adult instructions (Lareau 2011). The class-based differences in cultural capital that these children acquire result in different adult outcomes, with the middle and upper-class children maintaining or surpassing their childhood class position and working-class children primarily maintaining their lower-class standing (Lareau 2011). Children involved with the child welfare system, are more likely to have parents and caregivers, if they have stable ones at all, who adhered to the accomplishment of natural growth, which did not allow them to acquire middle and upper-class cultural capital. This may be evident in the fact that even when foster care alumni graduate with a college degree, they still report less job security, household earnings, health, mental health, financial satisfaction, home ownership, and happiness than the general population of college graduates (Salazar 2013).

Related to this, many youth involved with the child welfare system also are unable to build the social capital or networks necessary for social mobility in adulthood. Social capital is the social networks or relationships that individuals rely on. For example, someone with high social capital will call on their network when they need a job, a home, or money. As Lareau (2011) finds, middle and upper-class parents spend a vast amount of time and resources ensuring that their children build a network of connections through a childhood's worth of coaches, teachers, tutors, and volunteer coordinators that their children can call on when they need references or recommendations as they are applying to college and their first professional jobs. On the other hand, youth involved in the child welfare system are less likely to form strong social connections (Carlson et al. 1989; Morton and Browne 1998; Perry 2006; Price and Glad 2003). Psychoanalyst John Bowlby explains in attachment theory that this is because without a strong relationship with a caregiver early in life individuals may be unable to make sufficient social connections or build social capital later in life (Bowlby 1969; Bowlby 1982; Bowlby 1991). In the next chapter, I look more closely at the social support or social capital of youth who are involved in the child welfare system, and the impact of peer support groups on relationships and depression symptoms.

Impact of Services and Interventions on Child Well-Being

The child welfare system, building on the theoretical and empirical research presented above, has a stated mission to mitigate the harm caused by maltreatment or other family dysfunctions that bring children into their system. As previously discussed though, as an institution of poverty governance, child welfare often works to simply manage those in poverty without significantly improving their lives or circumstances (Woodward 2021). Since child maltreatment results in diminished economic, social, and health outcomes for youth, even

compared to other at-risk (i.e., poor) youth, one of the stated aims of the child welfare system is to moderate this harm by providing services. These services can be recommended for families (i.e., home visiting programs), for parents (i.e., parenting classes, counseling, substance abuse treatment), and/or for the children themselves (i.e., counseling, substance abuse treatment). Since the stated aims and actual impact of the child welfare system are often contradictory, it is important to investigate the actual impact of services on the individuals who receive them. My research centers on the well-being of children who are involved in the child welfare system and contributes to the inclusion of the child welfare system into sociology. Specifically, my research investigates the impact of services on children who have experienced a maltreatment investigation.

Theoretically, services help convey protective factors, or any individual or environmental characteristic that helps an individual respond to stressful life events, or risks, with more positive adaptations and resilience than those without protective factors. The Center for the Study of Social Policy, which is a "non-profit policy organization that connects community action, public system reform, and policy change to create a fair and just society in which all children and families thrive," created a logic model to illustrate how a protective factor framework can lead to improved child wellbeing (Figure 1.3; Center for the Study of Social Problems 2023: para 1). Protective factors often focus on improving child well-being by supporting their accumulation of human, cultural, and/or social capital, as seen in the social connections, concrete support, and social/emotional competence protective factors listed in Figure 1.3.

Figure 1.3. Strengthening Families Protective Factors Framework Logic Model
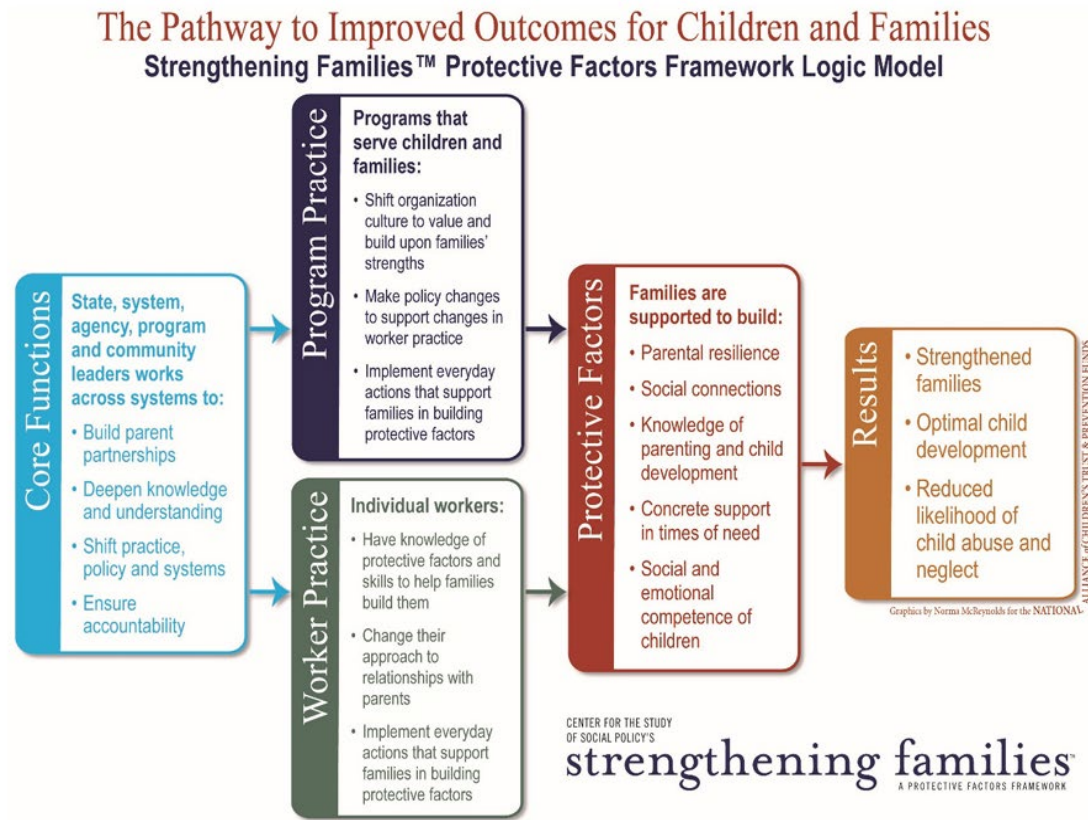
One challenge to using services to support the development of protective factors to improve well-being is knowing which services are effective and how they work to improve youth outcomes. As services and programs are developed throughout the country to support child welfare-involved youth, research evaluating their effectiveness has also proliferated. The California Evidence-Based Clearinghouse for Child Welfare (2023) collates research on a vast number of programs to help child welfare professionals, researchers, and policymakers understand the most promising interventions. The "gold-standard" programs are those designated as "well-supported by research evidence" meaning that there is a robust body of research to suggest that the specific service or program helps improve outcomes as intended. Lack of funding, small sample sizes, and weak research designs are only a few issues restricting the evaluation of programs and services. My research begins to address some of these shortcomings.

Another important consideration when evaluating service effectiveness is the possible iatrogenic effects of an intervention or the unintended adverse outcomes from a treatment. Iatrogenic effects can be found for multiple youth interventions, not only those designed for at-risk youth but also the general youth population. For example, research on juvenile offenders, a particularly at-risk group, has documented peer effects in which youth with similar criminal histories spend time together (i.e., group sessions, recreation) in detention facilities and as a result, have an increased propensity to re-offend (Bayer et al. 2004; Cecile and Born 2009). Of course, the primary intent of juvenile detention is to stop youth offending, but the iatrogenic effects may neutralize this intended positive effect. Anti-bullying programs are another popular intervention for youth in the general population that often occurs in schools. While overall anti-bullying programs are found to be effective at preventing bullying (Gaffney et al. 2019), iatrogenic effects, including increased depressive symptoms and decreased self-esteem have been documented in youth who completed an anti-bullying program but were still the victim of bullying (Huitsing et al. 2019). These are both relevant examples for youth involved in the child welfare system since they are more likely to be involved with the juvenile justice system (Jonson-Reid et al. 2009) and will likely experience anti-bullying programs through school. Children who are involved in the child welfare system may not only face iatrogenic effects from specific services or interventions (either referred to through their involvement with child welfare agencies or not), but research has also long drawn attention to the iatrogenic harm that may be caused by "the response of the professional system" itself (Jones 1991:59). Realizing that the system and services designed to ameliorate the effects of maltreatment could, in reality, cause additional harm to youth, it is particularly important to study interventions within the context of the child welfare system.

Knowing that services impact youth involved in the child welfare system, it is vital to simultaneously investigate how youth are connected (or not) to these services. This question begins to incorporate how system involvement itself impacts youth. In the most simplistic terms, caseworkers refer children to services they feel are appropriate. While, intuitively, it may seem like a child's need is the only factor a caseworker would look at to determine if a service should be recommended, the reality is likely much more complex. The Decision-Making Ecology (DME) is a theoretical framework to identify the complex system of factors that impact how decisions are made in the child welfare system. This framework posits that case (e.g., child age, type of alleged abuse), caseworker (e.g., education, experience), organizational (e.g., agency culture, policy), and external characteristics all influence the decision-making in the child welfare space (Baumann et al. 2011; 2013; Benbenishty and Fluke 2020). My research will continue to build in this area by empirically modeling the entire DME framework to examine which factors are most influential in the decision to recommend a child for services.

OVERVIEW OF ANALYTIC CHAPTERS

Figure 1.4. Path Model of Analytic Chapters
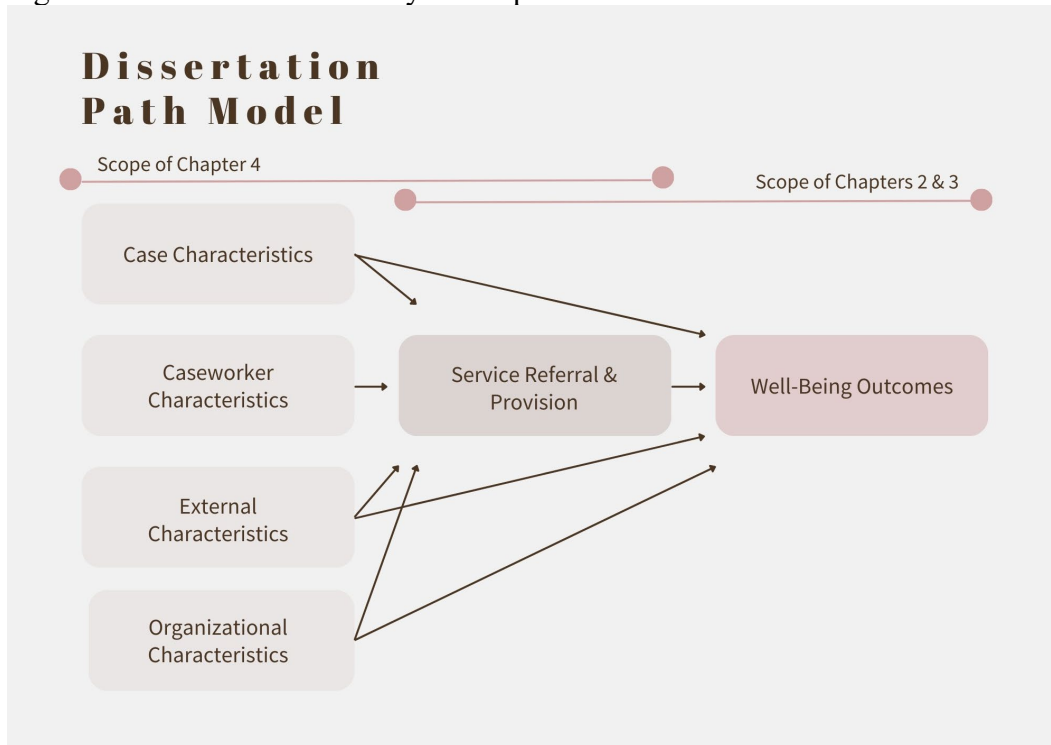
Figure 1.4 illustrates the relationship between the studies presented in the next three analytic chapters. Since the primary concern of my dissertation is the well-being of children involved in the child welfare system, I focus first on how social interventions influence youth well-being. After gaining a better understanding of the impact of these services, my co-authors and I examine how service referral decisions are made. Chapters Two and Three focus on the impact of services or interventions on different well-being outcomes as shown in Figure 1.4. Specifically, Chapter Two examines the relationship between attending a peer support group and depression symptoms. This chapter builds on the theoretical literature reviewed previously on the importance of social support (or social capital) for well-being while testing the impact of a peer support group intervention on depression symptoms of youth involved in the child welfare

system. Chapter Three examines how participation in extracurricular activities can serve as a protective factor for youth involved in the child welfare system and how this can improve their accumulation of human capital. More precisely, Chapter Three looks at how participation in structured and nonstructured extracurricular activities influences academic achievement scores for youth involved in the child welfare system. Chapters Two and Three will investigate the relationship between services and well-being outcomes using a fixed effects design. More details about the data and methods used in the analytic chapters are provided below. Chapter Four covers the left side of the path diagram (Figure 1.4) by focusing on how decisions are made within the child welfare system to refer youth to interventions or services. This chapter takes an ecological systems approach and models the Decision-Making Ecology Framework to clarify the role of organizational, external, caseworker, and case characteristics in the decision to refer youth to services. Chapter Four uses latent class analysis to classify child welfare organizations based on measures of organizational culture and climate, before using logistic regression to empirically model the Decision-Maker Ecology framework to better understand which factors impact service referral decisions.

Data and Methods

The three empirical chapters in my dissertation use data from the National Survey of Child and Adolescent Well-Being (NSCAW II). This is a national longitudinal study of 5,872 children and youth ages birth-17.5 years and their families who have been involved in the child welfare system through a child protective services investigation. The first wave of data (W1) for the cohort was collected in 2008 – 2009, and waves two and three (W2 and W3) were collected at subsequent 18-month intervals. NSCAW II used a two-staged stratified complex sampling design with 81 primary sampling units of child welfare agencies within 30 states, including an

oversampling of 8 states with large child welfare populations. Individual states are not identified in the NSCAW II data. The sample does not support state-level estimates and is distributed only to provide national estimates (Dolan et al. 2011). NSCAW II oversampled infants, children, and youth in out-of-home care, while also undersampling cases not receiving services to ensure proper representation for all of these subgroups. NSCAW II collects information from agencies, parents, nonparental caregivers, and the youth themselves. This is the only nationally representative dataset that contains a variety of psychometrically valid measures on child well-being, service provision, and caseworker/service agency characteristics for children and families involved with the child welfare system (Dolan and Ringeisen 2023). These data are also ideal because they include substantiated and unsubstantiated cases of maltreatment. Since re-report rates are high (Kohl et al. 2009) with estimates of re-report up to 40 percent (Dolan et al. 2014), and having a maltreatment report is associated with an increased risk of poor outcomes, regardless of whether the report is substantiated or unsubstantiated (Hussey et al. 2005), it is ideal to investigate the effects of interventions for all youth involved in the child welfare system.

NSCAW II is a panel dataset which means the same sample is observed at multiple time intervals. With the appropriate statistical methods, panel datasets allow researchers "to determine the direction of causation" (Frankfort-Nachmias et al. 2015:110). By examining the same sample at multiple points in time, researchers can better ascertain if a phenomenon at an earlier time point causes an event captured in a later wave of the dataset. I take advantage of these panel data by employing quasi-experimental methods, for two of my three chapters. While experiments using randomized controlled trials (RCT) are considered the most robust research design because they allow researchers to randomly assign participants to a treatment or control group to evaluate the impact of an intervention, service, or treatment, this method is also very difficult in child

welfare research, and social science research more broadly, because there are often logistical, ethical, and budget considerations that make the design untenable. Quasi-experimental methods can be considered a more practical, but still robust, alternative because they can estimate causation while avoiding many of the barriers to conducting RCTs (Rossi et al. 2019). I use a fixed effect design, which is one type of quasi-experimental method.

Over the three waves of data collection in NSCAW II, youth reported their involvement with multiple services and interventions. For Chapters Two and Three, I use a fixed-effects design to examine the difference between the average outcome across waves for each youth subtracted from the outcome at each wave for each youth. The effect of the intervention on the youth is estimated by comparing the deviations from the average at waves when the youth participates in the intervention to the waves when the youth does not participate. The overall intervention effectiveness is then the average of these effects across all youth in the sample. Because fixed effects compare youths' outcomes when they participate in the intervention to when they are not participating, this design enables each youth to act as their own control, which eliminates time-invariant unobserved variable bias (Allison 2009). In other words, youth history and characteristics that do not change over time (i.e., race, severity of previous maltreatment, early childhood experiences) are controlled for, without explicitly adding a measure of each of these variables to the model. This is especially important when studying youth who have been involved in the child welfare system because many factors that may influence the effect of interventions and/or their wellbeing (i.e., the severity of previous maltreatment) are hard to quantify and not captured in the data. Therefore, by employing a fixed-effects design I can still control for these important unchanging and/or early experiences while evaluating the

effectiveness of services and interventions for youth involved in the child welfare system. More details about this method are provided in Chapters Two and Three.

Chapter Four employs a different methodology to explore how decisions are made within the child welfare system to refer youth to services. In particular, I use latent class analysis to identify different classes of child welfare organizations, which I then use as an independent variable in a logistic regression model predicting service referral. Latent variables are not directly observed, instead, this method uses multiple indicator variables (observed variables) to measure latent variables that cannot be directly measured in the data (Collins and Lanza 2010). Wave two of NSCAW II includes an extensive case worker interview that asks about the culture and climate of their organization. These observed responses are used as the indicator variables measuring the latent organizational classes. Because this case worker interview is only conducted during wave two, the full panel dataset is not used, and instead, logistic regression is used to model how various factors, including organizational class, impact the decision to refer a youth to services. This method improves on previous ways of measuring child welfare organizations. All organizations are complex, and therefore classifying them is difficult. A primary purpose for using LCA is "to identify an organizing principle for a complex array" of data when the "observed data is usually much too large and complex for the subgroups to be evident from inspection, even very painstaking inspection, alone" (Collins and Lanza 2010:8). By using LCA I can use multiple observed variables that measure a range of important organizational characteristics to classify child welfare organizations. By using a more robust classification of child welfare organizations, I can more precisely model service referral decisions. More details about this method are provided in Chapter Four.

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CONCLUSION

        Overall, I have three primary goals for my dissertation. First, I will draw additional attention within sociology to an understudied population: families who have been involved with the child welfare system. Sociology is well equipped to study the child welfare system due to the field's focus on the role of institutions in the lives of individuals and the causes and consequences of societal stratification. Second, I will use theories of child welfare involvement described earlier to further our understanding of child well-being for this especially vulnerable population. Finally, I will employ emerging quantitative methodologies to improve our understanding of malleable practices that can improve the system for the benefit of the individuals involved. Sociology has a history of conducting applied research to improve society. I hope that my dissertation will continue this valuable tradition by identifying feasible interventions that can improve the lives of youth who are involved in the child welfare system.

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Chapter Two

Connection Not Depression: Peer Support Groups for Youth Involved in the Child Welfare

System

INTRODUCTION

Maltreated youth have a higher prevalence of depression and psychological distress than the general population (Briggs-Gowan et al. 2000; Nelson et al. 2017; Wang and Chen 2023). While youth in care have high rates of mental health service use because of this, research also shows that mental health issues often go untreated (Kerker and Dore 2006; McMillen et al. 2004). Perhaps as a consequence of this, youth who die by suicide are more likely to be involved with child welfare and have mental health problems (Ruch et al. 2023). Youth in foster care are also more likely to be prescribed psychotropic medication compared to the general population (Administration on Children, Youth, and Families 2012), with one study finding 11.7% of child welfare involved youth receiving a prescription for psychotropic medication, and 29.1% of youth in foster care receiving psychotropic medication (Stambaugh et al. 2012). Questions regarding these medications' efficacy in children, the possibility of overprescribing, high variability in clinical diagnostic practices, and sometimes severe side effects are leading some child welfare researchers, advocates, and practitioners to raise alarm bells about overuse (Lacasse et al. 2023).

Interventions to support youth in child welfare's mental health are imperative given the high prevalence of depression stemming from experiences of child maltreatment, loss of family, lack of permanency, and placement instability (Elmore and Crouch 2020; LeMoult et al. 2020; McGuire et al. 2018). Individual therapy, psychotropic drugs, and group-based interventions are common interventions to address youth depression, but there is a lack of research using nationally representative data and quasi-experimental methods examining how interventions, particularly group-based interventions, affect children's mental health and depression over time, specifically for youth involved in the child welfare system. My paper will begin to address this gap by examining how attending a peer support group impacts the depression symptoms of youth

involved in the child welfare system. First, I review relevant theories related to the importance of social support for the general population, then specifically for the child welfare-involved population. Second, I review the general research on the impact of peer support groups on youth mental health, and then I review studies that have specifically investigated the impact of peer support groups on children involved in the child welfare system.

