

Adverse childhood experiences and psychosocial well-being of adult women formerly in foster
care as children

Delilah Bruskas

A dissertation
submitted in partial fulfillment of the
requirements for the degree of

Doctor of Philosophy of Nursing Science

University of Washington

2012

Reading Committee:

David Allen, Chair

Mark Courtney

Susan Spieker

Program Authorized to Offer Degree:

University of Washington School of Nursing

Adverse childhood experiences and psychosocial well-being of adult women formerly in foster care as children

Abstract

Objective: To assess the relationship between retrospective reports of adverse childhood experiences (ACEs) and psychosocial well-being of adult women formerly in foster care as children.

Methods: A total of 101 women between 18-71 years old ($M = 36.83$, $SD = 12.95$) formerly in the foster care system from 36 states voluntarily completed an anonymous web-based survey about childhood maltreatment. ACEs were measured using the 10-item ACE Questionnaire. Psychological distress was measured using the 13-item Sense of Coherence (SOC) and the 12-item General Health (GHQ) Questionnaires.

Results: Over 56% of respondents were identified as experiencing current psychological distress noted by scores above the GHQ threshold used to identify individuals at risk or likely to have mental problems. SOC sums ($M = 54.26$, $SD = 15.35$) showed a significant inverse correlation with both GHQ ($M = 14.83$, $SD = 5.88$) and ACE ($M = 5.68$, $SD = 2.90$) sums ($r = -0.64$ and -0.31 respectively). Most respondents (97%) reported experiencing at least one ACE; nearly 70% reported five or more, 33% reported eight or more, and 23% reported 9 or more ACEs. Foster care placement was associated with four ACEs ($p = <0.001$); each subsequent placement was associated with an increase in ACEs by 0.45. Linear regressions indicated that ACEs reported before foster care was significantly associated with reductions in the level of SOC (8%) and increases in the level of psychological distress (6%). Physical neglect and living in a dysfunctional household (parental loss, maternal abuse, and household member associated with substance abuse and prison) were significantly reduced subsequent to foster care

placement by 16% and 19% respectively while the rates of emotional and physical abuse remained as prevalent.

Conclusion: Psychological distress and the number of ACEs noted in this population were quite high. Research results are consistent with previous studies that showed an association between the number of ACEs and adult mental health problems. Reducing the number of ACEs and number of foster care placements may help protect developmental health. Clinicians who understand and address the effects of cumulative childhood adversities early may help improve adverse adult health outcomes.

Key Words: Foster care, psychosocial well-being, sense of coherence, adverse childhood experiences, psychological distress, foster care abuse

Introduction

One of the greatest social determinants of health for any human being is the ability to form an attachment to a primary caregiver and maintaining relationships with others (Wilkinson, 2005; Zeanah, et al., 2003). Conversely, one of the most traumatic experiences for anyone to endure, especially for children, is the dramatic loss of a parent (Bowlby, 1998; Najjar, Weller, Weisbrot, & Weller, 2008; Perry & Szalavitz, 2006). Such losses not only produce extreme grief and trauma, but also threaten the developmental health of children, particularly when attachments to a primary caregiver (whether dysfunctional or not) are disrupted or severed (Zeanah, et al., 2003). Adverse life events or ongoing adversities beyond a child's control create traumatic childhood experiences (Tiet, et al., 1998). The relationship between childhood adversities and adult health outcomes from previous research studies continue to enhance our understanding of the enduring aftermath of early adversity, particularly for vulnerable populations such as those formerly in foster care as children (Benbenishty & Schiff, 2009;

Courtney, Dworsky, Cary, Love, & Vorhies, 2011; Courtney, Dworsky, Lee, & Raap, 2010; Dong, Giles, et al., 2004; Felitti, 2009; Felitti & Anda, 2010; Freundlich & Avery, 2005; McMillen, et al., 2005; Stanley, Riordan, & Alaszewski, 2005).