SOCIAL CONNECTION AND DEPRESSION

Sociologists, health researchers, and psychologists have long examined the centrality of social support for a variety of important health and well-being outcomes. The terms 'social support' and 'social connection' are both used in the theoretical and empirical literature when referring to the extent to which individuals have and perceive a preferred number and quality of relationships that create feelings of belonging and support; therefore, I use the terms interchangeably. Within sociology, social support or social connection is sometimes also equated with the term social capital, which as Bourdieu defines it is the collection of "contacts and group memberships which, through the accumulation of exchanges, obligations, and shared identities, provide actual or potential support and access to valued resources" (1993:143). This conception of social capital as social connections is not specific to childhood though (Morrow 1999). Children's social support is often defined as the relationships with peers, parents, and non-parental adults that make youth feel cared for and valued as part of an interconnected network (Cobb 1976). Below, I review relevant work from the large body of theory across disciplines that discusses the role of social support and connection for individuals' mental health.

Importance of Social Connections for the General Population

In what is often considered the first empirical study of a seemingly individual phenomenon within a social context, sociologist Emile Durkheim studied suicide through a social lens (Durkheim [1897] 1951). He concluded there were four types of suicide, one of which he called "egoistic suicide" which he proposed was caused by a sense of not belonging or not having sufficiently close social groups which cause apathy and depression leading to suicide. Over the decades, sociological research still finds support for this early work. One study, using nationally representative data (National Longitudinal Study of Adolescent Health), concludes school and parental attachment reduces the risk of suicide in youth (Maimon and Kuhl 2008), while another finds empirical support demonstrating that strong social relationships reduce psychological distress (Umberson et al. 1996).

Developmental psychologists also find that adolescence is a developmental period that can increase the perceived social isolation of youth (Laursen and Hartl 2013). Psychologists have long theorized that loneliness arises from unmet social needs which include attachment, integration, nurturance, alliance, and guidance (Weiss 1974). When individuals attribute their unmet social needs to social isolation, they feel loneliness (Parkhurst and Hopmeyer 1999) which is also linked to increased depressive symptoms into adulthood (Cacioppo et al. 2010). Together, theories from sociology and psychology suggest that a lack of social relationships or connections leads to psychological distress, including depression in the general population.

Importance of Social Connections for the Child Welfare Population

Recognizing the role of social support for child welfare-involved youth is particularly important since a lack of social connections can result in higher rates of depression in the general population, and depression rates are already higher for youth involved in the child welfare system (Wang and Chen 2023). Attachment theory has been widely researched and used within

child welfare (Mennen and O'Keefe 2005). Psychoanalyst John Bowlby first developed

attachment theory in the 1960s around the assertion that the primary developmental activity of

infancy is the formation of a relationship with the primary caregiver (Bowlby 1969; Bowlby

1982; Bowlby 1991). For maltreated youth, the parental or primary caregiver relationship may be

fractured or absent, therefore youth who have been abused or neglected are less likely to form

strong attachments (Carlson et al. 1989; Morton and Browne 1998), resulting in a mistrust of

others and a wariness of close relationships (Price and Glad 2003). This is supported by two

theories developed by clinical and health researchers, the interpersonal theory of

psychopathology (Hammen and Rudolph 1996) and the biological embedding model of early

adversity (Miller et al. 2011; Turner et al. 2016), which explain child maltreatment may impact a

child's ability to develop or maintain social connections due to the psychological distress

experienced as a result of abuse and/or neglect. In other words, when children experience abuse

and neglect, they are less likely to form strong attachments with their parents, and in turn, this

inhibits their ability to form and maintain other social connections throughout their lives.

Building on these theories, the social support deterioration model is a psychological

theory that connects insufficient social connections to increased psychological distress, including

depression (Barrera 1986). This model states that increased stress or risk factors lead to lower

social support, resulting in psychological distress and/or maladjustment. This theory has

empirical support from multiple studies that tested the social support deterioration model and

found increased psychological distress in adults who experienced abuse and/or neglect as

children (Pepin and Banyard 2006; Punamaki et al. 2005; Vranceanu et al. 2007). Also testing the

social support deterioration model, Seeds et al. (2010) specifically examined how social support

mediated the relationship between child maltreatment and adolescent depression. The researchers

found less social support among a group of 101 youth who experienced maltreatment mediated the relationship between maltreatment and increased depression (Seeds et al. 2010). This study also concludes that this relationship appears to be reversible, in that, when social connections increase, depression symptoms decrease. Taken together, these theories suggest that although youth who experience maltreatment tend to have less social support, which contributes to the increased rates of depression in this population, when children who experience abuse and/or neglect do increase their social support they can reduce psychological distress and depression symptoms.

Empirical research with maltreated and other vulnerable youth supports this theoretical work. Generally, social support from peers and adults improves adolescent well-being (Boyden & Mann 2005; Nicotera & Laser-Maira 2017), and increases resilience in vulnerable youth (Napoleon et al. 2023). Of relevance to this study, youth who have been placed in out-of-home care have fewer mental health symptoms when they have sufficient social support from family members, other non-parental adults, and friends (Evans et al. 2022). Since parental relationships may be fractured or missing for youth involved in the child welfare system, social support from peers and non-parental adults may be more accessible for this population. Non-parental adults specifically may offer social support that enhances youth well-being. Although not specific to a child welfare population, one study finds that having a supportive activity leader did lessen depression in youth who had a detached relationship with their parents (Mahoney et al. 2002). Youth involved in the child welfare system often form social connections with non-parental adults through the child welfare system (Ellins et al. 2010) highlighting the importance of program staff, therapists, foster parents, and others connected to the system to support youth well-being. In a study of Chinese youth with a history of maltreatment, teacher relationships also

mediated the relationships between maltreatment and adolescent psychological distrust, while also finding that peer relationships were not significant in reducing psychological distress (Wang and Chen 2023). Other research finds peer relationships can have a positive impact on well-being. A study of 142 child soldiers' reintegration found peer support predicted a decrease in functional impairment and PTSD symptoms (Morley and Kohrt 2013). In studies specifically focused on youth involved in the child welfare system, researchers have found higher levels of academic achievement when youth perceive higher quality parent and peer relationships (Hershberger and Jones 2018). Positive friendships have also been found to be protective against clinical levels of behavior problems for youth involved in the child welfare system (Merritt and Snyder 2015).

PEER SUPPORT GROUPS, SOCIAL CONNECTION, AND DEPRESSION

One promising intervention that may increase social connection and therefore reduce depression symptoms is peer support groups. Effective support groups connect people by allowing them to participate in a "confiding conversation that allows emotional expression and discussion" (Nichols & Jenkinson 2006:9). While support groups are often organized based on a common trauma or identity (e.g. LGBTQ+ groups, substance use disorder groups, depression support groups), they can also be organized more broadly as general support groups (Nichols & Jenkinson 2006).

Impact of Peer-Support Groups on the General Population

A meta-analysis of peer support group randomized controlled trial evaluations finds that this intervention reduced depression symptoms in the general depressed adult population more than the psychotherapy control condition (Pfeiffer et al. 2011). In addition, research on peer

support groups has found positive outcomes for youth well-being. One Australian peer support program for children aged 8-17 found that after four months of participation, the 64 youth participants had significant increases in hope (as measured by the Children's Hope Scale) and connections outside the family (Foster et al. 2016). The California Evidence-Based Clearinghouse for Child Welfare lists two programs that are rated as "2 - supported by research evidence" (on a scale of 1-5, with a 1 representing the strongest research evidence) to reduce depression symptoms in adolescents and that include group sessions for youth in the general population. The first is the Blues Program which includes six 1-hour group sessions, plus home assignments for youth (Rohde et al. 2018). The second is the Interpersonal Psychotherapy-Adolescent Skills Training program which includes two individual sessions, followed by eight 90-minute group sessions (Young et al. 2006). Both of these interventions support the underpinnings of the social support deterioration model, in that, by building social connections between peers, these groups reduced the youth's depression symptoms.

Not all evaluations of peer support groups demonstrate improved well-being outcomes. A recent systemic review of peer support group studies concluded that 5.9% (4) of the 68 studies reviewed identified iatrogenic effects of a peer support intervention (Corrigan et al. 2022). However, this review included studies of peer support groups for individuals with psychiatric disabilities and was not limited to children or adolescents (Corrigan et al. 2022). In a narrative review of peer group treatment specifically for adolescents with substance use disorders, researchers concluded that using group-based approaches poses "no exceptional risk of iatrogenic effects," although they do acknowledge that negative effects from this type of treatment can occur (Hogue et al. 2021:40). One study specific to youth who participated in a peer support group for individuals with chronic illness found participants reported an increase in

social connection and feelings that they were not alone in qualitative focus groups, but scores on measures of self-esteem and psychological distress remained unchanged after participating in the group (Lewis et al. 2016). This research suggests that, while there is a risk of peer support groups causing negative outcomes, that risk is low, and it is more likely that participants see no change in well-being or see positive effects from this type of intervention.

Impact of Peer Support Groups on the Child Welfare Population

Research on the impact of peer support groups on youth involved with the child welfare system is very limited. The Cognitive Behavioral Intervention for Trauma in Schools or CBITS program, which shows promising evidence of effectively reducing PTSD, depression, and behavioral problems in youth from the general population (Stein et al. 2003), has also been adopted for use with the child welfare population (Auslander et al. 2017). This program uses 10 group sessions along with 2 individual sessions and even 2 individual sessions for caregivers. The group sessions focus on psychoeducation, cognitive restructuring, relaxation training, and social problem-solving skills. A study of the adapted model found no significant effect on depression or PTSD symptoms for girls in child welfare using a randomized control group design (Auslander et al. 2020). Another recent two-group randomized controlled trial with a pre/post-test evaluation design was conducted for a novel peer grief support program for youth in foster care group homes (Mitchell et al. 2022). The L.Y.G.H.T intervention consisted of a weekly facilitator pre-meeting, a 90-minute youth peer grief support group (which was youth-led, with trained adult facilitators), and a half-hour facilitator post-meeting (Mitchell et al. 2022). The evaluation found the program resulted in an increase in scores on measures of social support, self-worth, and hopeful thinking (as measured by scores on the Children's Hope Scale), and youth reported improved well-being, empowerment, and agency in focus groups about their

experience compared to the control, wait-listed group (Mitchell et al. 2022). In contrast, the total difficulties score (as measured by the Strengths and Difficulties Questionnaire-Self Report) remained the same for the youth who participated (Mitchell et al. 2022). While this robust research design illustrates the efficacy of peer support groups for youth living in foster care group homes, the study was small, with 23 youth in the treatment group and 19 in the control group.

THE CURRENT STUDY

Overall, research and theory point to the importance of social support and social connections for mental health. However, very little research has focused specifically on a child welfare population of youth, despite their increased need and vulnerabilities. The research that does exist is mixed in its conclusions or has methodological limitations. Therefore, in the current study, I use a quasi-experimental statistical method to examine a causal link between peer support groups and depression symptoms for youth involved in the child welfare system as a result of a child welfare investigation. This is an advancement over previous research because I use a large nationally representative sample and statistical methods that allow for causal inference. In addition, since having a maltreatment report is associated with an increased risk of poor outcomes, regardless of whether the report is substantiated or not (Hussey et al. 2005), the dataset I use includes youth with both substantiated and unsubstantiated reports, so I am able to examine the effects of peer support groups on the depression symptoms of all youth involved in the child welfare system. For youth 11 – 17 involved with the child welfare system, I ask the following research questions:

R1) Does attending a peer support group reduce depression symptoms among youth involved with the child welfare system?

    H1: Attending a peer support group will reduce depression symptoms among youth involved with the child welfare system.

R2) Do social connections influence the relationship between peer support group attendance and depression?

    H2: Social connections help explain the relationship between peer support group participation and depression.

METHOD

Data

My study uses data from all three waves of the second cohort of the National Survey of Child and Adolescent Well-Being (NSCAW II), a national longitudinal study of 5,872 children and youth ages birth-17.5 years and their families who have been involved in the child welfare system through a child protective services investigation (Dowd et al., 2014). The first wave of data (W1) for the cohort was collected in 2008 – 2009, and the two following waves (W2 and W3) were collected at subsequent 18-month intervals. NSCAW II used a two-staged stratified, complex sampling design with 81 primary sampling units within 30 states, including an oversampling of 8 states with large populations. NSCAW II oversampled infants, children, and youth in out-of-home care. NSCAW II collects information from agencies, parents, nonparental caregivers, and the youth themselves. These data contain a variety of psychometrically valid measures of child and caregiver characteristics. As relevant to this study, the data contain

standardized scales on youth's depression and peer support group participation. The National

Data Archive on Child Abuse and Neglect (NDACAN) manages the restricted NSCAW II data.

Sample

The sample includes all 1,573 youth who are 11 – 17 years old during at least one wave

of data collection. This age group is selected because of the availability of corresponding

depression and peer support group measures. The National Data Archive on Child Abuse and

Neglect (NDACAN) team has determined multiple imputation to be inappropriate in conjunction

with weights for other researchers using NSCAW II data (Xu et al. 2020). Therefore, I use

listwise deletion to deal with missing data. After cases with missing CDI scores and peer support

group participation responses during at least one wave of data collection were dropped from the

sample, 1,186 youth remain in the sample. Finally, I omit cases for which there is missing data

on other covariates in our model using listwise deletion. The final sample includes 1,025 youth.

This represents a 35% reduction due to missing data on one or more covariates. Youth-period

observations are the unit of analysis for a fixed effect design. A youth-period observation

represents the value of each variable of interest at each point in time. For example, a youth who

reports their participation in peer support groups at each of the three waves of data collection

would comprise three youth-period observations in our sample. As not all youth in the sample

have all three time points, the final youth-period observations for the analysis are 1,952.

Dependent Variable

The Children's Depression Inventory Score is the dependent variable, which I treat as

continuous. The CDI asks 27 three-point Likert-scale questions about a youth's activities and

feelings (Kovacs 1992). Questions ask children, for example, if they think "things will work

out," if they "have fun in many things," and if they like themselves. The scale has good internal

reliability with Cronbach's alpha ranging from .71-.86 (Kovacs 1992). Within the NSCAW II sample, the Cronbach alpha ranges from .81-.87 depending on the age of the youth. The score has a possible range of 0-54, with higher scores indicating more depression symptoms. Although technically the CDI score is a discrete variable, due to its high number of levels, it has long been treated by researchers as a continuous variable in analyses (Drucker et al. 1997). Researchers have suggested multiple cutoff scores reflecting clinical depression. Thirteen has been recommended in clinical settings, while 19-20 may be better with non-clinical samples (Kovacs 1992), but another study in a clinical setting found 16 to be an optimal cutoff within their sample (Timbremont et al. 2004). Studies have also examined cutoff scores for different countries; for example, researchers determined 20 to be the optimal cutoff for Korean children (Bang et al. 2015).

Independent Variables

Peer Support Group Participation. To determine if a youth participated in a peer support group, I rely on a question that reads "In the past 6 months have you gone to any peer support groups?" Peer support groups, in this study, are any group of similarly-aged youth led by an adult. The question in the NSCAW II survey had response options of "yes", "no", or "I don't know." To retain the maximum number of cases, I recode "I don't know" responses to "no." I conducted all analyses without recoding the "I don't know" responses and dropped them from the analysis; because the results were similar in magnitude and significance, I chose to use the coding that retained the largest number of cases in my final analysis.

Loneliness and social dissatisfaction questionnaire. This questionnaire is a sum of 16 five-point Likert-scaled items regarding the strength of youths' peer relationships with response options of "never," "hardly ever," "sometimes," "most of the time," or "always" (Asher and

Wheeler 1985). The questions ask youth to rate their agreement with statements like, "I get along with my classmates" and "I can find a friend when needed." The scale has strong internal consistency with a Cronbach alpha ranging from .87 (Goossens and Beyers 2002) to .90 (Asher and Wheeler 1985). The scores have a potential range of 16-80, with higher scores indicating more loneliness and weaker peer relationships.

Resiliency scale. NSCAW II includes a scale of the sum of five questions with response options of "yes" or "no" with questions about youths' relationships with non-parental adults (Runyan et al. 1998). The scale includes questions like, "Is there an adult or adults you can turn to for help if you have a serious problem?" and, "Has there ever been an adult outside of your family who has encouraged you and believed in you?" Within NSCAW II, the scale has strong internal consistency with a Cronbach alpha of .95. On this scale, a higher score indicates more supportive adults, with a possible range of 0-5.

Time-varying controls. I will also include time-varying controls that may influence the prevalence of depression symptoms. Time-varying means that these measures are expected to change over time. These include the youth's type of living situation, which could be in-home, kin care, or foster care. The second is the number of placements a youth has experienced.

Analytic Method

I use bivariate statistics, including two-sample *t*-tests, to examine the statistical differences in CDI scores by participation in peer support groups at each wave of data collection. To further evaluate the impact of peer support groups on CDI scores and take advantage of the panel nature of the data, I use fixed effects ordinary least squares (OLS) regression for my

models. This quasi-experimental design will allow me to estimate program effects as deviations from the average effects across time periods, as shown in the equations:

$$(y_{it} - \bar{y}_i) = \alpha + (X_{it} - \bar{X}_i)\beta + (\varepsilon_{it} - \bar{\varepsilon}_i)$$

OR

$$\Delta y_{it} = \alpha + \Delta X_{it}\beta + \Delta \varepsilon_i$$

where change in Y is found by subtracting the average CDI score for an individual from an individual's CDI score at time T. This is predicted by change in X, which is a vector of my time-varying variables, intercept, and change in error. In other words, this method will allow me to see if starting a peer support program leads to a change in depression symptoms and if social connection protective factors are the mechanism leading to this change.

The benefit of this model is that it allows me to control for all observed and unobserved time-invariant predictors. This is because a time-invariant variable has a change value of 0, and therefore drops out of the model. Essentially this method uses each youth as their own control and therefore removes omitted time-invariant variable bias. It is especially important to use each youth as their own control when studying youth in the child welfare system because youth often come from chaotic situations that the data might not fully capture. For example, the severity of abuse leading to a maltreatment investigation is almost certainly different across youth, which most likely will impact depression symptoms, but is hard to capture this severity in the data. The disadvantage of this method is that program effects are based on "switchers" (in this case, those who start attending a peer support group). These "switchers" may not be representative of the population, potentially leading to external validity issues. But, even with this disadvantage, the

fixed effect design is a useful tool to estimate program impacts when randomized control trials are not possible.

RESULTS

Descriptive Results

Table 2.1 presents the population-weighted descriptive statistics for the time-invariant characteristics of the youth at the first wave of data collection. Because these variables are time-invariant, or unchanging between waves of data collection, they are not included in the fixed effects OLS regressions but are included to describe the sample. The average age of the youth at wave one is 13.43 years (1.79 SD). Almost forty percent (39.72%) of the sample is White, 21.06% is Black, and 27.94% is Hispanic. The majority of the sample is female (63.26%) due to an overrepresentation of males with missing data. The most severe reason for a maltreatment investigation is most likely to be neglect (38.20%), followed by physical abuse (30.09%), other types of maltreatment (20.59%), and then sexual abuse (11.13%). A majority of the investigations were unsubstantiated (74.98%); however, prior studies have questioned whether substantiation differentiates between higher-risk family situations and child safety (Drake et al. 2003).

Table 2.1. Population-Weighted Time Invariant
Demographic Variables, Wave 1, n = 594

Youth Race (%)	
White	39.72
Black	21.06
Hispanic	27.94
Other	11.28
Youth Male (%)	36.74
Type of Maltreatment (%)	
Neglect	38.20
Physical	30.09

Other[a]	20.59
Sexual	11.13
Investigation Substantiated (%)	25.02

Table 2.2 shows the descriptive statistics across all three waves of youth scores on variables included in the multivariate models. A youth with a missing observation at one time period remains in the sample because fixed effects uses the average of the change over time, which can include as many time points as are available. For this reason, the sample sizes are different at each wave. Overall, the dependent variable, CDI score, measuring depression symptoms, declines over the three waves of data collection falling from 9.62 at wave 1 to 7.03 by wave 3. Not shown here, but the within-person standard deviation across waves is 3.36, or approximately half of the total standard deviation, suggesting sufficient within-person variation over time in CDI scores to justify the fixed effects approach.

For the primary independent variable, peer support group participation, the percentages are similar across waves, with 23.89% of youth participating at wave 1, 16.86% at wave 2, and 18.64% at wave 3. However, the within-person variation across time in participation is 25% allowing a test on the effect of changes in participation over time with fixed effect models. The majority of youth live at home with their biological parents at all waves, with 86.21% in-home at wave 1, 85.68% at wave 2, and 84.19% at wave 3. The percentage of youth in kin care increases over the period, with 9.36% of youth in kin care at wave 1, 9.47% at wave 2, and 11.19% by wave 3. The percentage of youth in foster care remains near constant over time, with 4.43% of youth in foster care at wave 1, 4.85% at wave 2, and 4.62% at wave 3. The average number of different living situations increases across waves, with the average number of living situations

1.11 at wave 1, 1.23 at wave 2, and 1.30 by wave 3. The average Loneliness and social

dissatisfaction score for youth declines slightly over time, starting at 30.81 at wave 1, and

declining to 27.66 by wave 3. The Resiliency scale score for youth increases slightly over the

period of data collection, with an average score of 4.37 at wave 1, 4.47 at wave 2, and 4.51 at

wave 3.

Table 2.2. Population-Weighted Descriptive Statistics

	Wave 1 N=594		Wave 2 N=678		Wave 3 N=680		
	Mean	(SD)	Mean	(SD)	Mean	(SD)	Range
Dependent Variable:							
CDI Score	9.62	(7.56)	7.82	(6.68)	7.03	(6.54)	0-45
Independent Variables:							
Participation in Peer Support Groups (%)	23.89		16.86		18.64		
Placement Setting (%):							
In-Home	86.21		85.68		84.19		
Kin Care	9.36		9.47		11.19		
Foster Care	4.43		4.85		4.62		
Number of Living Situations	1.11	(0.36)	1.23	(.71)	1.30	(0.89)	1-12
Loneliness and Social Dissatisfaction Score	30.81	(11.64)	28.57	(10.29)	27.66	(10.54)	16-80
Resiliency Scale	4.37	(1.10)	4.47	(.91)	4.51	(0.92)	0-5

Source: NSCAW II

My first research question asks if youth who participate in a peer support group have

reduced depression scores. First, I first conduct a bivariate analysis, as measured by two-sample

t-tests, looking at the relationship between CDI scores by peer support group participation (Table

2.3). This analysis is conducted separately at each wave and does not control for any other

characteristics. In wave 1 and wave 2, the youth who participate in peer support groups have

statistically significant CDI scores higher than those who do not participate, meaning they have

more depression symptoms than youth who do not participate in a peer support group suggesting

self-selection into peer support groups. CDI scores by peer support group participation at wave 3 are not significantly different. To better understand these findings and patterns (or lack thereof) and further investigate my first research question, I turn to the multivariate fixed-effects regression analysis.

Table 2.3. Bivariate Significant Difference in Population-Weighted Means for CDI Scores by Peer Support Group Participation

	Wave 1 (N = 594)	p-value	Wave 2 (N = 678)	p-value	Wave 3 (N = 680)	p-value
Peer Support Groups:						
No	9.18	.04	7.46	.02	6.89	.45
Yes	11.03		9.59		7.64	

Source: NSCAW II

Multivariate Results

As discussed previously, my first research question asks if attending a peer support group results in a lower CDI score, and I hypothesize that it does. Model 1 includes only the independent peer support group variable and controls to understand the relationship between peer support groups and depression. Model 1 does not support my hypothesis, as the results do not rise to the level of statistical significance, leaving ambiguity in the results (Table 2.4). Model 1 presents the ordinary least squares fixed effects regression of change in peer support group participation on change in CDI score, net of controls, across all three waves of data collection. In Model 1, starting to attend a peer support program has a negative, although statistically insignificant, impact on change in CDI score. In other words, moving from non-participation to participation in a peer support group leads to a .28-point nonsignificant decrease in CDI score or a decrease in depression symptoms. The direction of the insignificant decrease is in the direction of the hypothesized effect.

My second research question asks if social connection, as measured by the Loneliness and Social Dissatisfaction Score and the Resiliency Scale score, influence the relationship between CDI score and peer support group attendance, and I hypothesize that it does. Model 2 and Model 3 answer this question. Model 2 examines how the change in the Loneliness and Social Dissatisfaction Score, and the Resiliency Scale score impact the change in the CDI score. Only the Loneliness and Social Dissatisfaction Score is significant in this model. Over all three waves, a 1-point increase in a youth's Loneliness and Social Dissatisfaction Score results in a .22-point increase in CDI score. In other words, increasing loneliness and social dissatisfaction increases depression symptoms. While the Resiliency Scale score is insignificant in Model 2, the results are in the hypothesized direction. That is, when the Resiliency Scale score increases, depression symptoms decrease. Overall, Model 2 generally supports the theories that social connection is an important predictor of depression symptoms.

Model 3 combines all independent variables in the model. The first hypothesis that peer support groups reduce depression symptoms is not supported in that findings are insignificant, but they are in the hypothesized direction. The second hypothesis that social connection influences the relationship between peer support group attendance and depression symptoms is supported. In Model 3, the magnitude of the relationship between starting to attend a peer support group and change in CDI score is larger and still negative, although insignificant, now that we also account for a youth's Loneliness and Social Dissatisfaction Score and Resiliency Scale score. Across all three waves, when a youth begins attending a peer support group, the CDI score declines by .41. Again, caution is warranted in drawing substantial conclusions here, as peer support group attendance is not statistically significant in this model, and therefore this study cannot conclude that peer support groups reduce depression symptoms. Loneliness and

Social Dissatisfaction Score is still significant and positive in Model 3, with every 1-point

increase in a youth's Loneliness and Social Dissatisfaction Score resulting in a .23-point increase

in their CDI score. The Resiliency Scale score is insignificant in Model 3 but suggests that as a

youth's Resiliency Scale score increases, the CDI score decreases. The direction of peer support

groups and the Resiliency Scale score results are in the hypothesized direction but are

nonsignificant in the model. Not reported here, but all multivariate analyses were also run with

the suggested CDI cut-off score for non-clinical samples of 19 and 20 (Kovacs 1992) as the

dependent variable, using conditional logistic regression fixed effects models. Because the

direction and significance of effects were the same between models using cut-off scores and

those using the continuous CDI score, the latter is reported for ease of interpretation. Analyses

indicate more research is needed before any final conclusions about the relationship between

peer support group attendance and depression symptoms can be made for youth involved in the

child welfare system.

Table 2.4. OLS Regression of CDI Scores by Peer Support Group Participation Using Fixed Effects

	Model 1		Model 2		Model 3	
Peer Support Group	-.28	(.56)			-.41	(.47)
Placement Setting:						
Kin Care	-.10	(1.26)	.54	(1.62)	.52	(1.61)
Foster Care	.71	(.94)	.88	(.91)	.85	(.91)
Number of Living Situations	.09	(.28)	-.08	(.28)	-.06	(.28)
Loneliness and Social Dissatisfaction Score			.22***	(.03)	.23***	(.03)
Resiliency Scale			-.33	(.27)	-.32	(.27)
Wave Number:						
Wave 2	-1.60**	(.45)	-1.05*	(.44)	-1.08*	(.44)
Wave 3	-1.78**	(.59)	-.77	(.46)	-.79	(.46)
Constant	9.20***	(.38)	3.73*	(1.68)	3.72*	(1.67)
Observations	1952		1952		1952	

Robust standard errors in parentheses
Reference Categories: Type of Setting – In Home

DISCUSSION

My results do not demonstrate a statistically significant relationship between peer support group participation and depression symptoms. Instead, results do corroborate previous literature which finds less social connection is a significant predictor of depression for youth who have been involved in the child welfare system (Punamaki et al. 2005; Seeds et al. 2010) and my fixed-effects models demonstrate this with some certainty and implication of causality. I also find that attending a peer support group results in a statistically nonsignificant decrease in depression symptoms in youth who are involved with the child welfare system, and when social connections are accounted for the magnitude of this effect is larger. These results align with prior theoretical work, which suggests maltreated youth are less likely to form strong parental attachments (Bowlby 1969; Bowlby 1982; Bowlby 1991), which inhibits their ability to form and maintain other social connections (Hammen and Rudolph 1996; Miller et al. 2011; Turner et al. 2016). However, when youth involved in the child welfare system do increase their social connections, psychological distress and depression symptoms decrease (Barrera 1986). As welfare-involved youth experience more stress in the form of higher likelihood of living in poverty, abuse, and neglect, they have a higher prevalence of depression than their peers (Briggs-Gowan et al. 2000), and therefore any intervention that can lead to a decrease in depressive symptoms should be investigated fully. Further, while there are a few evidence-based programs that appear to decrease depression and include peer support groups for the general population (Rohde et al. 2018; Young et al. 2006) and welfare-involved youth (Auslander et al. 2017), there

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has been a lack of research using longitudinal data representative of the entire welfare-involved youth population that uses quasi-experimental methods to explore the impact of peer support programs on depression symptoms. By using fixed-effects methods, this study controls for the self-selection effect of attending a peer-support group intervention. Bivariate results indicate that youth involved in the child welfare system who attend a peer support group have more depressive symptoms than those who do not. Since the multivariate models eliminate all time-invariant variable bias and therefore control for the self-selection of those with more depressive symptoms initially, fixed effects results indicate that attending a peer support group results in a nonsignificant decrease in depression symptoms. While future research should continue to examine when and how peer support groups may influence youth involved in the child welfare system, these findings also suggest that other interventions to reduce youth depression should be investigated. Overall, this research does not support significant positive or negative impacts of peer support groups on the depression symptoms of youth involved in the child welfare system.

Limitations

This study includes limitations as well. First, NSCAW II does not have detailed information about the type, frequency, or quality of the peer support groups that youth are attending. The measure I use is a single item and very general. As discussed, peer support groups vary widely, and this additional information may make findings more robust. It may be that groups centered around a specific characteristic, like an LGBTQ+ peer support group, may improve depression symptoms more than a general group, like one convened by a school counselor for all vulnerable youth in a school. Additional research should attempt to incorporate more details about the groups themselves. It may also be helpful to look at smaller developmental age groups to see if the effects of attending a peer support group vary by

developmental phases, although the sample size in this study did not allow for this disaggregation. Missing data is also a limitation of this study; replication with a more complete dataset may result in more definitive findings. While NSCAW II also includes only three waves of data, datasets with additional waves may be better able to determine the impact of peer support groups on depression symptoms. Finally, researchers studying the role of social connection in the lives of youth in foster care have recommended caution when seeking to link social support and outcomes (Collins et al. 2010), as the relationship between these variables may not be straightforward and the directionality should always be considered. Therefore, additional measures of social connection, in addition to different model specifications, may help clarify the role of social support and peer support groups on depression symptoms.

CONCLUSION

This research suggests that peer support groups may decrease depression symptoms for youth involved in the child welfare system, and the magnitude of this effect may be greater when social connection is also accounted for. However, the effect was not significant, which could also suggest that peer support groups have no influence on youth depression. Regardless, this study is an advance over previous ones by making use of a nationally representative sample of child welfare-involved youth and using quasi-experimental methods that take advantage of the longitudinal nature of the data. These data and methods allow this question of the influence of peer support groups to be focused on a child welfare population of youth, as most previous studies have been small in nature and primarily focused on the general population. While my findings are not significant, given the importance of social support, this research question should continue to be investigated as youth in child welfare likely could benefit from interventions to

improve social connections. Future research should continue looking at the efficacy of multiple types of peer support groups and other interventions that may improve social connections for youth involved in the child welfare system, in order to decrease depression symptoms in this particularly vulnerable population.

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Chapter Three

Playing to Succeed: The Impact of Extracurricular Activity Participation on Academic

Achievement for Youth Involved with the Child Welfare System

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Sarah Connelly: Development of research questions, performed all data analysis, author of first draft, edited all subsequent drafts.
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INTRODUCTION

Several studies suggest that participation in extracurricular activities has benefits for academic achievement and overall youth development. Structured activities such as sports, clubs, and school-based arts programs are thought to contribute to youth well-being through positive academic enrichment and by providing opportunities for social and emotional developmental advances for youth (Bradley and Conway 2016; Broh 2002; Christison 2013; Cooper et al. 1999; Eccles et al. 2003; Fraser-Thomas et al. 2005; Hsu et al. 2019; Mahoney et al. 2003). Additionally, extracurricular activities confer benefits to youth by providing structure, positive social norms, and opportunities for skill building (Eccles and Gootman 2002) which are program features of the positive youth development framework. This framework illustrates the importance of assets, agency, contribution, and an enabling environment for the development of heathy and engaged youth in the general population (National Research Council & Institute of Medicine 2002). Therefore, extracurriculars are normalizing pro-social development events that enhance growth by building self-esteem, providing stress management, and developing coping skills (Amorose et al. 2009; Ennis & Tonkin 2016; Lee et al. 2020; Wretman 2017). Finally, participation in extracurricular activities can provide positive motivation for school attendance, improved school engagement, and thus, benefit academic school performance (Cooper et al. 1999; Hsu et al. 2019; Mahoney et al. 2003; Wretman 2017).

Participation in extracurricular activities is common for most youth in the United States. Census data estimates reveal that as many as six of every 10 youth participate in at least one extracurricular activity, and as many as 55-65% of those youth participate in at least one sport (Child Trends 2019; US Census Bureau 2014). Given the advantages of participation and engagement at any level in extracurricular activities for youth documented in a large body of

literature, examining the benefits for youth who are socially vulnerable and at risk for lower levels of academic achievement is especially warranted. Research on extracurricular activity involvement for vulnerable youth, a broader category used for any youth with personal- and social-level risks, provides evidence that structured activities may be a particularly fruitful intervention for youth involved in the child welfare system. For vulnerable youth, structured activities contribute to positive youth development by encouraging healthy peer friendships, skill development, opportunities for autonomy, and the development of mentoring relationships (Peck et al. 2008). This, in turn, produces "educational resilience" that results in higher rates of college enrollment compared to vulnerable youth who do not participate (Peck et al. 2008). Additional research on vulnerable youth did not see improvements in school performance after sports participation (Super et al. 2018), but documents improvements in other well-being outcomes following extracurricular participation (Super et al. 2018), including preventing binge drinking (Modecki et al. 2014) and delinquency (Spruit et al. 2018). How activity participation affects specific groups of vulnerable youth, such as youth involved in the child welfare system, and how educational outcomes are impacted is less researched.

Among the most vulnerable in the United States is a youth who has child welfare system involvement due to an allegation or finding of abuse or neglect (Gypen et al. 2017; White et al. 2015) This study, which defines youth as 11–17-year-olds, explores the association between participation in extracurricular activities and academic achievement for youth who have had a child maltreatment investigation. In addition, most studies examining association of extracurricular activities on youth development do so in a cross-sectional, correlational, or qualitative manner. Our research not only focuses on an important population of youth for whom the benefits could be especially important, but it also relies on a quasi-experimental method with

longitudinal data that allows us a greater ability attribute cause to extracurricular activities and not other factors. This is a significant advancement as it is easy to imagine that children who participate in extracurricular activities are likely very different than those who do not in many observed and unobserved ways.

Youth with child welfare system involvement or an experience or history of child maltreatment face many academic challenges. Prior studies have demonstrated that children and youth who experience abuse and neglect have, on average, significantly lower scores on national standardized tests than their peers (Sandh et al. 2020). This finding is particularly true for children and youth who experience chronic maltreatment and trauma, which leads to lower attachment, and are therefore more likely to delay the development of essential social and emotional skills such as self-regulation and self-motivation (Coohey et al. 2011; Crozier & Barth 2005). Moreover, children who experience maltreatment are also more likely to have other compounding factors for academic risks, such as the increased likelihood of poverty (Johnson-Reid et al. 2012), housing instability (Dworsky 2014), food insecurity, and family stress (Hunter and Flores 2021). A few recent reviews of the educational outcomes of children involved with the child welfare system with histories of maltreatment illustrates the higher involvement with special education, school behavior problems, lower grade retention, academic grades, and test scores than youth in the general population (Romano et al. 2015). These outcomes are often worse among children removed from their homes and placed in foster care (American Bar Association 2019; Clemens et al. 2018; Maher et al. 2017; O'Higgins et al. 2017; Ramano et al. 2015; Trout et al. 2008; Ward 2009).

Structured and Unstructured Activity

Given the educational and developmental hurdles that youth who are child welfare system-involved face, interventions and programs aimed to improve education and development outcomes in school settings are lacking and needed (O'Higgins et al. 2017). A scoping review of the literature found little empirical evidence for the efficacy of school-focused interventions for youth in foster care or other types of out-of-home care (Forsman and Vinnerljung 2012). Most programs within school settings that have been evaluated are skill-focused interventions such as tutoring services, reading programs, or behavioral modification plans (Forsman and Vinnerljung 2012). The few studies that have examined the relationship between academic achievement and structured or organized extracurricular activities for youth with child welfare system involvement have promising findings. Prior studies have linked participation by youth in foster care in at least one athletic team, academic club, or performance art activity significantly increases the likelihood of high school graduation (White et al. 2018). In addition, in interviews, youth in foster care have also credited their participation in extracurricular and/or community-based programs with increasing their school attendance and completion (Rutman and Hubberstey 2018). Broader examinations using the LONGSCAN (Longitudinal Studies of Child Abuse and Neglect) longitudinal sample (Runyan et al. 2011) of youth who have a history of child welfare system involvement, by way of a child maltreatment investigation, also concluded that participation in at least one extracurricular activity significantly increased the likelihood of high school graduation (Lemkin et al. 2018). Research using the longitudinal, nationally representative NSCAW I (National Survey of Child and Adolescent Well-Being) data (RTI International, 2008) found that participation in mentored groups and sports led to higher levels of school engagement and decreased depressive symptoms (Kwak et al. 2018).

However, studies examining unstructured youth activities, such as watching tv, listening to music, playing computer games, playing an instrument for fun, or hanging out with friends, find fewer benefits and possible negative impacts on academic performance (Lee et al. 2015; Sharp et al. 2015). National longitudinal data suggest that youth with child welfare system involvement, particularly those in out-of-home care, participate less frequently in structured groups versus unstructured activities. Longer periods of out-of-home care and unstable living likely disrupt opportunities and access to structured activities (Kwak et al. 2017). A national study of youth with child abuse investigations were more likely to report participation in unstructured activities than peers without a child abuse investigation history (Kwak et al. 2017). These studies have important findings to warrant ongoing and more nuanced examination of the relationship between extracurricular activities and academic outcomes for all children and youth with child welfare system involvement. The potential for positive gains from extracurricular participation, considered by advocates and policymakers in child welfare to be normalizing developmental activities for children and youth, has been given priority in recent child welfare policy. To prioritize the developmental benefits of sports, clubs, and other activities for youth, child welfare providers must ensure that youth have access to normative experiences of adolescence. The Preventing Sex Trafficking and Strengthening Families Act of 2014 (P.L. 113-183) includes a requirement for states to adopt a "reasonable and prudent parenting standard" (RPPS), whereby caregivers for youth may make decisions to allow youth in out-of-home care to "participate in age- or developmentally-appropriate extracurricular, enrichment, cultural and social activities" by directing states to adopt practice standards to promote those activities (Child Welfare Information Gateway 2019: 6). While a promising policy, it only impacts youth in out-of-home care. The policy does suggest a precedent for the value of participation in

extracurricular activities for child welfare system-involved children and youth more generally, even if it does not specifically address this larger population. With increasing efforts by states to prevent the placement of children and youth into foster care or out-of-home placements, examining the benefits of extracurricular activities across the broader population of youth with some child welfare system involvement warrants further investigation.

The Current Study

This research builds on previous studies of the association between extracurricular participation and academic achievement that has been conducted on the general population and on a child welfare-involved population. Our study expands on this foundational literature using a quasi-experimental statistical method, allowing for causal inference between extracurricular participation and academic achievement for this particularly vulnerable population. For this study, quasi-experimental is defined as an approach that uses exogenous variation in exposure, not in the researcher's control (Rockers et al. 2015). We include youth who remain at home and those placed in out-of-home care following a child protective services investigation. We account for the transitions between homes and between levels of participation at three different time points over 36 months using fixed-effects models and examine the association between change in participation rates of extracurricular involvement over time and the associated change in achievement test scores using three waves of data from a nationally representative sample of child welfare-involved youth. For youth 11 – 17 involved with the child welfare system, we ask the following research questions:

R1) Does a change to participation in structured activities result in an increase in academic achievement?

H1: We hypothesize that a change to participation in structured activities results in an increase in academic achievement.

R2) Does a change to participation in unstructured activities result in an increase in academic achievement?

H2: We hypothesize that a change to participation in unstructured activities will not result in an increase in academic achievement.

R3) Do changes in degree of participation in structured activities result in different levels of changes in academic achievement?

H3: We hypothesize that higher levels of participation in structured activities will result in greater increases in academic achievement.

METHOD

Data

Our study uses data from all three waves of the second cohort of the National Survey of Child and Adolescent Well-Being (NSCAW II), a national longitudinal study of 5,872 children and youth ages birth-17.5 years and their families who have been involved in the child welfare system through a child protective services investigation (Dowd et al., 2014). The first wave of data (W1) for the cohort was collected in 2008 – 2009, and the two following waves (W2 and W3) were collected at subsequent 18-month intervals. NSCAW II used a two-staged stratified, complex sampling design with 83 primary sampling units within 30 states, including an oversampling of 8 states with large populations. NSCAW II oversampled infants, children, and youth in out-of-home care. NSCAW II collects information from agencies, parents, nonparental caregivers, and the youth themselves. These data contain a variety of psychometrically valid

measures of child and caregiver characteristics. As relevant to this study, the data contain

detailed information on youth's academic achievement and extracurricular activity participation.

The National Data Archive manages the restricted NSCAW II data on Child Abuse and Neglect

(NDACAN). Its use in this study was determined exempt by [masked for blind review]

Institutional Review Board.

Sample

The sample includes all 1,573 youth who are 11 – 17 years old during at least one wave

of data collection. This sample is selected because of the availability of corresponding

achievement test scores and activity participation. Achievement test data were not available for

elementary school children. Cases with missing academic achievement scores and activity

participation responses during at least one wave of data collection were dropped from the

sample, which resulted in a remaining 1,183 youth. Finally, we omit cases for which there is

missing data on the covariates in our model using listwise deletion. The final sample includes

905 youth and 1,595 youth-period observations. Youth-period observations are the unit of

analysis for a fixed effect design. A youth-period observation represents the value of each

variable of interest at each point in time. For example, a youth who reports their participation in

structured activities at each of the three waves of data collection would comprise three youth-

period observations in our sample.