Many childhood adversities such as maltreatment, early parental loss, family disruptions, quality of parental relationships, foster care placement, subsequent maltreatment while in foster care, and cumulative childhood adversities that are not ameliorated are risk factors associated with attachment disorders, mental health problems, and psychopathology (Chapman, et al., 2004; Rosenkranz, Muller, & Henderson, 2012; Zeanah, Boris, & Scheeringa, 1997; Zeanah, Keyes, & Settles, 2003). The most developmentally vulnerable population and the largest group of children entering the foster care system are infants while children below the age of three experienced the highest collective rate of maltreatment (USDHHS, Administration for Children and Families, Children's Bureau, 2009; Harden & Zero to Three (Organization), 2007). The risk for psychopathology is compounded for many children in foster care from a cascade of subsequent adversities associated with this social setting (Akhtar, 2010; Buchanan, Ten Brinke, & Flouri, 2000; Clark, Caldwell, Power, & Stansfeld, 2010; Keilson, 1980).

Infants and children may experience anywhere from 1-15 placements within the first year of entering the foster care system creating cumulative and distal life challenges resulting in additional psychological burdens (Berger, Bruch, Johnson, James, & Rubin, 2009; Newton, Litrownik, & Landsverk, 2000; Proctor, Skriner, Roesch, & Litrownik, 2010). Previous adverse childhood experiences studies (ACEs) found that several categories of childhood adversities (abuse) do not occur in isolation but are rather very interrelated; in 80% of cases, a report of one ACE often results in another experience of abuse (Anda, et al., 1999; Dong, Anda, et al., 2004; Felitti, et al., 1998). Several research studies describe a gradient effect between the number of

ACEs reported and the severity of health outcomes suggesting that time does not erase the effects of childhood adversities but only conceals its impact even up to 50-60 years later.

Research suggests that what happens during childhood may literally become a part of one's physiological being rather than time healing old wounds (Antonovsky, 1967; Dong, Giles, et al., 2004; Felitti, 2009; Felitti & Anda, 2010).

The current research study seeks to contribute to the dearth of research examining the association between ACEs and adult well-being of vulnerable populations such as those formerly in foster care as children. In addition to examining cumulative ACEs reported during childhood, this study also examined the relationship between the number of ACEs reported before and while in foster care and adult well-being. Though several studies have examined the health outcomes of youth and young adults who have recently transitioned out of the foster care system, studies examining the health outcomes of older adults (mid-thirties and older) formerly in foster care as children are few or non-existent. This study seeks to address this gap by examining the relationship between the number of ACEs reported and the psychosocial well-being of both younger and older adults formerly in foster care as children. An increased awareness of foster care experiences from adults formerly in foster care as children may help positively influence child welfare policy and practice and ultimately help improve adult health outcomes.

Foster care

Protecting children from abuse and neglect is an important social concern universally accepted, yet many countries struggle to effectively address the increase of child abuse reports and foster care placements through government operated child welfare programs (Collins, Paris, & Ward, 2008). Societal problems and child welfare policy and practice may be contributing factors associated with the increase of child abuse reports. For example, many countries have

experienced an increased rate of poverty and social problems such as homelessness, domestic violence and substance abuse; these social problems are often associated with child protection services (Colten, et al., 1997; Frame, 2002; Myers, 2006; Schene, 1998; Trocme, Fallon, MacLaurin, & Neves, 2003). Government and state funding constraints may limit social services that address some of these social problems afflicting many families resulting in the use of social services such as foster care to protect vulnerable children at risk (Zeira, 2006). Finally, the problem of broad or inclusive definitions of child maltreatment (violent and non-violent) such as abuse, neglect, and exploitation, for example, along with public pressures for child welfare to correctly identify and prevent serious cases of child abuse may be additional factors associated with increased child abuse reports (Jack, 1997; Keyes, 2009; UK Department of Education, 2010; U.S. Department of Health and Human Services [USDHHS], Administration for Children and Families, Children's Bureau, 2008; Zellaman, 1990).