Despite the large number of missing values on income and educational engagement, we

elected to include them in our models, given their established relationships with academic

achievement, but we performed a sensitivity test and ran the models with and without income

and educational engagement. The pattern and significance of the results were similar. In addition,

listwise deletion may be the preferred approach with longitudinal data and complex sample

survey weights (Xu et al. 2020), thus increasing confidence in using listwise deletion for missing data. Without income and educational engagement, missing data is less than 10% of the total cases. With these variables included, the percent of cases dropped due to missing data and listwise deletion increases but does not appear to bias results.

MEASURES

Dependent Variable

Academic Achievement. The dependent variables are two subscales of a widely used assessment of academic achievement, the Woodcock-Johnson III tests of achievement, third edition (Woodcock et al. 2001). This includes math reasoning (Applied Problems) and reading (Letter-Word Identification) scores. The Applied Problems test asks youth to solve arithmetic and story problems, while the Letter-Word Identification test requires youth to identify letters and read words of increasing difficulty in isolation. These achievement tests were administered to youth 11 -17 years old across each wave of data collection. Youth are scored against a standard score by age and grade from the general population, which sets the average at 100 with a standard deviation of 15 (Mather and Woodcock 2001).

Independent Variables

Extracurricular Activities. The independent variables of interest are two separate measures of participation, or engagement, in extracurricular activities. NSCAW II uses the youth self-report Child Behavior Checklist (Achenbach 2001), asked at each wave of data collection. Based on two questions on this checklist, "Do you belong to any organizations, clubs, teams, or groups?" and "Are there any hobbies, activities, and games, other than sports, that you like to do? (for example cards, books, piano, cars, crafts, etc.)," we follow the guidance of Conn et al.

(2014) and create two dichotomous variables (1=yes, 0= no) for participation in structured and unstructured activities, respectively. Youth self-report if they are involved in these activities. Self-reported data may be the most conclusive data available for youth who are involved in the child welfare system, particularly when asking about unstructured activities that do not necessarily have adult supervision, since these youth may have moved and/or not have close ties with their parents or caregivers who could report on their participation in activities. These questions do not assess the number of activities youth are involved with or their level of engagement in these activities. The structured activities for teams, clubs, organizations, and groups signal activities with adult supervision and regular meeting times.

Degree of Participation. The second set of analyses measures the degree of participation. Youth who answered yes to participation in structured and/or unstructured activities were asked a follow-up question about their level of participation. The youth chose their level of participation from the following options: "Below average participation," "Average participation," or "Above average participation." We constructed a set of dichotomous variables for the level of participation in both structured and unstructured activities with options including "No participation," "Below average participation," "Average participation," and "Above average participation," with "No participation" as the reference category. Since the questions do not define these levels of participation, youth are able to define these terms for themselves as they compare their participation to the level of their peers.

Time-Varying Control Variables

The analysis includes a series of time-varying independent variables hypothesized to be associated with academic achievement. The value of these variables can change over time for each child between waves of data collection.

Placement Setting. Youth involved with child welfare have more placement changes and residential instability than their peers. Many youth who enter foster care may change placements or return to their home of origin in a 36-month period (the length of the NSCAW II data collection period). One study of longitudinal patterns of placement history found over 35% of their sample had multiple transitions over an 18-month period (James et al. 2004). Placement type is also associated with academic achievement. For instance, child welfare-involved children and youth with different service trajectories (no services, in-home with services, removed from the home) after a child welfare investigation have different scores on cognitive ability tests, including those measured here (Maher et al. 2015). We construct a set of dichotomous variables for kinship care and out-of-home care, with in-home placement as the reference category. In-home placement refers to a youth's family of origin, biological or adopted home. Kinship care refers to youth living with a relative or known relationship prior to placement, and out-of-home care is a placement in a state-licensed foster home, group home, or other out-of-home situation.

Number of Living Situations. Youths' caseworkers report how many different living situations youth experienced at each wave of data collection up to that point. The count variable is included because previous studies have demonstrated placement changes have a negative relationship with academic achievement, as they are often associated with more frequent school absences or schools changes than their peers, in addition to the psychological toll of placement instability (Clemens et al. 2018; Conger and Finkelstein 2003).

Caregiver Demographics. Caregiver demographics are time-variant control variables because youth in our sample move between placements and caregivers relatively frequently, and caregiver characteristics may influence their academic achievement (Lareau 2011). We control for categories of caregiver age (a set of dichotomous variables for under 35, 35-44, 45-54, or

over 54 years, with under 35 as the reference category). In addition, we use the NSCAW II constructed variable to control for caregiver race/ethnicity (a set of dichotomous variables for White, Black, Hispanic, or Other, with White as the reference category). Caregiver education is included as a series of dichotomous variables for education less than a high school degree, high school completion [or GED], or more than high school education, with less than high school as the reference category. We also include a continuous variable of caregiver income, logged to correct for skewness.

School Engagement. Previous research has found associations between school engagement and academic achievement in the general population (Appleton et al. 2008; Fredricks et al. 2004; Hershberger & Jones 2018). NSCAW II measures school engagement using eleven questions from the Drug-Free Schools Outcome Study Questions administered by the U.S. Department of Education. Examples of questions include "How often do you enjoy being in school?" "How often do you complete homework?" and "How often do you get along with teachers?" Respondents use a 4-point Likert scale from 1 (never) to 4 (almost always). After reverse coding the negatively worded questions (i.e., "How often do you hate being in school?"), we construct a scale summing the responses across the 11 items. Scores range from 18-40, with higher scores indicating more school engagement (Cronbach $\alpha = .7$).

Caregiver Involvement. Finally, we control for caregiver involvement, which we expect would vary over time as caregivers change. Youth were given the Research Assessment Package for Schools (RAPS) – Self-Report Instrument for Middle School Students (IRRE 1998) during each wave of data collection to measure their feelings about their relationship with their primary caregiver. Past research indicates a caregiver's involvement with youth may significantly impact academic achievement (Romano et al. 2015; Toth and Cicchetti 1996). The scale ranges from one

to four, with a higher score indicating a better relationship. Using an average of the two questions treated as a continuous caregiver involvement variable, asking youth how interested their caregiver is in their life and how much time their caregiver spends with them. We also include a control for wave number, as it is expected that time may impact the analysis.

Analytic Approach

Bivariate statistics, including two-sample *t*-tests, examine differences in achievement test scores by participation in structured and unstructured extracurriculars. Next, we use fixed effects ordinary least squares (OLS) regression analysis given the three waves of panel data. This quasi-experimental approach predicts change in academic achievement scores stemming from change in extracurricular activity participation and degree of participation. There are two primary advantages of this approach. First, this modeling approach comes closer to establishing a causal link between independent and dependent variables than a basic multivariate regression model. Second, fixed effects models control for all observed and unobserved time-invariant predictors by using each youth as their own control and, thus, omitted time-invariant variable bias is removed. In other words, time-invariant demographic variables, such as race/ethnicity, that are typically included as independent variables in social science research, are not included in fixed effects models that isolate the impact of a treatment condition on an outcome, both of which may change over time in relationship to one another. Given the differences in early childhood experience and often unstable living arrangements in a child welfare population, this is a particularly relevant approach.

When using a fixed effects approach, a youth-specific mean value is calculated for each variable, independent and dependent, across all three waves, when available and available waves when not. The youth-specific mean is subtracted from the observed youth-specific value at a

specific wave to produce a youth-specific mean deviation score for each variable. Mean deviation scores are then used in the OLS regression. It is important to note that all time-invariant variables drop out during these calculations since their mean deviation will always be 0 and are not included in the final regression. However, this method controls for all time-invariant predictors, observed and unobserved (Allison 2009).

The fixed effects linear regression can be modeled as:

$$\Delta \hat{y} = \alpha + \boldsymbol{\beta} \Delta \boldsymbol{X} + \Delta \varepsilon$$

where $\Delta \hat{y}$ is the predicted change in academic achievement when α is the y-intercept, $\boldsymbol{\beta} \Delta \boldsymbol{X}$ is a vector of mean deviations for time-variant variables and their coefficients of effects, and $\Delta \varepsilon$ represents the change in all other unexplained time-variant error.

All analyses are produced using the *xtreg* command with *fe option* in STATA 15 (Stata Corp 2017). The *xtreg* command corrects for the low degrees of freedom generated by using mean deviation to predict the average effect of change in extracurricular activity participation on change in academic achievement for the population while controlling for our included time-varying variables (e.g., school engagement, placement setting, and caregiver demographics) as well as all time-invariant variables (e.g., child race and maltreatment investigation characteristics). All analyses are weighted with the NSCAW II complex sampling weights that adjust for the stratified clustered design, non-response (including attrition across waves), and under coverage (Dowd et al. 2014). We also tested for and did not find significant multicollinearity between our independent variables. The descriptive statistics' standard errors are converted to standard deviations using the *estat sd* command.

RESULTS

Descriptive Results

Table 3.1 presents the population-weighted descriptive statistics and standard deviations

for time-invariant characteristics of the youth and the maltreatment investigation at the first wave

of data collection. Note that because these variables are time-invariant (unchanging between

waves of data collection), they are not included in the fixed effects OLS regressions, but are

important for understanding the sample.

The average age of the youth in the sample is 13.41 years. Forty percent of the sample is

White, 21% Black, and 28% Hispanic/Latino. The majority of the sample (64%) is female. The

most frequent reason for maltreatment investigation was reported neglect (39%) and physical

abuse (31%). This maltreatment variable captures the most severe form of abuse or neglect

reported. The majority of the allegations of maltreatment were unsubstantiated, with only 26% of

the child maltreatment investigations substantiated. However, studies have questioned whether

substantiation of an investigation really distinguishes between higher-risk family situations and

child safety (Drake et al., 2003). We only provide this information for descriptive purposes as the

fixed-effect models do not include time-invariant variables. These variables are unnecessary for

fixed effect models.

Table 3.2 shows the descriptive statistics of youth scores on the dependent variables

measuring academic achievement and the other independent and control variables across all three

waves. Using a fixed effect approach allows us to maintain a maximum number of youth in our

sample. For example, we may have data for one youth from only waves 1 and 3 and data from a

second youth from all three waves. Both youth remain in our sample because fixed effects use

the average of the change over time, which can include as many time points available. This

feature of fixed effects explains why there are a different number of youth at each wave. For the dependent variables measuring academic achievement, the mean youth scores are below the national average of 100 on both measures at all waves. Not shown here, but the within-person standard deviation across waves is 8.9 for Applied Problems and 7.3 for Letter-Word Identification scores, suggesting sufficient within-person variation over time in academic achievement, justifying the fixed effects approach.

For the primary independent variables, participation in structured and unstructured activities, about one-third of the youth participate in structured activities at each wave. The within-person variation across time in participation is about 19% allowing a test on the effect of changes in participation over time with fixed effect models (results not shown here). In contrast, about 80% of all youth participate in unstructured activities at each wave, with 23% within-person variation across waves, justifying examining the effects of change of participation on changes in achievement with a fixed effects model. The type of placement in which the youth resides is also time-variant. At Wave 1, 88.68% of youth were in-home, 8.86% were in kin care, and 2.46% were in foster care. The placement proportions change over time as more children move into kinship care (12.36%) and fewer children remain in-home (84.16%) by Wave 3. Table 2 also presents the caregiver's demographic characteristics (age, race/ethnicity, and education) at each wave. These characteristics change as the youth moves from one caregiver to another.

Table 3.1. Population-Weighted Time Invariant
Demographic Variables, Wave 1, n = 474

	Mean (SD)	Range
Youth Age	13.31 (1.79)	11-17
Youth Race (%)		
White	39.35	
Black	21.72	
Hispanic	27.74	
Other	11.19	

Youth Male (%)	36.64	
Type of Maltreatment (%)		
Physical	31.95	
Sexual	11.97	
Neglect	39.11	
Other[a]	16.98	
Investigation Substantiated (%)	25.21	
Prior Maltreatment Report (%)	69.65	

Source: NSCAW II

[a] Other types of maltreatment include emotional, legal, educational maltreatment, exploitation, low birth rate, and substance exposure.

Table 3.2. Population-Weighted Descriptive Statistics

	Wave 1 N=474		Wave 2 N=559		Wave 3 N=562		
	Mean	(SD)	Mean	(SD)	Mean	(SD)	Range
Dependent Variables:							
Applied Problems Score	84.58	(23.06)	90.01	(12.99)	89.71	(12.82)	1-139
Letter-Word Identification Score	92.81	(23.98)	92.96	(17.51)	93.68	(16.91)	1-144
Independent Variables:							
Structured Extracurriculars (%)	31.96		28.73		34.02		
Unstructured Extracurriculars (%)	80.78		81.44		81.10		
Placement Setting (%):							
In-Home	88.68		87.11		84.16		
Kin Care	8.86		9.39		12.36		
Foster Care	2.46		3.49		3.48		
Number of Living Situations	1.09	(0.32)	1.18	(.54)	1.28	(0.84)	1-12
Caregiver Age (%):							
Less than 35 Years	25.03		26.64		25.17		
35-44 Years	49.83		44.44		44.65		
45-54 Years	16.87		20.88		20.58		
Over 54 Years	8.27		8.04		9.60		
Caregiver Race (%):							
White	45.36		45.94		47.64		
Black	20.06		19.48		22.60		
Hispanic	25.20		24.69		26.39		
Other	9.37		9.89		3.37		
Caregiver Education (%):							
Less than H.S.	28.05		25.02		20.85		
High School	34.93		41.53		39.23		
More than H.S.	37.02		33.45		39.93		
School Engagement	29.87	(3.11)	29.39	(3.34)	29.94	(2.94)	18-40
Caregiver Involvement	3.26	(.66)	3.41	(.63)	3.52	(.52)	1-4

Income   33,880.71 (28,949.81) 33,179.29 (33,098.16) 39,085.72 (59,350.96)   1-
                                                                                                600,058.00

Table 3.3 presents the bivariate relationship between structured and unstructured

participation and the two achievement measures at Wave 1 and tests for significant differences in

means at Wave 1. Youth in structured extracurriculars have significantly higher mean applied

problems scores and mean letter-word identification scores as measured by two-sample t-tests,

without controlling for other youth, caregiver, or investigation characteristics. There were not

significant differences in either achievement test score by participation in unstructured

extracurricular activities. This preliminary analysis illustrates a baseline association between

academic achievement and extracurricular participation. This association justifies the fixed

effects analysis that follows.

Table 3.3. Bivariate Significant Difference in Population-Weighted Means for
Achievement by Activity Participation at Wave 1 (n=474)

	Mean Applied Problems Score	*p-value*	Mean Letter-Word Identification Score	*p-value*
Structured Extracurriculars:				
No	82.35	.02	90.89	.04
Yes	89.33		96.91	
Unstructured Extracurriculars:				
No	84.35	.93	89.23	.20
Yes	84.64		93.66	

Source: NSCAW II

Multivariate Results

Our first research question asks if a change to participation in structured activities results

in an increase in academic achievement, and we hypothesize that a change to participation in

extracurricular activities will result in an increase in academic achievement. Our results support

our hypothesis (H1) and are presented in Table 3.4. Table 4 presents the ordinary least squares

fixed effects regression of change in activity participation on change in academic achievement scores, net of controls, between Wave 1, Wave 2, approximately 18 months later, and Wave 3, 36 months after Wave 1. Model 1 presents results for the applied problems achievement scores and Model 2 for letter-word identification. In both Models 1 and 2, change to structured activity participation has a significant and positive impact on change in academic achievement. Using fixed effects allows the use of multiple waves of data for a person and calculates how changes in extracurricular participation impact changes in achievement scores. In summary, across the three waves, moving from non-participation to participation in structured activities leads to a 4.46-point increase in applied problem and a 2.99-point increase in letter-word identification scores, net of the other controls. Figure 3.1 illustrates the size of these effects holding all other variables at their mean. The predicted score for applied problems changes from 86 to 91 when a youth participates in structured activities. Similarly, the predicted letter-word identification for the average youth increases from 92 to 95 when the youth begins participating in structured activities.

Our second research asked if a change in participation in unstructured activities will result in an increase in academic achievement, and we hypothesize that a change to participation in unstructured activities will not result in an increase in academic achievement. Our results support our hypothesis (H2). Table 3.4 shows change to unstructured activities is not significant in either model though this relationship is positive. In terms of the control variables, we find that youth with caregivers between 35 and 54 years old have significantly lower achievement than youth with caregivers under age 35. There was no effect for caregivers older than 54. There are no significant associations between caregiver race and educational attainment, with one exception. Youth with Hispanic caregivers compared to white caregivers are significantly more

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likely to have higher achievement on letter-word identification. Students who report higher

school engagement have significantly higher achievement on applied problems, though this

effect is small. Caregiver involvement had no significant impact on achievement. Caregiver

education and race also have no significant impacts on youth achievement scores, nor does the

number of living arrangements during this time period, the latter of which is unexpected. Finally,

the placement setting a youth resides in and changes between is unrelated to achievement test

scores.

Table 3.4. OLS Regression of Academic Achievement Scores by Activity Participation using Fixed Effects

	Model 1		Model 2	
	Applied Problems		Letter-Word Identification	
Structured Activities	4.46*	(1.89)	2.99*	(1.46)
Unstructured Activities	2.27	(1.96)	2.31	(1.82)
Placement Setting:				
Kin Care	-6.14	(3.19)	-3.20	(2.73)
Foster Care	.22	(3.13)	3.65	(1.99)
Number of Living Situations	-0.29	(1.06)	-.70	(0.81)
Caregiver Age:				
35-44 Years	-7.32**	(2.53)	-4.35*	(1.77)
45-54 Years	-11.49*	(4.71)	-6.68*	(3.01)
Over 54 Years	-2.71	(6.03)	-1.11	(4.10)
Caregiver Race:				
Black	2.29	(5.44)	7.10	(5.92)
Hispanic	1.88	(2.73)	4.85**	(1.72)
Other	0..11	(2.74)	0.88	(2.31)
Caregiver Education:				
High School	-2.24	(1.92)	-1.11	(1.60)
More than H.S.	2.52	(2.27)	2.04	(1.89)
School Engagement	0.72*	(0.28)	0.30	(0.22)
Caregiver Involvement	0.63	(1.93)	1.18	(1.32)
Household Income (log)	-0.59	(0.66)	0.62	(0.54)
Wave Number:				
Wave 2	5.79**	(2.05)	-0.04	(1.45)
Wave 3	4.44	(2.36)	-1.54	(1.76)
Constant	69.70***	(11.17)	73.13***	(12.18)
Observations	1595		1595	

Robust standard errors in parentheses
Reference Categories: Type of Setting – In Home; Caregiver Age – Less Than 35 Years; Caregiver Race –

Figure 3.1. Predicted Achievement Scores by Structured Activity Participation
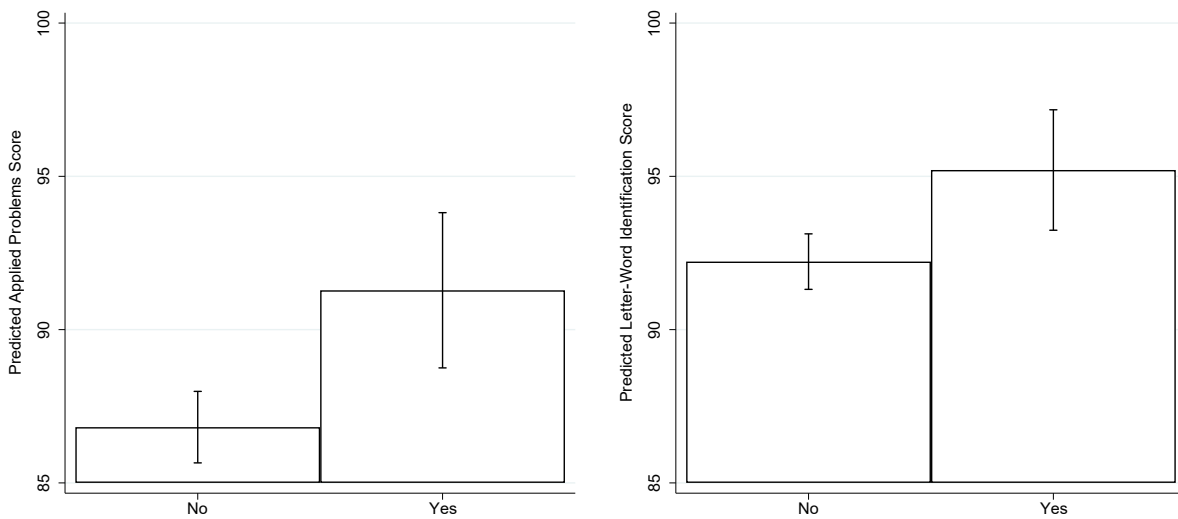
Source: 2014 National Survey of Child and Adolescent Well-Being II.

Our third and final research question asks if degree of participation in structured activities results in different levels of change in academic achievement, and we hypothesize that higher levels of participation in structured activities will result in greater increases in academic achievement. Our results do not support our hypothesis (H3) (as presented in Table 3.5). As stated previously, youth who reported activity participation were asked a follow-up question about their level of participation. Table 3.5 presents the results from the fixed effects OLS regression models measuring the association between level of participation in structured and unstructured activities and academic achievement with the same controls as the previous models.

Model 3 indicates that youth who begin participating at above-average rates in structured activities see significantly higher applied problems test scores compared to youth who do not participate, net of controls. Youth who move from not participating to participating at average

levels in structured activities have scores 4.67 points higher on applied problems tests, which in this model falls just outside the significance threshold ($p = 0.052$) due to the slightly smaller sample size. At above-average levels, youth have a significantly higher score, 4.98 points higher than youth who do not participate. Using WALD chi-squared test, the difference in the coefficients between average and above-average participation is not significant, suggesting that real gains in applied problems scores may be expected for youth who begin participating in structured activities at average or above average levels.

In Model 4, we also find that a change to average participation in structured activities compared to no participation is significant and associated with an increase in letter word identification scores. Moving to average participation from no participation leads to an improvement of 4.32 points, holding all else constant. We do not see this same significant pattern for above-average levels of participation. Both sets of analyses, measuring participation as a binary variable reflecting participation or not and measuring participation as a series of indicator variables measuring levels of participation, suggest that participating in structured activities produces significantly higher academic achievement scores for youth. The most significant change in academic achievement scores are realized by the youth who move from no participation to average levels of participation in structured activities. We find no significant difference between average and above-average levels of participation on academic achievement scores.

In addition, both placement type and placement instability (number of living situations) were not significant in any of our models, with the exception that moving into kinship care is associated with a significant decrease in applied problems score in Model 3. School engagement is insignificant in youth's letter-word identification scores in Model 4 but does show a significant

positive increase in applied problems scores for youth, although the effect size is small.

Caregiver age was significant in some cases, with the pattern being that the youngest caregivers

have a positive association with some of the academic achievement outcomes. Finally, Hispanic

caregivers showed a positive association with improvement in letter-word identification.

Table 3.5. OLS Regression of Academic Achievement Scores by Level of Structured Activity Participation Using Fixed Effects

	Model 3		Model 4	
	Applied Problems		Letter-Word Identification	
Level of Structured Activities:				
Below Avg. Participation	1.37	(1.99)	0.08	(2.20)
Avg. Participation	4.67	(2.40)	4.32*	(2.09)
Above Avg. Participation	4.98*	(2.17)	2.42	(1.50)
Unstructured Activities	2.40	(1.97)	2.42	(1.82)
Placement Setting:				
Kin Care	-6.37*	(3.15)	-3.65	(2.73)
Foster Care	0.39	(3.08)	3.66	(2.00)
Number of Living Situations	-0.21	(1.07)	-0.66	(0.81)
Caregiver Age:				
35-44 Years	-7.58**	(2.62)	-4.46*	(1.81)
45-54 Years	-11.83*	(4.79)	-6.86*	(3.04)
Over 54 Years	-3.21	(6.19)	-1.4	(4.17)
Caregiver Race:				
Black	2.75	(5.40)	7.35	(5.86)
Hispanic	1.90	(2.70)	4.59**	(1.63)
Other	0.18	(2.72)	0.88	(2.35)
Caregiver Education				
High School	-2.26	(1.92)	-1.37	(1.60)
More than H.S.	2.61	(2.28)	1.93	(1.95)
School Engagement	0.73*	(0.28)	0.32	(0.23)
Caregiver Involvement	0.62	(1.95)	1.31	(1.34)
Household Income (log)	-0.55	(0.67)	0.68	(0.55)
Wave Number:				
Wave 2	5.68**	(2.04)	-0.12	(1.43)
Wave 3	4.42	(2.36)	-1.62	(1.74)
Constant	68.98***	(12.10)	71.70***	(12.56)
Observations	1590		1590	

Robust standard errors in parentheses
Reference Categories: Level of Structured Activity – No Participation; Type of Setting – In Home; Caregiver Age – Less Than 35 Years; Caregiver Race – White; Caregiver Education – Less Than High School
Source: NSCAW II 2014
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

DISCUSSION

Our results demonstrate that average levels of participation in structured activities, including teams and sports, organizations, and clubs, are associated with higher achievement for youth who have been the subject of a child protective services investigation. We find positive, although not significant, impacts on achievement from changes in participation in unstructured activities and significant impacts on achievement for youth who participate in structured activities. In particular, as youth who had not previously participated in structured extracurricular activities begin participation, their achievement scores on standardized tests improve. Furthermore, the level of participation does not have to be above the norm for their peers. Given the evidence from previous studies of educational challenges that youth who are child welfare involved face, these are very encouraging results. Any intervention that stabilizes, let alone improves academic achievement for these vulnerable youth, should be lauded and built upon. In addition to academic achievement, extracurricular and sports participation help child welfare-involved youth have the same normalizing and pro-social experiences as their peers. While the analysis controls for placement type and number of living situations, we did not find an association between them and academic achievement. Regardless of placement type and number of moves, emphasis on keeping youth in extracurricular activities could provide educational benefits. Given the importance of this finding for well-being among youth at risk for poorer developmental progress, future research should also examine the policies and practices of child welfare system involvement that promote and even prioritize youth involvement in extracurricular activities and not disrupt it.

The findings from this study demonstrate the benefits of structured extracurricular activities for child welfare system-involved youth. Structured activities such as youth sports,

clubs, drama, or other structured group activities should be viewed as a promising intervention for youth with child welfare system involvement and not held as a reward or punishment process for academic and behavior achievement (Youth Law Center 2019). Opportunities to participate in extracurricular activities provide youth with social, emotional, and educational enrichment and should be a priority intervention for youth who have a history of maltreatment or other trauma exposure. Social work professionals in schools, communities, and child welfare systems should prioritize resources to ensure equitable access to extracurricular activities and overcome common barriers to participation such as cost, transportation, and accessibility. The promising news about the findings is the infrastructure for extracurricular opportunities already exists, and new interventions do not need to be developed. Instead, outreach and education to social workers, child welfare case managers, administrators, and caregivers about the importance of structured extracurricular and sports participation is needed. Institutional mechanisms that ensure youth have access to participation in extracurricular activities, such as access to funds to support the cost of participate, access to participation by assuring other issues such as court dates do not interrupt meaningful engagement, and encouragement to promote access. The academic payoffs are significant. Our study contributes to the evidence base that supports the current policy environment, reflecting the importance of encouraging child welfare-involved youth to engage in the same positive developmental activities as their peers. And, finally, by using more quasi-experimental methods taking advantage of longitudinal data than has often been done, we increase the confidence in these results tying the benefits of activities to academic achievement.

Limitations

Our study has some limitations. NSCAW II does not have detailed information to examine the types of organized extracurricular activities separately. For example, we cannot

conclusively determine if soccer or Boy Scouts confers the advantage or the relative size of the advantage. In addition, our study is unable to differentiate between school-based and community-based structured activities, which could each have a distinct impact on academic achievement. Given what is known about the general population, where more than 72% of youth participate in sports (Solomon 2019), we can extrapolate that sports participation is likely a driver of some of the significant effects observed in this study, especially given the previously reviewed studies on the value of sports for vulnerable youth (Modecki et al. 2014; Peck et al. 2008; Spruit et al. 2018; Super et al. 2018). Related to this, NSCAW II's subjective measure of the level of participation limits the depth of our secondary analysis but does provide a foundational association between dose of participation and academic achievement scores for youth in the child welfare system that future work should investigate in more detail. Finally, our study did not investigate the mechanisms that confer academic advantage. While it may be that extracurriculars are just one avenue that provides continuity and youth development by providing support, motivation, and life skills to youth that enables them to perform higher academically (Peck et al., 2008), more research is needed to determine how organized activities lead to academic advantage for this population, so those elements can be further enhanced or applied in other settings. While fixed effects models remove the possibility of omitted time-invariant variable bias, it does not address the problem of modeling these mechanisms, which future research should do now that a relationship has been established. Future research should also examine the benefits of structured extracurricular activity on other outcomes for youth involved in the child welfare system, including social and emotional well-being and placement stability. Exploring these relationships for elementary school students, where data are available, would also be beneficial as achievement gains made early in education have long-term benefits.

Additionally, while extracurricular activities are generally considered beneficial for youth, there are studies that examine risks linked to participation, particularly for youth in certain subgroups of race and ethnicity (Taliaferro et al. 2010), LGBTQ youth (Clark and Kosciw 2022). Researchers and social work professionals should be cognizant of unintended effects of participation and explore risks associated with extracurricular participation for child welfare system involved youth. Finally, this line of inquiry would benefit from a more in-depth qualitative analysis of both youth and caregivers to understand the depth and extent of the benefits on academic achievement and other outcomes and the barriers and challenges to doing so.

CONCLUSION

In summary, our research provides evidence of positive associations between participation in extracurricular activities and academic achievement for youth involved in the foster care system. These results are promising for a host of reasons. First, they showcase a concrete and actionable strategy to help a vulnerable youth population improve their academic standing and progress. Further, our research shows this strategy is relevant for youth in foster care and those who are not. Finally, these activities may buffer the impact of trauma or placement changes on child wellbeing. We hope the current analysis encourages scholars to continue this line of work to find research-based strategies that improve educational outcomes for youth involved with the child welfare system.

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Chapter 4

Service Referral Decisions for Children Involved in the Child Welfare System: Modeling the

Decision-Making Ecology Framework Using Latent Class Analysis

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Breakdown of Effort:

Sarah Connelly: Initial study idea and design, gathered relevant literature, variable selection and coding, Stata analysis (LCA and logistic regression), author of the first draft, edited all subsequent drafts.

Rin Ferraro: Variable selection and coding, LCA analysis, and edited initial draft.

Heather Lepper-Pappan: Gathered relevant literature, variable selection and coding, and edited initial draft.

INTRODUCTION

When an adult suspects that a child is being neglected or abused, they contact their local child protective services agency to make a report, which can lead to a child maltreatment investigation. Approximately 37.4% of all children in the U.S. will experience a child maltreatment investigation by the time they are 18 years old (Kim et al. 2017). Prior research finds that child welfare involvement results in diminished well-being throughout childhood and into adulthood compared to similar non-welfare-involved individuals (Artega 2010; Currie and Widom 2010; Gilbert et al. 2009; Jonson-Reid et al. 2009; Putnam-Hornstein 2011). This includes an increased risk of mortality before the age of five (Putnam-Hornstein 2011), involvement in the juvenile justice system (Jonson-Reid et al. 2009), substance use and dependency (Artega 2010), diminished mental and physical health (Gilbert et al. 2009), and lower levels of education and earnings (Currie and Widom 2010) for child welfare involved youth even when compared to other poor, at-risk peers without child welfare involvement.

When a child maltreatment report is substantiated (and sometimes when not) and a child welfare case is opened and it is determined that the safety threats do not rise to the level of removing a child from the home, an in-home child welfare worker is assigned to work with the family and to remedy safety concerns. One way they do this is by referring children to different types of services. The term "services" is a broad term and can include a variety of interventions based on the specific situation. Going back to the previous example, given that child welfare-involved children are at an increased risk of substance dependency (Artega 2010), a caseworker may recommend a child to substance use disorder treatment services if they observe the child is using substances. Caseworkers may also refer children to educational services, drug treatment services, or other services depending on a myriad of factors. Caseworkers can and do refer

parents to services as well, including parenting education classes, economic support, mental health, and/or substance use disorder services. Since the intent is that these services improve the lives of children and families, it is important to know how service referral decisions are made. This study specifically focuses on how service referral decisions are made for children's services.

Services

Human services agencies have long wrestled with the question of how effective services are at helping vulnerable families. Under certain conditions, it does appear that services can help vulnerable families and children. For example, research finds high-quality preschool programs can improve young children's cognitive functioning and social skills (Pianta et al. 2009; Watts et al. 2023). Often, the research finds services more effective for more vulnerable families, such as those in poverty, suggesting targeted approaches to service delivery lead to greater improvements. Referring to the same example, a recent study finds that longer time spent in preschool is associated with higher child development scores for poor children than their wealthier counterparts (Reynolds 2022), and a reduced risk of ever being diagnosed with behavioral or conduct problems, compared to their wealthier peers (Monnet 2019). A breadth of interventions and services also exist for families and children involved in the child welfare system. For instance, the California Evidence-Based Clearinghouse for Child Welfare (CEBC), compiles research for child welfare professionals on the effectiveness of programs serving families, parents, and children in the child welfare system. But what is clear from the programs reviewed, is that evidence on effectiveness is often mixed and it doesn't take into account all the services delivered to families not evaluated or reviewed by this or similar clearinghouses.

Research within child welfare that examines the effectiveness of commonly used services for families, does not always find improvement in youth or family outcomes. For example, a

recent study examined the impact of various services on the prevention of removal of children from their homes. In the study, family preservation services, home-based services, and housing services decreased the chances of child removal, while family support services, transportation services, case management services, and daycare increased the chances of removal (LaBrenz et al. 2022). As a follow-up to this work, researchers examined the impact of family support services, specifically, and found that these services decreased the chances of reunification, and thus, did not have the intended effect (LaBrenz et al. 2023). Another study found that among youth who remained at home following a maltreatment investigation, scores on the Child Behavioral Checklist (CBCL) were significantly lower when youth received mental health services compared to those not receiving the service (Fong et al. 2015). This research illustrates how research on the effectiveness of services in child welfare does not always lead to improved outcomes, and in fact, can result in negative outcomes or iatrogenic effects.

DECISION-MAKING ECOLOGY FRAMEWORK

If services are not always having the intended effect, it is also important to understand how decisions to refer children to services are made. The Decision-Making Ecology (DME) is a holistic framework developed for child welfare describing the relevant factors that influence decision-makers (Baumann et al. 2011; Baumann et al. 2013). The DME framework has been used in child welfare research to understand the influences on caseworkers' and other actors' decisions regarding children and families in their care, including child removal and placement and other service referrals. Specifically, the DME framework theorizes that case characteristics (e.g., type of abuse, child age), decision-maker characteristics (e.g., caseworker experience, education), organizational characteristics (e.g., organizational culture), and external

characteristics (e.g., neighborhood characteristics) all influence the decisions of actors within the child welfare system (Baumann et al. 2011; Baumann et al. 2013). This study will empirically test the DME framework to explore which characteristics are the most influential in service referral decisions. Specifically, we ask which factors theorized by the DME framework are the most influential in decisions to refer youth to services.

While the DME framework is specific to decision-making within the child welfare system, systems theories more broadly are common in sociology and psychology due to their premise that to understand the dynamics of social phenomena researchers must analyze their ecosystem and layers of influence. For example, another systems theory relevant to the child welfare space is the Ecological Systems Theory which postulates there are systems that influence children's development including home and school (microsystem), community and mass media (exosystem), and social and cultural values (macrosystem) (Bronfenbrenner 1979). In short, the DME framework and Bronfenbrenner's (1979) Ecological Systems Theory help identify the multiple spheres of influence relevant to different processes occurring within child welfare. This theoretical grounding then allows for empirical studies based on these frameworks.

The DME framework is used to explore how a variety of decisions are made within the child welfare system, particularly substantiation of maltreatment decisions, placement decisions, and reunification decisions (Bartelink et al. 2020; Lauritzen et al. 2018). Many of these studies only incorporate some of the ecological levels theorized to be important in decision-making by the DME framework. For example, Fluke et al. (2010) used the DME framework and Canadian data to test the relevance of organizational characteristics on the decision to place children in out-of-home care, with particular attention paid to any discrepancy in placement decisions between Aboriginal children and other children. Other studies modeling the DME framework have used

state-level administrative data and multi-level models to investigate case, caseworker, and organizational variables' impact on removal decisions (Graham et al. 2015; Hollinshead et al. 2021). Font and Maguire-Jack (2015) use nationally representative data (NSCAW II, Wave 1) and hierarchical linear models to examine the relationship between organizational, case, and external characteristics on the decision to substantiate an investigation and the decision to place children in out-of-home care. The current study focuses specifically on the decision to refer a youth to services (i.e., substance use disorder treatment services, mental health services, education services). Therefore, to maintain our focus on service referral decision-making, the following sections review each ecological level and studies that explicitly model the DME framework to investigate the impact of at least one ecological level of the DME framework on service referral decisions. Next, since many studies focus on different ecological levels, without explicitly putting them in the context of this framework, we provide some examples of illustrative research that has focused on one or more influences at each ecological level on service referral decision-making.

Organizational characteristics

Organizational characteristics are theorized by the DME framework to be influential in the decision-making process. The sociology of organizations has long theorized that distinct characteristics emerge even in a bureaucratic organization. Sociologist Philip Selznick theorized that individuals fulfill their role as "whole personalities" which, over time, leads to an "organic, emergent character of the formal organization considered as a cooperative system" that is distinct from the simple sum of individual characteristics (Selznick 1948:27). In addition, double-loop learning, an organizational learning model, theorizes that, with experience, decision-makers change how they make decisions (Argyris 1976), and that more controlling organizations may

resist double-loop learning, highlighting the importance of organizational characteristics' influence on caseworkers' decision-making process. These organizational characteristics are operationalized by researchers in several ways, including agency culture, climate, policies, and relationships with other organizations. Some research finds that these specific organizational characteristics are an important component of the child welfare system, with impacts on service referral decision-making (Allen et al. 2017; Fong et al. 2018; Myers et al. 2020; Lwin et al. 2018b; Smith et al. 2017), and youth outcomes (Glisson and Green 2011; Williams and Glisson 2013; Yoo 2002; Yoo and Brooks 2005). Specifically, prior work highlights the influence of supportive leadership and the perception of supervisors' competence on referral to Family Group Conferences (Allan et al. 2017); the type of services offered by the agency and the number of employee support programs on referral to ongoing services (Lwin et al. 2018b); role specialization and service integration within organizations on the decision to refer to additional services (i.e., treatment and supportive services; Smith et al. 2017); and organizational policies around screening and relationships with outside organizations (Fong et al. 2018) on mental health service referral for children. Although not specifically modeling the DME framework, Myers et al. (2020) find, using qualitative methods, that agency culture, expectations, and multiple job demands influence the decision to refer families to Triple P, an evidence-based service (Myers et al. 2020).

In addition to the factors reviewed above, prior studies that investigate the role of organizational characteristics on service referral frequently operationalize this ecological level by using the standardized Organizational Social Context (OSC) Scale (Glisson 2007). The OSC Scale is a nationally normed and psychometrically sound 105-item measure designed specifically to evaluate the organizational culture, climate, and work attitudes of child welfare organizations

(Glisson et al. 2012). Previous studies using the OSC Scale have taken two primary approaches. The first is to use a scale score created from the sum of individual item responses (Garcia et al. 2016; Glisson and Green 2011), while the second is to use standardized scale scores (t-scores) of the eight subscales (functionality, engagement, stress, resistance, proficiency, rigidity, organizational commitment, and job satisfaction) within the OSC Scale (Thompson et al. 2022). Thompson et al. (2022) is one recent work using nationally representative data (NSCAW II) and including organizational characteristics in their empirical model of the DME framework, but the study excludes caseworker characteristics and external characteristics that the Decision-Making Ecology framework theorizes are also important. Interestingly, they found that organizational culture and climate did not influence service referral decisions (Thompson et al. 2022). Specifically, Thomson et al. (2022) examined the impact of organizational characteristics (operationalized as OSC t-scores), case characteristics (i.e., child age, gender, placement type), youth-reported behavior and substance use, and caregiver-reported behavior on service referral (services included alcohol/drug use services, emotional/behavioral health services, and delinquency services) for youth with a substantiated maltreatment investigation. More research is needed to understand how organizational characteristics, when considered simultaneously within the entire DME framework, impact the decision to refer children to services. In addition, the current study takes a new approach to operationalizing organizational characteristics because we believe that OSC subscale measures indicate substantially different unobserved classes of organizations that are important for understanding the overall influence of organizations on the decision to refer youth to services.

Case characteristics

Previous empirical research explicitly using the DME framework to understand service referral decisions has primarily focused on the influence of case characteristics. The current study builds on this by examining the whole DME framework. Studies previously using the DME framework find a child's age to be an important case characteristic (Lwin et al. 2018b; Thompson et al. 2022). This is supported by findings from studies not using the DME framework which also have identified a child's age as predictive of the decision to refer to services (Fast et al. 2014; Filippelli et al. 2017; Jonson-Reid 2002; King et al. 2017). In addition to age, females are more likely to be referred to specialized services (Jud et al. 2012), while another study using the DME framework found males in kin or foster care were more likely to be referred to drug use and delinquency services (Thompson et al. 2022). Although not modeling the DME framework, another study found female youth to be more likely to be referred to mental health services, even after accounting for suicidal behaviors (Baiden and Fallon 2018). Investigations due to exposure to intimate partner violence as compared to all other types of investigations and substantiation of a maltreatment investigation compared to unsubstantiated cases are also associated with higher odds of referral to specialized services in studies utilizing the DME framework (Jud et al. 2012). In addition to these case characteristics, a study not specifically modeling the DME framework found children with prior substantiated maltreatment investigations, who had not been placed out-of-home, were less likely to receive ongoing services, compared to those who did not have a prior substantiated maltreatment investigation and had not been placed out-of-home (Depanfilis and Zuravin 2001).