According to the U.S. Administration for Children and Families, 3.3 million allegations of child abuse were reported in 2009; of these, 2 million cases were investigated by child protective services (CPS) resulting in 763,000 substantiated cases of maltreatment. While the national rate of physical and sexual abuse decreased from 2008 to 2009, partly attributed to the use of alternative response options that focus on helping families address reports of maltreatment rather than gathering evidence of maltreatment, the rate of substantiated cases of maltreatment associated with neglect (non-violent victimization) increased from 72% in 2008 to greater than 78% in 2009. This rate dramatically increased to 90-100% in some states with the inclusion of medical related cases of maltreatment. In 2009, over 120,000 foster care placements involved victimized children and 87,000 placements involved non-victimized children (USDHHS, Administration for Children and Families, Children's Bureau, 2009). While the rate of child

victimization has decreased, the rate of foster care placements has not changed much due to the increased rates of neglect or non-victimized (non-violent) cases.

On any given day, there are over 400,000 children entrusted to the care of the child welfare system (USDHHS, Administration for Children and Families, Children's Bureau, 2011). The majority of children (78%) who entered foster care were from families dealing with many social problems associated with poverty such as substandard housing, domestic violence, and parental substance abuse (Child Welfare Information Gateway, Protecting Children Strengthening Families, 2008; Trocme, Fallon, MacLaurin, & Neves, 2003; USDHHS, Administration for Children and Families, 2008). Family preservation is an official policy of child protection services in the United States and in many countries, yet foster care is a predominant social service used to protect vulnerable children at risk superseding alternative social services to preserve the family unit (Berger, et al., 2009; Campbell, Cook, LaFleur, & Keenan, 2010; Davidson-Arad & Benbenishty, 2010; Gunston, 1995; Halverson, Puig, & Byers, 2002; Melton, 2005a, 2005b; Mosek, 2004; New Zealand Government, Ministry of Social Development, Te Manatu Whakahiato Ora, 2008; Pelton, 1978, 1987; Schene, 1998; Zeira, 2004). Several child welfare acts over the years have been introduced to address this child welfare policy and practice concern. The U. S. Social Security Act of 1935 and The Adoption Assistance and Child Welfare Act (P.L. 96-272) of 1980 were passed to clearly delineate the role of social services towards keeping families intact and avoiding unnecessary removal of children (Child Welfare Information Gateway, Protecting Children Strengthening Families, 2010).

As family disruptions continued to dominate public concerns, subsequent legislative Acts were introduced to address current child welfare practices such as the U.S. Family Preservation and Support Services Program Act (103-66) of 1993 and the Adoption and Safe Families Act

(P.L. 105-89) of 1997 (Child Welfare Information Gateway, Protecting Children Strengthening Families, 2009). The literature also suggested that these child protection services were often disproportionately provided to indigenous and ethnic populations, single mothers, families experiencing economic disparities, and struggling with substance abuse as opposed to social services that help families overcome their social problems (Australian Institute of Family Studies, National Child Protection Clearinghouse, 2010; Berger, et al., 2009; Frame, 2002; USDHHS, Administration for Children and Families, Children's Bureau, 2010). In one study examining the perceptions of social workers, researchers found that that few social workers (10%) believed the emphasis of social services was towards strengthening families while more (60%) perceived social services were predominantly for protecting children through foster care services (Colton et al., 1997).

Current child welfare practices impacts the entire family unit involved with the child welfare system, especially children entrusted to government care. Several studies examining the process of entering foster care have created a greater awareness of what it is like for children. For many, the process was traumatic and abrupt resulting in unresolved adversity and loss creating experiences associated with anxiety, confusion, and fear of the unknown (Johnson, Yoken, & Voss, 1995; Mitchell, Kuczynski, Tubbs, & Ross, 2010; vaughn Heineman, 2008). In addition to traumatic foster care experiences, researchers found that many children were often concurrently dealing with the emotional consequences of maltreatment that necessitated their foster care placements (Buchanan, et al., 2000; Winter, 2010).