In studies using the DME framework to understand service referral decisions, the impact of child race on service referral decisions is more uncertain. Jud et al.'s (2012) study concluded ethnicity was not significantly associated with referral to specialized services. This finding is

supported by Garcia et al. (2016) who find, although not explicitly modeling the DME

framework, that after controlling for organizational, and external characteristics (i.e., stressful

organizational climate, urbanicity, and county-level poverty) racial disparities in mental health

service referrals were insignificant. In contrast, a more recent study not specifically testing the

DME framework did find Black families have 33% greater odds of being referred to ongoing

services compared to White families (King et al. 2017). Overall, while multiple case

characteristics have been identified by previous research as influential to the decision to refer

children and families to services, more research is needed to understand the impact of these

characteristics on service referral decisions when considered within the full DME framework.

Caseworker characteristics

Although caseworkers wield substantial power over the lives of children and families

who are involved in the child welfare system (Reich 2005), there is less research on the role of

caseworker characteristics in the decision to refer children to services (Filipelli et al. 2021; Lwin

et al. 2018a, Lwin et al. 2018b). Double-loop learning, which theorizes that decision-makers

change how they make decisions as they gain experience (Argyris 1976), suggests that a

caseworker's age and years of experience may be significant in their decision to refer a youth to

services. This theory finds mixed support in empirical child welfare research. Allan et al. (2017),

applying the DME framework, find that caseworkers' time in their position is significantly

associated with their referral of families to Family Group Conferences. Filipelli et al. (2021) also

find support for this model. While applying the DME framework they find that worker positions

(i.e., intake and ongoing positions) and caseworkers with more training are more likely to refer

children to ongoing services (Filipelli et al. 2021). But another study applying the DME

framework found that caseworker education, training, and experience, were not significant

predictors of ongoing service referral of any kind (Lwin et al. 2018b). A recent qualitative study, not specifically utilizing the DME framework, found caseworkers' belief in service effectiveness, and the existence of multiple job demands are significant in explaining referral to an evidence-based parenting program (Myers et al. 2020). Caseworker race is another characteristic that may influence service referral decisions. A study not modeling the DME framework finds that when a child welfare caseworker's race matches the race of the caregiver they are working with, the caseworkers take additional steps to connect clients to housing services (McBeath et al. 2014). In general, additional research is needed to fully understand how caseworkers' characteristics, when included in the DME framework, influence their decision to refer children to services.

External characteristics

Finally, external factors are theorized by the DME framework to influence decisions made within the child welfare system although these characteristics are frequently omitted from research using the DME framework. Urbanicity is one external factor that previous research using the DME framework (Jud et al. 2012) and not explicitly modeling the DME framework (Garcia et al. 2016) find significantly impacts the service referral decision. Child welfare research has long noted the relative lack of services in many rural areas (Belanger and Stone 2008; McManus et al. 2016), which then places constraints on workers' decisions to provide certain services. Similarly, child welfare research has long focused on the impact of neighborhood characteristics on child maltreatment (Abdullah et al. 2020; Coulton et al. 1995; Coulton et al. 2007) and child well-being (Coulton and Korbin 2007). Generally, this research finds that higher-risk neighborhoods (i.e., higher poverty, unemployment, racial segregation) have higher rates of child maltreatment, in addition to other neighborhood problems including violent crime, drug trafficking, and juvenile delinquency. Research has also explored the role of

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neighborhood-based service provision for child-welfare-involved families (Cameron and Freymond 2015). Cameron and Freymond (2015) investigated the connection between neighborhood-based service provision (e.g., services that are closer and more accessible for child-welfare-involved families) and more centralized service provision for families referred to ongoing services following a substantiated maltreatment investigation. While they found no statistically different rates of future out-of-home placement, other positive effects of neighborhood-based service provision were identified, such as parents' increased willingness to ask for help in the future, improved relationship with service providers, and ability to access needed services. Taken together, it is likely that neighborhood characteristics, including both neighborhood risk factors and service availability, influence the service referral decision. Research using the DME framework frequently excludes external characteristics and therefore it is uncertain how the inclusion of these characteristics, when considered in conjunction with the other ecological levels of the framework will influence the decision to refer youth to services. The current study aims to test the whole DME framework to understand how case, caseworker, organizational, and external characteristics impact service referral decisions.

The Current Study

The current study attempts to build on previous research in two primary ways. First, we offer a new analytic approach to the inclusion of organizational characteristics' influence on the decision to refer youth to services. To test this, we use latent class analysis to identify latent classes of organizations. Second, we model the full DME framework using nationally representative data that under-samples youth who were not referred to services strengthening the power for our analysis (Dolan et al. 2011). In contrast, most prior research has frequently investigated how a child's functioning and case characteristics influence the provision of

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services, the inclusion of caseworker characteristics (Filipelli et al. 2021; Lwin et al. 2018a), organizational factors (Thompson et al. 2022) and external factors are understudied. It is also important to note that we examine service referral as a non-biased, value free decision, since we understand services vary widely with often ambiguous effects on youth. Overall, we build on previous work by asking:

R1: Are there latent classes of child welfare organizations?

H1: We hypothesize that there are different classes of child welfare organizations based on agency climate and culture.

R2: Are classes of child welfare organizations important for understanding service referral decisions for youth involved with child welfare?

H2: We hypothesize that classes of child welfare organizations vary significantly in referral decisions for youth involved in the child welfare system.

R3: Do case worker, case, organizational, and external characteristics independently predict service referral for youth involved in the child welfare system, as theorized by the Decision-Making Ecology Framework?

H3: We hypothesize that case worker, case, organizational, and external characteristics predict service referral for youth involved in the child welfare system.

METHOD
Data

Our study uses data from waves 1 and 2 of the second cohort of the National Survey of Child and Adolescent Well-Being (NSCAW II), a national longitudinal study of 5,872 children

and youth ages birth-17.5 years and their families who have been involved in the child welfare system through a child protective services investigation (Dowd et al., 2013). The first wave of data (W1) for the cohort was collected in 2008 – 2009, and wave 2 was 18 months later. NSCAW II used a two-staged stratified, complex sampling design with 81 primary sampling units within 30 states, including an oversampling of 8 states with large child welfare populations. NSCAW II oversampled infants, children, and youth in out-of-home care, while undersampling youth who were not referred to services after an investigation. NSCAW II collects information from agencies, parents, nonparental caregivers, and youth. These data contain psychometrically valid measures of child welfare organizations, children, and caregivers. In addition, as relevant to this study, the data contain detailed information on service referrals, case, caseworker, organizational, and external characteristics. The National Data Archive on Child Abuse and Neglect (NDACAN) manages the restricted NSCAW II data.

Sample. Our LCA sample includes all 2,827 caseworkers who completed the caseworker instrument during wave 2 of NSCAW II, which is the only wave case workers received organizational culture and climate questions. We omit 9 caseworker interviews due to a lack of one or more t-scores, which results in a final analytic sample of 2,818 caseworkers for the latent class analysis. The analytic sample for our logistic regression analysis is 2,415 cases, including all cases with a complete youth, caregiver, and caseworker interview instrument at wave 2 of NSCAW II[1].

Measures

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[1] Running the LCA with the logistic regression sample resulted in the same number and structure of classes. Still, it is recommended that latent classes be estimated independently from the relationship between the latent class variable and auxiliary variables (Nylund-Gibson and Choi 2018) which is why we report sample size for each analysis here.

Indicator variables for latent class analysis. Organizational Social Context T-Scores (Glisson 2007) are used as indicators in the creation of the latent class analysis to classify substantively different types of organizations. Organizational Social Context "is an extensively researched, nationally normed and psychometrically proven 105-item scale that measures the cultures and climates of child welfare and mental health organizations" (Center for Behavioral Health Research [CBHR] 2022). Question responses are then aggregated into eight t-scores that capture various aspects of an organization's social context. Each t-score ranges from 0-100, with a mean of 50 and a standard deviation of 10. For example, one aspect measured with the OSC scale is workers' engagement. Numeric values are assigned to each response option for questions related to workers' engagement. These values are then added to create a raw engagement score for each respondent. The raw score is then converted into a t-score, which is a standardized score that indicates how far each worker's score is from the mean. T-scores measure organizational proficiency (competence, putting clients' wellbeing first), rigidity (workers having limited discretion or flexibility), resistance (workers' apathy or disinterest in change), engagement (workers' belief that they can accomplish worthwhile things), functionality (coworkers and administrators cooperate and help each other), stress (role overload, role conflict), job satisfaction (positive feelings about one's tasks), and organizational commitment (workers willingness to exert effort on behalf of an organization). The Center for Behavioral Health Research groups the proficiency, rigidity, and resistance t-scores as a dimension of organizational culture. The engagement, functionality, and stress t-scores are dimensions of an organization's climate, while job satisfaction and organizational commitment represent an organization's morale.

NSCAW II includes t-score measures of organizational culture, climate, and morale. While initially, we included all eight t-scores as indicators in the LCA to categorize organizations by class, our preliminary analysis found high correlations between several indicators. This produced multicollinearity which distorted the LCA to the point that class selection was not viable. The t-scores for job satisfaction and organizational commitment, the two measures that capture an organization's morale, had a .78 Pearson correlation coefficient. The Center for Behavioral Health Research states that while the job satisfaction measure reflects how positive one feels about their job tasks, the organizational commitment measure captures "a willingness to exert considerable effort on behalf of the organization" (CBHR 2022). Since the ultimate goal of our analysis is to better understand factors that influence decisions to refer youth to services, which could be considered additional effort caseworkers must expend, we chose to keep the organizational commitment measure which is more closely related to our goal for understanding service referral decisions, and we dropped the job satisfaction t-score. In addition, measures of proficiency and functionality were correlated at .67, and resistance was correlated with both rigidity (.71), and stress (.60). In order to keep two measures of both organizational climate and culture, we dropped the resistance and functionality t-scores. Therefore, the final indicators for our organizational class latent variable include t-scores for culture (proficiency and rigidity), climate (engagement and stress), and morale (organizational commitment) while eliminating high correlations that can cause multicollinearity (Figure 4.1).

Figure 4.1. LCA Path Diagram

DME framework model variables. Referral of youth to services is the dependent variable in the DME framework model. In wave 2, caseworkers were asked to respond 'yes' or 'no' to questions about their referral to services for children. Following the recent work of Thompson et al. (2022), we use these questions to construct our dependent variable. Caseworkers were asked about referrals for counseling for mental health problems, services for delinquency, services for alcohol/drug problems, special education services, services to identify a learning disability, and health services. We combined these questions into a dichotomous 'service referral' variable where '1' indicates the referral to at least one service, and '0' indicates the youth was not referred to any of these services.

Following the theoretical Decision-Making Ecology framework, we include independent variables that capture case, caseworker, organizational, and external characteristics. Case characteristics include the type of abuse that was reported to the child welfare agency as a categorical variable with options of "Neglect," "Physical abuse," "Sexual abuse," "Other types

of abuse," or "Investigation initiated to receive services." When multiple types of abuse are reported the type of abuse variable captures the most severe abuse reported. In addition, we include a binary variable of the child's gender, and a categorical variable of the child's race/ethnicity with options "Black," "White," "Hispanic," or "Other." We include the child's current age as a categorical variable, with response options of "0-2 years," "3-5 years," "6-10 years," or "11+ years." We include a dichotomous variable to indicate if, by wave 2, the child has ever been placed in out-of-home care, in addition to a dichotomous variable to indicate if the child had a maltreatment report prior to the report that brought them into the NSCAW II study. We add a case substantiation variable with a "1" indicating the maltreatment was substantiated after the child welfare investigation, or a "0" if there was insufficient evidence of maltreatment. These two variables serve as a proxy for the severity of child maltreatment. We also include a dichotomous variable to capture service provision at wave 1 to control for the previous need and provision of services that may influence the referral for service provision at wave 2.

We capture caseworker characteristics by including the caseworkers' age as a categorical variable with response options of "Less than 30 years old," "30-39 years old," "40-49 years old," or "50 years or older." Caseworker race/ethnicity is included as a categorical variable with options of "Black," "White," "Hispanic," "Other," or "Refused/unknown." We also include a categorical variable to capture the length of time a caseworker has worked in child welfare with options of "Less than 1 year," "More than 1 year, but less than 5 years," "5 - 10 years," "11 – 20 years," or "More than 20 years." The NSCAW II asks for the caseworker's highest level of education is also included as a categorical variable with response options of, "Less than Bachelor's Degree," "Bachelor of Social Work," "Other Bachelor's Degree," "Master of Social Work," "Other Master's Degree," or "Ph.D. or Other Doctoral Degree." We recoded this variable

to have response categories of "Less than Bachelor's Degree," "Bachelor's Degree," "Master's Degree," and "Ph.D. or Other Doctoral Degree." We ran the analysis with both the original and recoded variable and the significance and magnitude of the results were similar, so we used the recoded variable for ease of interpretation.

Organizational characteristics, as described above, are included in the model as indicator variables for the organizational classes defined in the latent class analysis. We also include a categorical variable of agency type with response options of, "State Agency," "County Agency," or "Other Type of Agencies," since different types of agencies may have varying policies around caseloads, referring to outside service providers, or other characteristics not captured within the organizational social context classes that could impact service referral. Due to the low response rate for some agency types, we combined the response options of private non-profit agencies, contract employment, and "other" into the "Other Type of Agencies" category.

External characteristics include a measure of urbanicity as an indicator variable coded as "1" when cases are located in an urban area and "0" if they are not. This external characteristic may impact service referrals as urban areas may have more access to services, which could influence how often children are referred. In addition, in Wave 2, current caregivers were asked if assaults, gangs, drug use or drug dealing, unsupervised children, and groups of teens were a problem in their community. These questions were adapted from the Philadelphia Family Management Study (Furstenberg 1990) with response options of "not a problem," "somewhat of a problem," or "a big problem." We combined these five questions into an indicator variable for community problems with "1" indicating caregivers reported at least one of these issues as somewhat of a problem or a big problem and "0" indicating none of these issues were a problem in their community.

Analytic Strategy

Our analysis is conducted in three steps. First, we use latent class analysis (LCA) to identify latent classes of child welfare organizations using the Organizational Social Context t-score variables as indicators, outlined in our LCA variable section. After we define the organizational classes using latent class analysis, we generate posterior probabilities with the distal referral outcome as a covariate (Bray et al. 2015). Finally, we use the organizational classes as a series of independent indicator variables in our full logistic regression model of the DME framework. Each step is further explained below.

Step 1: Latent Class Analysis to Define Classes of Child Welfare Organizations. LCA assumes the existence of unobserved latent classes with specific patterns of responses on a set of indicator items. It is the optimal method for understanding different types of child welfare organizations based on the variations in their OSC t-scores. Since our indicator variables are continuous, this method is also called latent profile analysis. This paper uses LCA as a more general term to denote the general approach of using observed indicator variables to construct unobserved latent groups or classes. We fit a series of LCA models with 2 through 4 classes to explore the number and structure of latent groups. For model selection we examined the Bayesian Information Criterion (BIC), Sample Size Adjusted Bayesian Information Criterion (SSBIC), Akaike Information Criterion (AIC), the Lo-Mendell-Rubin adjusted likelihood ratio test (LMR; Lo et al. 2001), and entropy. These tests have been identified as the most effective in helping identify the number of classes, in addition to having a sound conceptual and theoretical grounding, with at least 5% of sample members in each class (Cooper and Lanza 2014; Feingold et al. 2014; Weller et al. 2020). Class selection is specifically based on smaller BIC, SSBIC, and AIC values for the k-class, as compared to the k-1 class model (Table 1). Normalized entropy is

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a value from zero to one, with higher values indicating more certainty about the accuracy of our classification (Celeux & Soromenho 1996). During model selection we also ensured that classes contain more than 5% of the total sample (Brown et al. 2013; Shanahan et al. 2013), classes are theoretically meaningful, and results are interpretable (Collins & Lanza 2010).

Step 2: Classify Organizations According to the LCA Model. Following previous researchers (Cooper and Lanza 2014), we used an inclusive classify-analyze strategy to reduce any attenuation in the association between latent class membership and a distal outcome (Bray et al. 2015). This approach maintains the association between class membership and the distal outcome (service referral). To do this, we included the outcome variable, service referral, as a covariate in the LCA model and generated the posterior probabilities of class membership. This results in indicator variables representing membership in an organizational class that is then used as an independent variable in our logistic regression models.

Step 3: Model Full DME Framework. The final step in our analysis is to run logistic regression analyses to model the Decision-Making Ecology Framework, including our indicator variables representing latent class membership, to determine which factors are related to a child being recommended for services. We used a logistic regression model because our dependent variable is binary, with caseworkers responding "yes" or "no" to recommending services.

Logistic regression analysis models the logarithm of the chance of a specified outcome based on individual characteristics (Sperandei 2014). Our analysis can be modeled as:

$$\log\left(\frac{\pi}{1-\pi}\right) = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \cdots \beta_m x_m$$

where π is the probability of service referral, and β_m are the regression coefficients associated with each x_m explanatory variable, and β_0 is the constant, which represents the coefficient for

the reference level of each explanatory variable in the model. The first model we run examined the relationship between the organizational classes created by our LCA and referring youth to services. The second model displays the full Decision-Making Ecology Framework to understand how all factors contribute to referring youth to services. All logistic regression models include appropriate survey weights for complex sample designs, and our results are converted and presented in odd ratios and predicted probabilities to aid interpretability. Weighted descriptive statistics of all model variables are also reported in the results section.

RESULTS

Latent Class Analysis

Due to the diminishing decreases in AIC, BIC, and SSBIC, the decrease in entropy at the 4-class solution, and because it is the most theoretically supported and interpretable, we chose a three-class model. This model supports our first hypothesis that there are different classes of organizations based on their culture and climate indicators.
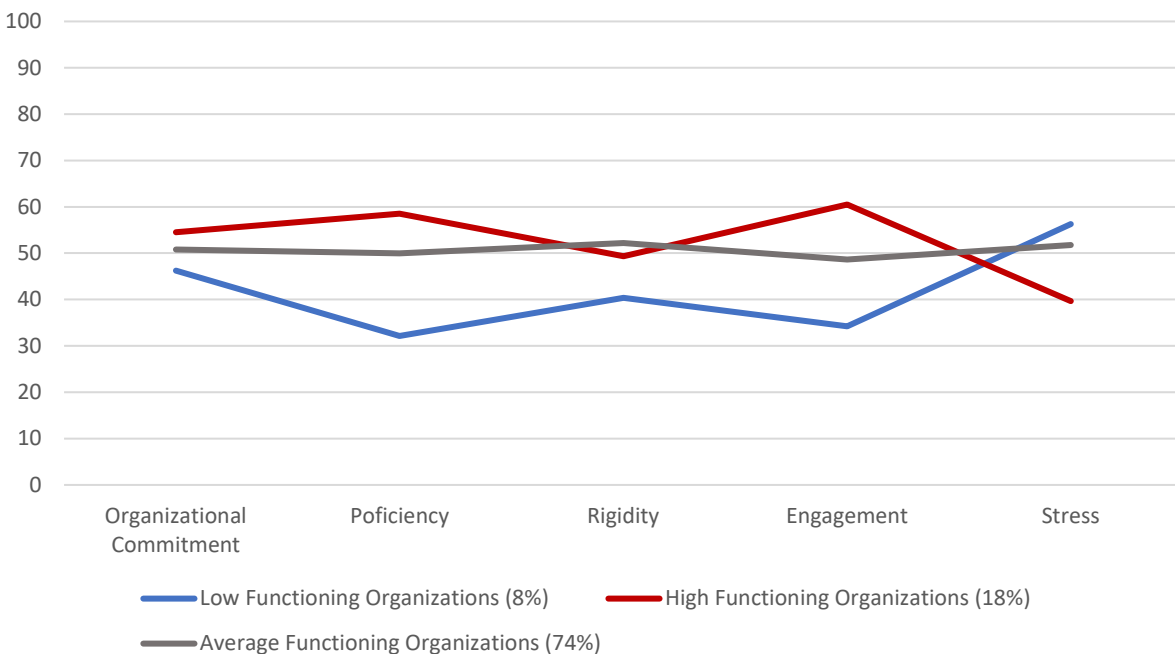
Table 4.1. Post estimation values for the 2-4 class options

	LMR p-value	AIC	BIC	SSBIC	Entropy
2 Classes	0	92051.49	92146.59	92095.75	0.82
3 Classes	0	91361.81	91492.57	91422.67	0.89
4 Classes	0	90923.60	91090.02	91001.06	0.80

Source: NSCAW II, Wave II 2014

Figure 4.2 shows the three-class organizational culture solution. The first class characterizes low-functioning organizations. Containing 8% of our sample, these organizations have the lowest levels of every measure except stress, which is the highest for this group. On the

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other hand, the second class, containing 18% of the sample, characterizes high-functioning organizations with the highest levels of organizational commitment, proficiency, and engagement, while maintaining the lowest level of stress and moderate rigidity. The third class contains the majority of our sample (74%) and can be characterized as average functioning, with mid-levels of all measures, except slightly higher rigidity than the other classes.

Figure 4.2. Organizational Classes

Following the identification of organizational classes, we included the service referral outcome variable as a covariate in our LCA model before generating the posterior probability of class membership. The resulting indicator variables representing membership in a low-functioning, average-functioning, or high-functioning organization are then included as independent variables in the logistic regression model of the DME framework.