While some children may benefit from foster care services, research outcomes reveal that youth and young adults formerly from foster care in the United States and in many countries are disproportionately disadvantaged emotionally, educationally and socially at a statistically

significant greater level compared to their counterparts from the general population; longitudinal research indicates that young adults formerly in foster care continue to lag behind over time (Benbenishty & Schiff, 2009; Courtney, Dworsky, Brown, Cary, Love, & Vorhies, 2011; Courtney, Dworsky, Lee, & Raap, 2010; Freundlich & Avery, 2005; McMillen, et al., 2005; Stanley, Riordan, & Alaszewski, 2005). Research further revealed that young adults with histories of foster care placements experienced disproportionate rates of psychiatric problems associated with cumulative adversities such as maltreatment, numerous foster care placements, and interpersonal losses (McMillen, et al., 2005).

Researchers also noted high rates posttraumatic stress disorder (PTSD) compared to the general population; some youth were noted to be experiencing PTSD at close to two times greater the rate of U.S. War Veterans (Jackson, O'Brien, & Pecora, 2011; Pecora, et al., 2005). In one of the largest ongoing longitudinal studies, *The Midwest Evaluation of the Adult Functioning of Former Foster Youth: Outcomes at Age 23 and 24*, by Courtney, et al., (2010), researchers found that young adults formerly in foster care worked fewer hours, earned less income, and received less financial support from their families compared to similar aged youth from the general population (counterpart). Twenty-four percent of these same youth reported being homeless at one point; many viewed their futures less optimistically when compared to their counterparts. Over twice as many youth in this study (12.5%) compared to their counterparts (5%) reported experiencing limitations in their daily activities due to a health/disability problem. Researchers further found that conviction rates were disproportionately higher among both female (28.2%) and male (58.8%) participants when compared to the conviction rates (10.3%) of youth from the general population (Courtney, et al., 2010).

Although most child welfare institutions are aware of many of the mental health problems linked to children involved with child welfare, past and present recommended improvement plans most often do not include those that directly address the emotional burdens associated with childhood adversities such as maltreatment and foster care placements, but rather center on improving various aspects of the child protection process (Bruskas, 2008, 2010; Frame, 2002; Melton, 2005a; Scottish Executive, 2007; Stahmer, et al., 2005; Tilbury & Thoburn, 2009; UK Department of Education, 2010; USDDHS, Administration on Children, Youth and Families, Children's Bureau, 2009).

In the Munro Review of Child Protection (2010), Munro suggests that effective policy reform considers the whole aspect of child protection including improving the well-being of children as opposed to only focusing on target outcomes associated with improving the process of child protection. She further explains that child welfare policies that solely focus on the process of child protection may unintentionally adversely affect the very children they are intended to protect when additional policies and practices continue to overshadow the needs of children. Research indicates that a problem focused child welfare emphasis may create an imbalance where greater value is most often placed on the intervention plan rather than on the outcomes of those served suggesting a need for a paradigm shift (Tilbury & Thoburn, 2009; UK Department for Education, Children and young people, 2010).

Sense of coherence

Antonovsky's (1987) Sense of Coherence (SOC) paradigm, a salutogenic (origins of health) theoretical framework, centers on what keeps people healthy as opposed to the traditional and dominant pathogenic paradigm that focuses on disease or risk factors (problems) for disease. While risk factors compromise health, Antonovsky posits that protective factors promote health.

Although, both paradigms present opposite perspectives, Antonovsky purports that a pathogenic perspective does not need to be opposed, but rather compliments a salutogenic orientation as an adjunct. He points out that adverse life events are part of life emphasizing the importance of identifying and addressing such stressors. He advocates changing the focus from stressors to protective factors referred to as Generalized Resistant Resources (GRRs) as a health promoting strategy. Antonovsky posits that stress factors which become intolerable, persistent, and cumulative and not ameliorated by protective factors or resources become pathogenic risk factors. Thus, a person with a strong sense of coherence and on a trajectory of favorable health outcomes or “ease vs. dis-ease” is someone that has many protective factors and resources that can be mobilized to ameliorate the effects of pathogenic stressors (Antonovsky, 1987, p. 15; Cassel & Suedfeld, 2006).

The SOC theoretical framework by Antonovsky (1987) was used to examine and elucidate the relationship between adverse childhood experiences and psychosocial well-being of adult women formerly in foster care as children. The level of a person’s SOC (weak or strong) is considered to be a subjective measure of overall health, “particularly mental health” (Eriksson & Lindstrom, 2006; Van der Hal-van Raalte, Van Ijzendoorn, & Bakermans-Kranenburg, 2008, p. 1355). The level of SOC (measured by the *Sense of Coherence* questionnaire) and present mental health status noted in symptoms and behaviors of depression, anxiety, and somatic symptoms (measured by the *General Health Questionnaire*) were used as two independent but highly correlated constructs (SOC and present mental health) to examine psychosocial well-being (Eriksson & Lindstrom, 2006, p. 378). The current study hypothesizes that greater number of adverse childhood experiences associated with maltreatment and foster care experiences will be associated with lower levels of SOC and higher psychological distress.

Methods

Participants

Study participants included 101 adult women formerly in the foster care system from 36 states between the ages of 18 and 71 years of age with an average age of 37 years of age ($M=36.83$, $SD=12.95$). The majority of respondents (73%) identified themselves as Caucasian; 16% as African American, 8% as Hispanic, and 7% as Native American.

Participant recruitment and procedure

Data were collected from October 1, 2011 to February 10, 2012 using a web based survey posted on the Pacific Northwest Alumni of Foster Care (PNAFC) nonprofit's website. Recruitment strategies involved generating PNAFC newsletters announcing the study, contacting local and national allies and advocates of the foster care population, and creating local and national online ads such as with Google AdWords; these ads described the purpose and participant eligibility of the research study. Interested participants self-identified as older than 18 years of age who were formally in foster care as children voluntarily completed an anonymous web-based survey utilizing several self-administered questionnaires about childhood maltreatment (abuse, neglect, and dysfunctional household) and psychosocial well-being. Informed consent was obtained by using an online Information Statement document that described the purpose and content of the research study; this document served as waiver of written consent and each participant either agreed or disagreed before proceeding forward. This research study was approved by the Institutional Review Board (IRB) of the University of Washington.

Measures

Characteristics of foster care experiences. Five indicators of foster care background included: age of foster care entry, number of years in foster care, number of foster care placements, number of school changes, and type of placement while in foster care. Additional data included current demographic and socioeconomic status.

Adverse Childhood Experiences Questionnaire. Childhood adversity in this study was defined as any exposure to traumatic situations or chronic stressors or specific traumatic events occurring prior to the age of 18 years old. The frequency (cumulative) and type(s) of childhood adversities were measured using the Adverse Childhood Experiences (ACEs) Questionnaire. The ACE questionnaire in this study included the original 10 questions of the ACE Questionnaire with two additional questions related specifically to when an ACE occurred: “before” or “while in” foster care. Temporal ACEs in this study were obtained to better understand the experiences of vulnerable children before and while in foster care. This questionnaire assessed 10 different types of childhood adversity among three different domains of childhood abuse: abuse (emotional and physical), physical neglect, and abuse associated with living in a dysfunctional household (witnessing maternal abuse, living with a substance abuser, living with a mentally ill household member, parental loss such as through divorce, and having a household member incarcerated).

The total number of childhood adversities (only one count per category) experienced prior to the age of 18 years old provided an ACE Score between 0-10. A report of no abuse was counted as zero while each account of abuse was counted as 1; total sums ranged between 0-10 and did not take into account the frequency of each type of abuse but rather a cumulative account of types of abuses experienced. The ACE questionnaire was intended to measure the association of multiple types (frequency) of abuse with diverse types of health outcomes (Anda & Brown,

2010). Temporal (before and during foster care) and types of abuse were also reflected and examined in this study. The ACE questionnaire is a well accepted scale to measure cumulative experiences of childhood adversity. Cronbach's alpha coefficient was used to test the internal consistency of the ACE questionnaire used in this study; the coefficient was noted at 0.81 demonstrating reliable and valid consistency ($\alpha=0.81$, $n=101$).