Model of DME Framework

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Descriptive statistics. Table 4.2 shows the weighted descriptive statistics for all variables in our regression models. Over half (52.75%) of the maltreatment investigation cases in our sample resulted in a child being referred to at least one service. Caseworkers in our sample primarily have a bachelor's degree (76.17%), are under 30 years old (41.66%), are White (60.25%), and have worked in child welfare for 1-4 years (47.13%). Over half of the children in the sample are male (53.24%), White (42.85%), 11 years old or older (32.89%), had a maltreatment investigation due to suspected neglect (57.41%), did not have the investigation substantiated (55.90%), have not previously received services (53.60%), have had a prior maltreatment report (73.98%) and have never been removed from their home (55.87%). Over half (54.20%) of caregivers reported not having community problems in their neighborhoods, and 72.57% of our sample cases occurred in an urban area. Finally, based on the previous LCA, 77.49% of child welfare organizations have average functioning, while 6.67% of organizations have low functioning, and 15.84% of organizations have high functioning. Most of the organizations are considered state agencies (71.00%), while 27.75% are county agencies, and 1.25% are other types of agencies.

Table 4.2. Weighted descriptive statistics of model variables

	Percent (%)
Referral to Services	
Yes	52.75
No	47.25
Decision-Maker Characteristics	
Caseworker Education:	
Less than BA	0.61
Bachelor's Degree	76.17
Master's Degree	22.23
PhD	0.98
Caseworker Age:	
Under 30 Years	41.66
30-39 Years	32.74
40-49 Years	16.59

50+ Years	9.00
Caseworker Race:	
White	60.25
Black	19.70
Hispanic	15.46
Other	3.81
Refused/Unknown	0.78
Caseworker Time in Child Welfare:	
Less than a year	4.21
1-4 Years	47.13
5-10 Years	31.47
11-20 Years	14.23
20+ Years	2.97

Case Characteristics

Child Gender:	
Male	53.24
Female	46.76
Child Race:	
White	42.85
Black	20.69
Hispanic	28.42
Other	8.05
Child's Current Age:	
0-2 Years	16.24
3-5 Years	22.91
6-10 Years	27.96
11+ Years	32.89
Type of Abuse Investigated:	
Physical Abuse	17.10
Sexual Abuse	7.80
Neglect	57.41
Other Maltreatment	16.88
Investigation to receive services	0.81
Investigation Substantiated:	
Yes	44.10
No	55.90
Services Previously Received:	
Yes	46.40
No	53.60
Child Ever Placed Out of Home:	
Yes	44.13
No	55.87
Prior Maltreatment Reports:	
Yes	73.98
No	26.02

External Characteristics	
Community Problems:	
Yes	45.80
No	54.20
Urbanicity:	
Urban	72.57
Non-urban	27.43
Organizational Characteristics	
Organizational Classes:	
Low Functioning Organizations	6.67
High Functioning Organizations	15.84
Average Functioning Organizations	77.49
Agency Type	
State Agency	71.00
County Agency	27.75
Other Types of Agencies	1.25
Observations	2415

Source: NSCAW II 2014

Logistic regression. The regression in Table 4.3 answers our second research question, which asks if latent classes of organizations are important for understanding youth service referral decisions. We hypothesize that classes of organizations are a significant predictor of youth service referral decisions. Model 1 in Table 4.3 indicates that the odds of a youth being referred to services by high-functioning organizations is 2.51 times that of the odds of being referred to services by low-functioning organizations. In other words, 64% of high-functioning organizations are predicted to refer youth to services, while only 41% of low-functioning organizations are predicted to refer youth the services. This relationship is illustrated in Figure 4.3. This initial result supports our hypothesis that organizational characteristics are important in understanding service referral decisions. In addition, Model 2 includes the additional organizational characteristic of the type of agency. Model 2 shows that organizational class remains significant with the odds of a youth being referred to services by high-functioning

organizations is 2.98 times that of the odds of being referred to services by low-functioning

organizations, net of agency type. The agency type is also significant, in that the odds of a youth

being referred to services by other types of organizations is 5.83 times that of the odds of being

referred to services by state agencies. In other words, 86% of other types of agencies are

predicted to refer youth to services, while 51% of state agencies are predicted to refer youth to

services (Figure 4.4). Model 2 further supports our hypothesis that organizational characteristics

are important to the decision to refer youth to services.

Table 4.3. Odds ratios of organizational characteristics predicting service referral

	Model 1		Model 2	
	Odds ratio	SE	Odds ratio	SE
Organizational Characteristics				
Organizational Classes:				
High Functioning Organizations	2.51*	(0.88)	2.98*	(1.25)
Average Functioning Organizations	1.50	(0.47)	1.83	(0.78)
Agency Type:				
County Agency			1.23	(0.46)
Other Types of Agencies			5.83**	(3.80)
Constant	0.71*	(0.18)		
Observations	2415		2415	

Robust standard errors in parentheses
Reference Categories: Organizational Classes – Low-functioning organizations. Agency Type - State Agency
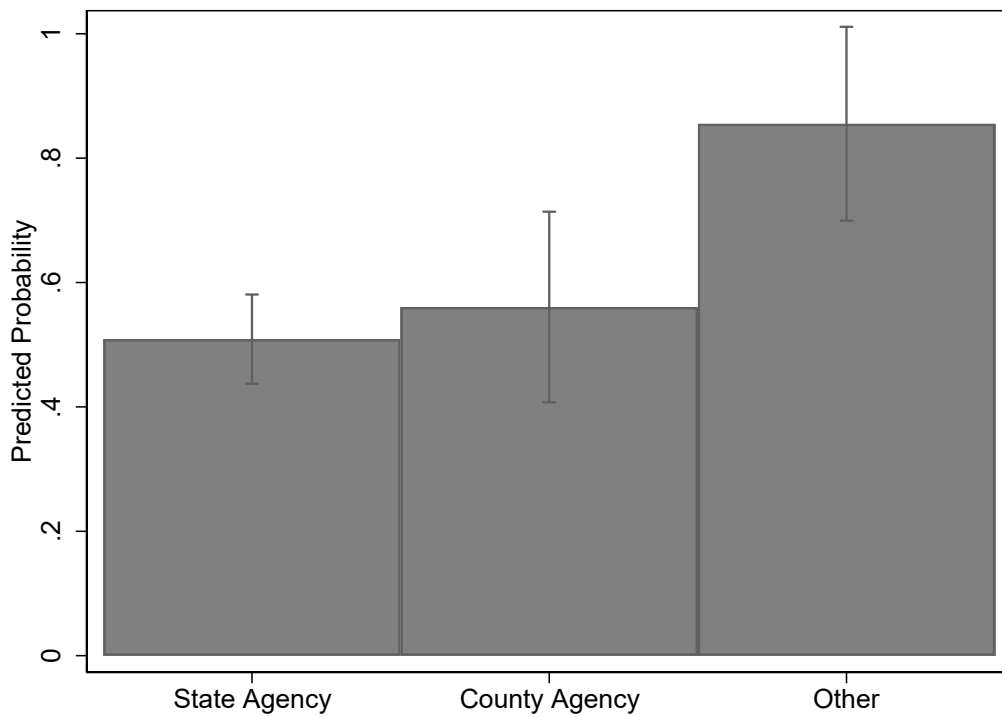Source: NSCAW II 2014
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Figure 4.3. Predicted Probability of Service Referral by Organization Class
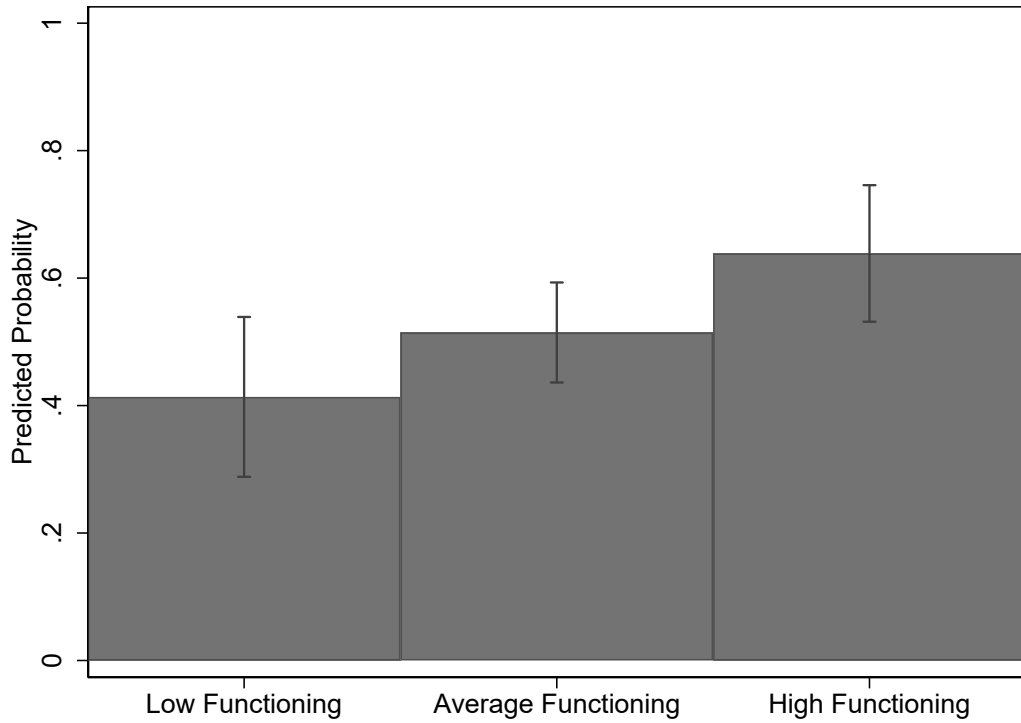
Source: NSCAW II 2014

Figure 4.4. Predicted Probability of Service Referral by Agency Type

Source: NSCAW II 2014

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Next, we conduct a logistic regression analysis with all independent variables to fully model the Decision-Making Ecology Framework and answer our third research question which asks if decision-maker, case, organizational, and external characteristics are predictive of service referral, as theorized by the DME Framework. Table 4.4 reports the results of the full Decision-Making Ecology Framework logistic regression model in odds ratio. While some caseworker, case, and external characteristics are significant predictors of a youth being referred to services, once included in the full DME model, organizational characteristics are no longer statistically significant. We ran the model multiple times, adding one set of characteristics at a time, and found that organizational characteristics remain significant when child and caseworker characteristics are added, but lose significance once external characteristics are added. Therefore, our hypothesis is not fully supported, since we initially hypothesized that all groups of characteristics in the DME framework would be predictive of service referral for youth.

Caseworker education and age are the statistically significant decision-maker characteristics in our DME model. The odds that caseworkers with less than a bachelor's degree refer a youth to services is 9.14 times the odds of caseworkers with a bachelor's degree referring a youth to services. The odds that caseworkers with a Ph.D. refer a youth to services is 36.95 times that of caseworkers with a bachelor's degree referring a youth to services. Figure 4.5 illustrates this relationship, showing that 89% of caseworkers with less than a bachelor's degree are predicted to refer a youth to services, while 97% of caseworkers with a Ph.D. are predicted to refer a youth to services, which is significantly higher than the 55% of caseworkers with bachelor's degrees who are predicted to refer a youth to services. The odds of 40 to 49-year-old caseworkers referring to services is 2.80 times that of caseworkers under 30, while the odds of caseworkers 50 years old or older referring to services is 1.92 times that of caseworkers under

30. In other words, 69% of caseworkers 40-49 years old, and 62% of caseworkers 50 years or older are predicted to refer a youth to services compared to 48% of caseworkers under 30 years old (Figure 4.6).

The only case characteristic significant in the model is the ever-out-of-home indicator variable. The odds that a child who has ever been placed outside their home will be referred to services is 2.72 times that of a child who has not been placed outside their home. Stated differently, children who have been placed outside their homes are predicted to be referred to services 64% of the time, while a youth who has always remained in their home is predicted to be referred to services 43% of the time (Figure 4.7) holding other variables at their mean. Urbanicity is the only external characteristic in our model that significantly predicts service referral. The odds of children living in urban areas being referred to services are 3.09 times that of the odds of youth living in rural areas being referred to services. Sixty percent of youth living in urban areas are predicted to be referred to services, compared to only 36% of rural youth (Figure 4.8). Organizational characteristics (as measured by the classes of organizations and agency type) are not significant in the full Decision-Making Ecology model.

Table 4.4. Odds ratios of DME characteristics predicting service referral

	Odds ratio	SE
Decision-Maker Characteristics		
Caseworker Education:		
Less than BA	9.14**	(7.58)
Master's Degree	0.60	(0.17)
PhD	36.95**	(49.59)
Caseworker Age:		
30-39 Years	0.97	(0.93)
40-49 Years	2.80**	(0.94)
50+ Years	1.92*	(0.62)
Caseworker Race:		
Black	0.86	(0.29)
Hispanic	1.54	(0.52)
Other	1.15	(0.47)

Refused/Unknown	0.60	(0.57)
Caseworker Time in Child Welfare:		
Less than a year	1.86	(1.48)
5-10 Years	1.66	(1.31)
11-20 Years	0.66	(0.51)
20+ Years	1.21	(1.24)
Case Characteristics		
Child Male	1.24	(0.33)
Child Race:		
Black	1.18	(0.31)
Hispanic	0.61	(0.25)
Other	0.65	(0.24)
Child Age:		
3-5 Years	1.74	(0.61)
6-10 Years	1.60	(0.56)
11+ Years	1.89	(0.64)
Type of Abuse Investigated:		
Sexual Abuse	1.01	(0.45)
Neglect	0.57	(0.19)
Other Maltreatment	0.72	(0.20)
Investigation to receive services	2.05	(3.73)
Investigation Substantiated	1.46	(0.30)
Services Previously Received	1.46	(0.37)
Child Ever Placed Out of Home	2.72***	(0.73)
Prior Maltreatment Report	0.95	(0.25)
External Characteristics		
Community Problems	1.14	(0.28)
Urban	3.09**	(1.01)
Organizational Characteristics		
Organizational Classes:		
High Functioning Organizations	1.62	(0.73)
Average Functioning Organizations	1.21	(0.46)
Agency Type:		
County Agency	1.15	(0.35)
Other Types of Agencies	4.38	(3.53)
Constant	0.24*	(0.11)
Observations	2415	

Robust standard errors in parentheses
Reference Categories: Caseworker education – BA; Caseworker age – Under 30; Caseworker race – White; Caseworker time in child welfare – More than a year, but less than 5 years; Child race – White; Child age – birth to 2 years; Type of abuse investigated – Physical abuse; Organizational classes – Low functioning organizations; Agency type – State agency.
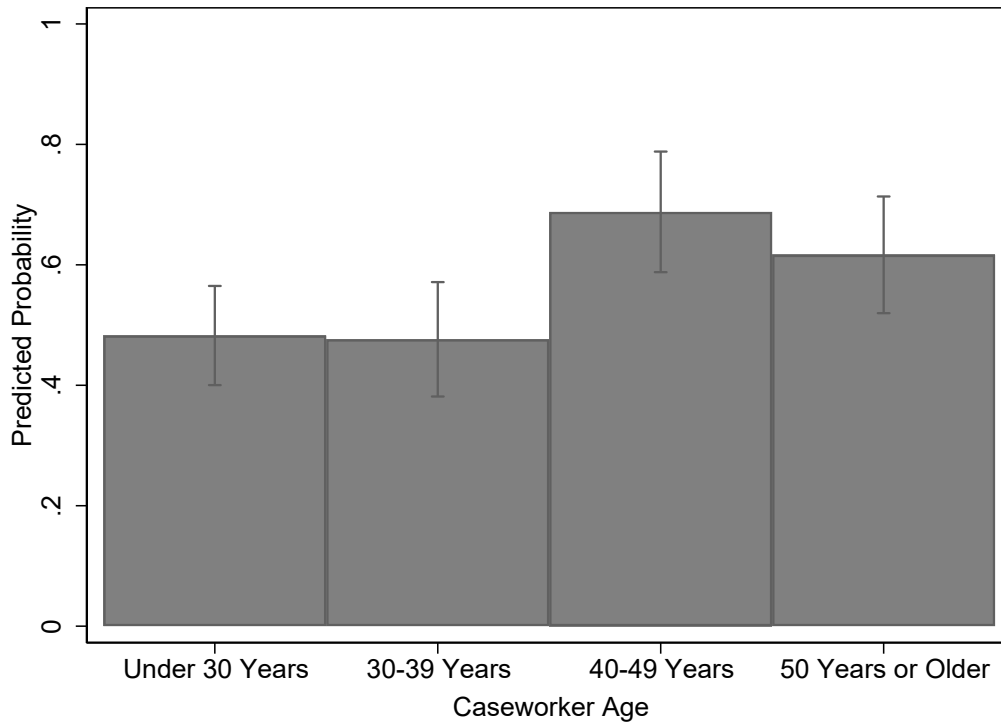Source: NSCAW II 2014
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Figure 4.5. Predicted Probability of Service Referral by Caseworker Education
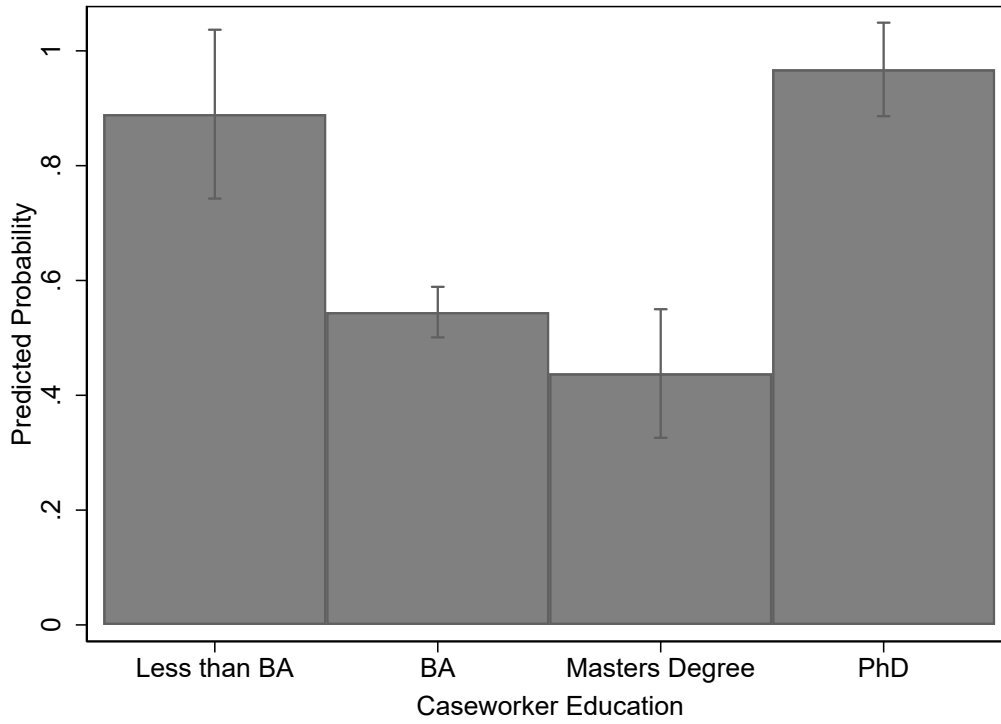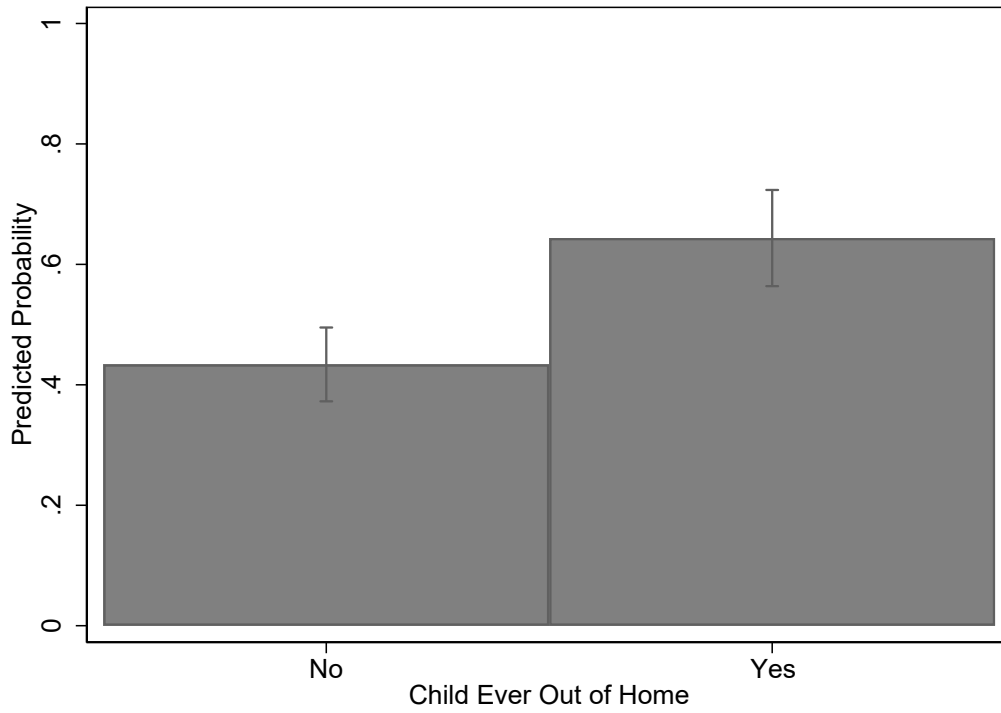