The Sense of Coherence Questionnaire. The abbreviated 13-item questionnaire included several questions related to each sub-construct (comprehensibility, manageability, and meaningful). Each question was rated on a 7 point Likert scale ranging from 'Very seldom or never' to 'Very often' or 'Never happened' to 'Always happened', for example. Each question in the SOC-13 scale provided response ratings between 1 and 7; high scores reflected a person with a greater sense of coherence or personal control over one's life. Lower scores reflected a person who perceived less control and less manageability, in other words, perceive a less sense of cohesion (Antonovsky, 1987). Total SOC scores can range from 13 to 91 with possible mean scores usually ranging from 33-77 (Eriksson & Lindstrom, 2006). According to a review of 127 research studies using the SOC-13, researchers found the reliability and validity (internal consistency) of this scale to range between 0.70-0.92 (Antonovsky, 1993; Cassel & Suedfeld, 2006; Eriksson & Lindstrom, 2005; Simonsson, Nilsson, Leppert, & Diwan, 2008). Cronbach's alpha coefficient was used to test the internal consistency of the SOC questionnaire used in this study; the coefficient was noted at 0.87 demonstrating reliable and valid consistency ($\alpha=0.88$, $n=101$).

The General Health Questionnaire. The General Health Questionnaire (GHQ), a self-report tool, developed in England to assess various psychological problems in the general population has been a very useful screening tool for health professionals in various outpatient or

primary care settings (Goldberg & Hillier, 1979). The abbreviated 12-item version of the GHQ used in this study contains twelve mental health related questions pertaining to recent experiences of specific events such as a person's degree of concentration, sleep patterns, and the degree of happiness, for example. The intent of this questionnaire was to highlight breaks in normal function within the past two weeks such as not being able to function in routine daily activities as opposed to lifelong traits (Goldberg & Williams, 1988, p. 5). The GHQ-12 was used in this study to identify respondents who were experiencing psychological problems from those who were not.

Each question was rated on a 4 point Likert scale ranging from "not at all", "no more than usual", "rather more than usual", or "much more than usual"; response options differed slightly depending on the question (positively or negatively worded), but all question responses were similarly formatted to create a four-point rating scale. Total scores ranged between 0-36 using the GHQ Likert rating method (0, 1, 2, 3) to calculate each participant's total GHQ score. Low scores were equated with favorable psychological well-being while high scores were equated with poor psychological well-being. A threshold (cut-off point) of 12/13 was used where participants with GHQ scores of 12 and under were identified as non-distressed while scores of 13 and above were identified as experiencing psychological distress. The GHQ-12 is a widely "culture-specific" used tool with validity and reliability ranges between .78-0.95 in other research studies from diverse countries (Goldberg & Williams, 1988; Hu, Stewart-Brown, Twigg, & Weich, 2007; Jackson, 2007; Salama-Younes, Montazeri, Ismail, & Roncin, 2009). Cronbach's alpha coefficient was used to test the internal consistency of the GHQ-12 used in this study; the coefficient was noted at 0.89 demonstrating reliable and valid consistency ($\alpha=0.83$, $n=101$).

Analysis plan

Simple correlations for continuous variables were used to attain the strength of relationships or correlations between adverse childhood experiences and psychosocial well-being. Next, linear regression models were conducted to quantify the correlational relationship between the dependent and independent variables. The dependent variables used to measure psychosocial well-being were the level of sense of coherence and the level of psychological distress. The dependent variables were measured using both Sense of Coherence (SOC-13) and General Health (GHQ-12) questionnaires in separate regression models. The independent variables were the number of ACEs reported before foster care, the number of ACEs reported during foster care, and the number of foster care placements. Regression models help reveal which independent variables have a unique quantifiable negative or positive association on psychosocial health outcomes.

Multiple linear regression estimates the strength of relationships between each variable while holding all other variables constant. Descriptive analyses were used to help explain and summarize the research data such as categories of ACEs (as opposed to each of the 10 ACEs) reported before and while in foster care, for example. Statistical significance was estimated using R version 2.14.1 (2011); this statistical software was well suited for multivariate analyses.