Source: NSCAW II 2014

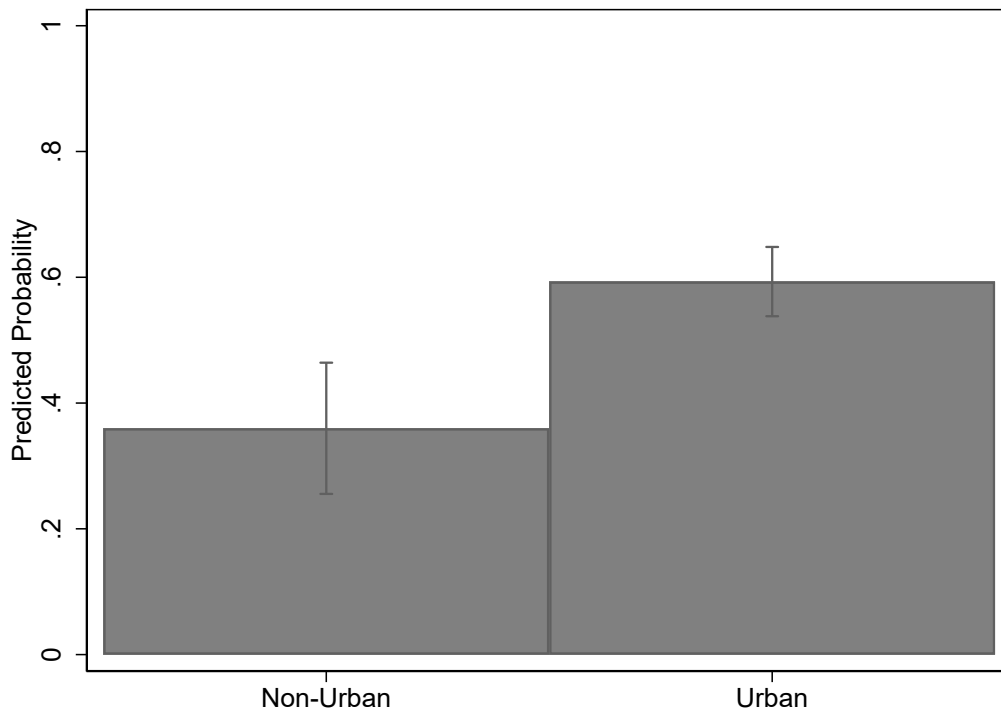Figure 4.6. Predicted Probability of Service Referral by Caseworker Age

Source: NSCAW II 2014

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Figure 4.7. Predicted Probability of Service Referral by Child Ever Out of Home

Source: NSCAW II 2014

Figure 4.8. Predicted Probability of Service Referral by Urbanicity

Discussion

Overall, our findings reinforce the validity of using the DME framework to understand how service referral decisions are made for youth in the child welfare system. Organizational characteristics were significant when analyzed without case, caseworker, and external characteristics. In addition, organizational characteristics remained a significant predictor of service referral until urbanicity, an external characteristic, was added to the model. The fact that organizational characteristics, such as culture and climate, were no longer significant after controlling for urbanicity, suggests that different types of organizations may be serving youth in different regions. This finding highlights the importance of including external characteristics that capture the location of youth, particularly when conducting studies on service referral and child welfare organizational characteristics.

Although organizational characteristics were not significant in the full model, some characteristics were significant in each of the other categories of the framework. Caseworker characteristics were most predictive of service referral, emphasizing the value of caseworkers in supporting youth well-being. A recent qualitative study of caseworkers' decisions to refer to services found that caseworkers' belief in the effectiveness of programs is important (Myers et al. 2020). This may help explain why our results found higher referral rates for older caseworkers; older caseworkers may have life experience that increases their belief in service effectiveness. In addition, it could also be that caseworkers with a Ph.D. refer children to services at higher rates because their education has increased their belief in the effectiveness of services, although this does not explain why caseworkers with less than a bachelor's degree refer children to services at higher rates. This latter finding might be explained by the fact that caseworkers with less education feel more compelled to rely on the assistance of other service providers to help meet

the needs of the family. The use of case aids as decision makers could also explain these results, as they may need to rely on the professional judgement of more senior staff. Alternatively, as previously discussed, a portion of the child welfare literature finds services do not improve outcomes for youth (Fong et al. 2015; LaBrenz et al. 2022; LaBrenz et al. 2023). It could be the majority of caseworkers with a bachelor's or master's degree are aware of this and are more hesitant to refer youth to services.

Interestingly, although studies have found many child and case characteristics significant in explaining service referrals, the only significant case characteristic in our model was if a child had ever been placed out of their home, where they were more likely to be referred to services. Even though the youth may not have been in out-of-home placement at the time they were referred to services, we find that if the youth had ever been in out-of-home care, they were significantly more likely to be referred to services. This departure from previous findings is likely due to our inclusion of caseworker, organizational, and external characteristics that have frequently been absent from other studies. For external factors, urbanicity is significant, which is likely due to the increased availability of services in urban areas (Belanger and Stone 2008; McManus et al. 2016). Finally, service referral in this study is intended to be value-free, in that, we make no assumptions that more referrals equate to improved youth well-being. We understand that the effects of services are varied and nuanced, and instead only attempt to identify characteristics that influence the service referral decision-making process.

Our study has several limitations as well. While we included the case, caseworker, organizational, and external characteristics, there could be additional variables within these categories that were not available in the data. For example, additional organizational health variables like characteristics of agency leadership, caseworker belief in the efficacy of services,

caseworker years with current organization, service availability in the community, and current caseloads may also influence service referral decisions. State policies likely also play a role in service referral decisions, but these were not available in the data. In addition, we elected to look at how the DME framework predicts all types of service referral, but it may be that the predictors of referral vary by type of service, and this could vary slightly from our combined model. Although we included an indicator variable for youth who had previously received services and variables to capture the severity of maltreatment which might indicate a greater need for services, we did not include a direct measure of need for services or service quality, both of which would enhance our ability to determine how service referral decisions are made. Finally, our study examines factors that influence the decision to refer youth to services, but we are unable to determine if a service referral will help or harm youth involved in the child welfare system, although we do know prior research has found iatrogenic effects of services (Fong et al. 2015; LaBrenz et al. 2022; LaBrenz et al. 2023). Overall, we believe that this analysis extends our previous knowledge of how service referral decisions are made. We encourage future researchers to explore the role of caseworker characteristics, urbanicity, and additional measures of organizational climate and culture in service referral decisions. Future work using additional case, caseworker, organizational, and external characteristics may also benefit from using multilevel models of the full DME framework to understand service referral decisions. While we focused on youth service referrals, future research should also examine how decisions are made to refer caregivers to services.

Conclusion

This study builds on previous research using the DME framework in two ways. First, we use latent class analysis to identify three classes of child welfare organizations, which is a unique

approach for including organizational characteristics within models of the DME framework. We find that high-functioning organizations refer children to services at higher rates than low-functioning organizations when examined in isolation. Second, we model the full DME framework using nationally representative survey data, expanding on other models of the DME framework which often exclude caseworker, organizational, and/or external characteristics. We find that overall caseworker characteristics, a child ever being placed out of their home, and urbanicity are significant predictors of service referral. Organizational culture and climate are no longer significant once these characteristics have been controlled. This suggests other characteristics explain the impact of low, average, and high-functioning organizations. These findings support the use of the Decision-Maker Ecology Framework to understand service referral decisions. Our results further suggest that future research should focus more on the impact of caseworkers and external characteristics on decision-making since our model finds caseworker age, education, and urbanicity to be significant predictors of service referral. It is likely that additional caseworker and external characteristics may also be important for understanding service referral decisions, which has been understudied in previous research using the DME framework to understand service referral decision-making in child welfare.

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Chapter Five

Conclusion

The preceding empirical chapters examine the impact of services on youth well-being and service referral decision-making and within the child welfare system. My introduction presents the current state of the child welfare system, its stated aim to improve the well-being of children who have experienced maltreatment, and sociologist's categorization of child welfare as an institution of poverty governance (Woodward 2021). I further discuss how life course, psychosocial development, attachment, and ecological systems theory provide the rational for using services within child welfare to improve children's well-being outcomes. Chapter Two explores how peer support groups impact youth depression symptoms. Chapter Three investigates how extracurricular activities affect academic achievement. Chapter Four classifies child welfare organizations based on organizational culture and climate measures before analyzing factors influencing service referral decisions within the child welfare system. Below I review the findings from these studies and how they relate to the relevant existing literature. Then, I discuss potential extensions to this research agenda, before discussing more broadly how sociology can continue incorporating child welfare research within the discipline.

FINDINGS FROM EMPIRICAL CHAPTERS

Overall, our findings illustrate that the stated goal within child welfare to provide services for youth to improve their well-being is more complex than it may seem. This complexity is seen in both the service referral decision-making process and in the services' efficacy. Chapter Four finds that multiple factors influence the decision to refer a youth to services, most notably caseworker characteristics, and urbanicity. There have been efforts within child welfare to standardize the decision-making processes with evidence-informed practices, which limit the influence of additional factors like the ones we identified in Chapter Four (Lwin et al. 2022).

Currently, while there is an effort for caseworkers to use evidence-informed decision-making to help guide the service referral process, researchers acknowledge that caseworker and organizational factors still impact the likelihood of even adopting this approach (Lwin et al. 2022). The variation in the adoption and implementation of these evidence-informed policies suggests that our findings will continue to be relevant as practices related to decision-making continue to differ widely between child welfare agencies.

In addition to understanding the multi-level influences on the decision to refer youth to services, it is also important to understand the impact of services on youth well-being. Chapter Two investigates peer support groups, a service that is commonly used in schools and as a component of mental health and substance use treatments, while Chapter Three looks at how extracurricular activities could be used as a service to support academic achievement. I find that peer support groups may not reduce depression symptoms for youth involved in the child welfare system. On the other hand, when youth who are involved in the child welfare system participate in extracurricular activities, their academic achievement improves. Taken together, there are interesting implications for child welfare practice and where to prioritize resources. First, it may be prudent to examine the efficacy of common services more closely. It is often more challenging for youth involved in the child welfare system to access services, so it is important that the services recommended improve their lives in a meaningful way. Second, these findings support the need for more normalizing developmental activities for all youth involved in the child welfare system, which is currently only mandated for youth in out-of-home care as part of The Preventing Sex Trafficking and Strengthening Families Act of 2014 (P.L. 113-183). In fact, based on these results these positive developmental activities may go further to improve well-

being than services designed to treat a specific issue (i.e., peer support groups to improve mental health).

How Findings Relate to Child Welfare Literature

Chapter Four confirms that the decision to refer a child to services is not as straightforward as simply looking at their circumstances. And, assuming services are designed to improve child well-being, it is important to understand who gets referred. Our findings support ecological systems theory, and the Decision-Making Ecology (DME) Framework. Generally, systems theories contend that multiple spheres of influence determine outcomes. The DME Framework which specifically takes a systems approach to child welfare decision-making, contends that case, caseworker, organizational, and external characteristics are all influential in the decision-making process (Baumann et al. 2011; Baumann et al. 2013). We find that DME Framework characteristics do help explain the decision to refer a youth to services. While our study accounted for characteristics at each ecological level of the Decision-Making Ecology Framework, additional information about organizational and external characteristics would likely provide more clarity on the specific factors that are most influential in service referral decision-making.

These findings also inform what we know about how experiences in the child welfare system impact well-being. Youth involved in the child welfare system often face higher numbers of adverse childhood experiences (ACEs), which include maltreatment. Research shows that a higher number of ACEs in childhood impacts youth well-being into adulthood (Felitti 1998). This basic understanding of the impact of ACEs on well-being is supported by life course theories from sociology as well as psychosocial development theories from psychology which both emphasize the role of early life experiences and development on later outcomes, including

human, social, and cultural capital (Bourdieu 1973; Elder 1975; Erikson 1950). The child welfare system works under the assumption that services can provide protective factors against the harmful effects of maltreatment. Chapter Two shows that services might not always have the positive effect intended or assumed, although, importantly, I did not find any adverse effects either. More generally, as researchers continue to investigate how services impact youth involved in the child welfare system, my results remind us that the high variation in type and intensity of services matter, and without understanding the type, quality, and quantity of services provided, it could explain why, we may not see improvements in youth well-being. On the other hand, Chapter Three does support the idea that some general interventions can provide protective factors that improve youth well-being. Chapter Three can help broaden how child welfare conceives of services since pastimes like extracurricular activities improve academic achievement, which can also be considered increasing youths' human capital. Caseworkers could include recommending participation in extracurricular activities to their service referral processes to help youth who are struggling academically. Using extracurricular activities, or other less traditional interventions as services, may be particularly helpful within an overburdened child welfare system that sometimes struggles to meet the service needs of families (Reich 2005).

FUTURE RESEARCH

Methodological Considerations

While the previous chapters take advantage of a nationally representative panel dataset and use quasi-experimental methods, there are weaknesses to this approach. Future research would be enhanced by taking advantage of additional data and methods. For example, panel data

is at risk of panel conditioning or the "risk that repeated measurements may sensitize the respondents to give a given set of answers" (Frankfort-Nachmias et al. 2015:110). In other words, when people repeatedly complete the same survey, they may be more likely to try to appear consistent in their views and therefore respond similarly at each time point. In addition, NSCAW II can only be used to make national estimates, as individual states are not identified in the data (Dolan et al. 2011). Since state-level analyses are not possible I did not have the ability to examine youth outcomes or organizational structures by state, which is the context that child welfare policy is usually made. Using different types of datasets, and conducting primary data collection could enhance the robustness of my findings. Other methods of data collection, such as interviews, time-use diaries, and naturalistic audio recordings are approaches used in sociology that could help clarify the type and intensity of services that youth are participating in as well as the social-emotional, health, and educational impacts they have on youth. These approaches would allow us to get at the "black box" of the broad classifications of the interventions being provided to these youth to see how they are or are not working. These methods could also be used with child welfare staff to better understand the service referral decision-making process. In addition, the highest quality program evaluation approaches push us to more fully examine what works for whom, when, and under what conditions. These types of questions are worthy of exploring in more detail.

In addition to collecting alternative types of data, the current research would benefit from using additional analytical techniques. Chapters Two and Three took advantage of fixed effects regression analysis, but this approach can have external validity issues because it is based on "switchers" or the individuals who change their behavior between waves of data collection (i.e., a youth who started participating in extracurricular activities after wave 1). External validity can

be an issue because "switchers may not be representative of the target population for the intervention" (Rossi et al. 2019:181). Another useful method to use to examine intervention effectiveness is growth curves. For panel datasets with three or more waves of data, growth curves can be useful to examine within and between-person-level variation, and incorporating a SEM (structural equation modeling) or HLM (hierarchical linear modeling) approach allows for complex nesting structures. For example, growth curves could examine the impact of a service on an individual youth's well-being and how well-being varies between youth for youth who are nested within classrooms, within child welfare agencies, and/or within states. All quasi-experimental designs though generally still have lower internal validity than controlled experiments. While randomized control trials can be logistically, financially, and ethically difficult to design in social science research, it is possible and would still be the best method for understanding service effectiveness within child welfare.

Future Research Questions

In general, myriad studies examine the effectiveness of specific interventions, often manualized evidence-based or evidence-informed ones, across a range of well-being outcomes (i.e., the Blues Program to treat youth depression; Rohde et al., 2018). While this is valuable work, I have taken a slightly different approach by looking at broad types of interventions or practices (i.e., any peer support group). I chose this approach because many youth do not have access to specific evidence-based programs, but they may have access to some type of peer support group or some type of structured extracurricular activity, so it is important to understand how these activities, generally, impact youth well-being too. Moving forward, more studies should seek to understand how various types (not only specific programs) of interventions impact well-being. For example, while peer support groups in my study did not have a

statistically significant impact on depression symptoms, additional analysis could investigate the effect of peer support groups on other mental health, educational, or substance use outcomes. Similarly, the effect of extracurricular activity participation could also be examined in relation to health, substance use, or delinquency outcomes. Additional data collection could also enhance future research that investigates the mechanisms behind the relationship between extracurricular activities and academic achievement. Future research could also look at how services for child welfare-involved families build (or fail to build) family-level resilience. Family resilience, or the idea of enabling the positive adaptation of all family members to strengthen the whole unit after experiencing highly stressful events, is a current area of interest for scholars within the sociology of family so there is an active literature to draw from and apply in a child welfare context (Walsh 2016). When focusing on the mechanisms of change in individual well-being or family resilience, it will be important for researchers to account for the policy context (e.g., how child welfare acts as an institution of poverty governance) and organizational constraints (e.g., workforce issues, insufficient funding) that likely work as systemic barriers to achieving well-being or family resilience.

While we looked at how referral decisions are made in Chapter Four, there are multiple ways additional research can extend our findings. For example, it would be interesting to model the DME Framework at agencies using evidence-based decision-making practices (Lwin et al. 2022) to evaluate how much these methods mitigate the influence of caseworker, organizational, and external characteristics. Also, more research should look at how and why families decide to utilize (or not) services. An exploratory study finds that alternative response intervention, caseworkers' inclusive interaction style, and caregiver satisfaction are all associated with service utilization. Positive and negative emotional response of caregiver to caseworker was also

associated with service utilization leading the researchers to conclude caseworkers can enhance

service utilization by supportive or coercive means (Hollinshead et al. 2017). Even if service

referrals align exactly with family needs, if families choose not to participate in the services, they

cannot reap any of the potential benefits. These are some ways that I can extend my current

research on service referral decision-making and the impact of services on well-being that I have

started with the analytic chapters of my dissertation.

INCORPORATING CHILD WELFARE RESEARCH IN SOCIOLOGY

While my research focused on children involved in child welfare, there are multiple

subdisciplines within sociology where child welfare work can and should continue. Life course

studies, as already discussed, are a particularly applicable area for future research on child

welfare within sociology. The age a youth initially becomes involved with child welfare and how

long they remain involved in the system has implications for a child's life course that these

scholars could explore more thoroughly. Child welfare research would also benefit from more

attention from gender and race scholars. As discussed in Chapter One, poor, non-white, female-

headed families are overrepresented in the child welfare system (Thomas and Waldfogel 2022;

Woodward 2021). Race and gender scholars could bring a valuable sociological lens to the

theoretical and empirical research about the causes and consequences of this disproportionality.

Continued research in sociology on the child welfare system may look more wholistically

at child welfare-involved families too. This would align with recent research trends within the

sociology of family. A recent review of family processes and children's and adolescents' well-

being research concluded that one of the major trends in the sociology of family research over

the past decade has been a shift to examining family strengths (Buehler 2020). This follows an

earlier call from Eve Tuck, a critical race and education scholar, to move away from "damage-centered" research to a desire-based framework to understand "complexity, contradiction, and the self-determination of lived lives" (Tuck 2009:416). Using a desire-based framework, this strength-based research within the sociology of family could advance by focusing on families involved in the child welfare system, including looking at how foster and adoptive families can mitigate harm from maltreatment, or how interventions may be used to build protective factors within families whose children remain in the home. Sociology of family theories could also be tested with child welfare families, including the family stress model (Conger et al. 2012) to examine how system involvement causes or mitigates family stress and its subsequent consequences. Finally, family scholars within sociology have called for additional research "that examines the regulation of emotion, cognition, physiology, and behavior among family members and across families with varying sociostructural, demographic, and cultural characteristics. This work should go beyond individuals in families to consider dyadic, triadic, and family-level regulation" (Buehler 2020:162). It would be interesting to examine these factors for child welfare-involved families to better understand the unique impact of system involvement on family dynamics.

Sociologists should continue to incorporate child welfare into discussions and research on poverty governance, including how material or concrete supports work to sustain or disrupt the current system. Due to the strength of the relationships between poverty and child welfare involvement, increasing material support for families in poverty is often recommended as the most immediate way to reduce the risk of child welfare involvement (Kim et al. 2020; Pelton 2015). Concrete supports increase child welfare engagement, and outcomes, and decrease short-term recidivism (e.g., subsequent maltreatment reports resulting in continued child welfare

involvement; Rostad et al. 2017). Concrete supports are even more essential now since five million more children experienced poverty in 2022 than in 2021 (Thomson and Ryberg 2023), which, without interventions, will likely result in increasing numbers of maltreatment reports in the coming years. Overall, life course studies, sociology of race, gender, and family, and poverty governance are just a few areas within sociology that could contribute to theoretical and empirical child welfare research.

CONCLUSION

In conclusion, my dissertation has brought additional attention within sociology to child welfare by using applied research methods to investigate the impact of services on child well-being and by taking an ecological systems approach to understanding service referral decision-making. Using theories of child welfare involvement, this work also advances our understanding of child well-being for a vulnerable population. Sociological research has always had a strong applied focus, and my dissertation continues this tradition by conducting analyses that can inform child welfare practice to improve the lives of children involved in the system.

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