Results*Foster care experience*

Although, 33% of respondents reported entering the foster care system between the ages of 0-5-years of age, the average age of foster care entry was 8 years old. On average, respondents reported being in the foster care system for seven years and experienced an average of six foster care placements (See Table 1). The average number of school changes reported while in foster was four and was correlated with the number of foster care placements reported.

The type of foster care placement was significantly correlated with the age of foster care entry, the number of years in foster care, the number of foster care placements, and the number of school changes while in foster care (See Table 1). The most prevalent type of foster care placement reported was living in a foster care home (58%). Of those living in a foster care home, 77% reported living with an unknown (non-kinship) foster care family. Nearly 37% reported living in both a foster care home and in a group home while in foster care while only 5% reported living exclusively in a group home.

Table 1
Associations And Description Among Foster Care Experiences

	<i>M</i>	<i>SD</i>	Age of FC entry	Years in FC	FC Placements	School changes	Type of placement
Age of FC entry	8.35	5.34	--				
Years in FC	6.47	5.07	.00 ***	--			
FC Placements	6.20	8.49	.15	.00 ***	--		
School Changes	3.81	4.67	.10	.33	.00 ***	--	
Type of placement			.29 **	.40 ***	.29 **	.40 ***	--

Note. $N=101$. FC=foster care

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

Younger participants in this study (18- 24 years of age) reported higher rates of obtaining a high school diploma over obtaining or a general educational development (GED) certificate or not obtaining either a high school diploma or a GED (See Table 2). These results were somewhat similar to previous research such as *The Midwest Evaluation of the Adult Functioning of Former Foster Youth: Outcomes at Age 24 and 25* (2011) referred to as the Midwest Study (See Table 2). More respondents reported obtaining a 2-year college degree compared to a 4-year college degree and 8% reported obtaining a graduate degree between the ages of 25-35 years of age ($n = 4$) and 36-71 years of age ($n = 4$) years. Though similar trends among the

current study and the Midwest study are noted, the rate of educational achievement in the current study is much higher across all levels of educational categories and is consistent with the pattern of educational attainment rates noted in the U.S. Census Bureau (2012b); results from this population survey noted increasing rates in the level of obtaining a high school degree to obtaining a doctorate with increasing age groups.

Table 2
Comparison of Highest Level of Education Among Current Study and Midwest Study

	Participants 18-24 years n = 19		Participants 25-35 years n = 30		Participants 36-71 years n = 49		Midwest Study Females 25-26 n = 330	
	#	%	#	%	#	%	#	%
No high school diploma/ GED	0	0.0	1	3.3	5	10.2	57	17.3
High school diploma	6	31.6	3	10.0	4	8.2	96	29.1
GED	0	0.0	4	13.3	4	8.2	27	8.2
Some college	11	57.9	18	6.0	18	36.7	114	34.5
Two year college degree	0	0.0	5	16.7	9	18.4	18	5.5
Four year college degree	2	10.5	5	16.7	5	10.2	12	3.6
Graduate school	0	0.0	4	13.3	4	8.2	-	-

Note. Midwest Study=Midwest Evaluation of the Adult Functioning of Former Foster Youth: Outcomes at Ages 25 and 26, GED=general educational development certificate.

While younger participants reported currently being in school compared to older participants in the current study, more respondents (34%) reported currently being enrolled in school compared to 17.2% of participants from the Midwest study (See Table 3). Less than half of the respondent in the current study and in the Midwest Study reported currently being employed (See Table 3). Although the unemployment rate improved somewhat with age in the current study and is consistent with the U.S. Census Bureau (2012c) population survey showing increasing rates of employment with increasing age, the unemployment rates in the current study are much higher in comparison; the highest unemployment rate reported in the population survey

was among females between the ages of 16 to 19 years of age at 22.8% with decreasing unemployment rates noted with increasing age groups.

Although the frequency rate of contact with biological family was not measured in the current study, most respondents (70%) reported being in contact with their biological families; contact with biological family appeared to increase and stabilize with age. Likewise, most respondents (81%) in the Midwest Study reported having contact with their biological family. Fewer respondents in the current study reported being in contact with their foster care families (46.4%) or their social worker (9.8%).

Table 3
School Enrollment, Employment, and Contact with Biological Family

	Participants 18-24 n = 21		Participants 25-35 n = 30		Participants 36-71 n = 50		Midwest Study All 23-24 n = 602	
	#	%	#	%	#	%	#	%
Currently enrolled in school	16	76.2	7	23.3	11	22.0	100	25.9
Currently employed	8	38.1	13	43.3	25	50.0	289	48.0
Contact with biological family	13	61.9	23	76.7	37	74.0	-	81.0

Note. Midwest Study=Midwest Evaluation of the Adult Functioning of Former Foster Youth: Outcomes at Ages 25 and 26,

A 5-point rating scale ranging from 5=*all the time* to 1=*none of the time* was used for three questions associated with the level of social support. Respondents on average reported having someone *most often* (4=*most often*) available to talk to ($M=3.56$, SD 1.31), someone to give them good advice on a crisis ($M=3.55$, SD 1.35) and someone available to help when sick such as cooking or driving ($M=3.55$, $SD=1.35$). Although the age range in this study was larger compared to the Midwest study, respondents in the Midwest Study also reported *most often* having someone to talk to and having someone available to offer good advice during a crisis were similar ($M=3.80$, $SD=1.14$ and $M=3.76$, $SD=1.19$ respectively).

Less than half of the participants in the current study (42.6%) reported visiting the emergency department in the past year compared to over half of the participants in the Midwest Study (51%). Hospitalization rates within the past year between the current study and the Midwest Study were somewhat similar (24% and 21% respectively). Although, participants in the current study were asked for the main reason of their last hospitalization ever compared to the main reason for the most recent hospitalization (within the last year) asked by the Midwest Study, the results were similar. The most prevalent reasons for hospitalizations in the current study and in the Midwest Study were due to illness and pregnancy (See Table 4). The current study showed higher rates of being hospitalized for emotional or mental health problems in comparison while reports of injuries and accidents were most often associated with younger male participants in the Midwest Study.

Table 4
Reasons for Hospitalization

	Participants 18-71 Female only <i>n</i> = 86		Midwest Study 25-26 Male/Female <i>n</i> = 122	
	#	%	#	%
Illness	25	29.1	40	32.8
Injury or accident	7	8.1	17	13.9
Alcohol or other drug problem	3	3.5	1	0.8
Emotional or mental health problems	12	14.0	12	9.8
Pregnancy-related	25	29.1	36	29.5
Other	7	8.1	16	13.1

Note. Midwest Study= Midwest Evaluation of the Adult Functioning of Former Foster Youth: Outcomes at Ages 25 and 26.

Depression was the most prevalent diagnosis reported (43%) in the current study followed by posttraumatic stress disorder (PTSD) at 29%. Nearly 25% of participants in the Midwest Study reported ongoing signs and symptoms of depression for at least two-weeks or

longer with higher rates being reported among females (27%). Sixty percent of Midwest Study participants reported experiencing at least one traumatic life event such as a natural disaster, being victimized (sexually or physically), or experiencing a serious accident; over half subsequently reported having trouble sleeping (53%), controlling their emotions (57.5%), concentrating (57.5%), and tried to not think about previous traumatic experiences (68.8%) and avoided situations or people associated with such events (50%). Reported suicide attempts in the current study were very low (1%) and similarly low in the Midwest Study (2%).

Five percent of respondents in the current study and 4.6 % of females in the Midwest Study reported drinking alcohol on a daily basis; more female respondents in the Midwest Study (36%) reported drinking two to three times a month compared to respondents in the current study (22%). While females in the Midwest Study reported higher rates of receiving counseling and medication for psychological or emotional problems compared to males, respondents in the current study compared to young women in the Midwest Study reported receiving more prescriptions and counseling for psychological or emotional problems (See Table 5).

Table 5
Health Care Services Utilization

In the past year	Participants 18-71 Females only <i>n</i> = 101		Midwest Study 25-26 Both Genders <i>n</i> = 332	
	#	%	#	%
Psychological or emotional counseling	39	38.6	48	14.5
Prescribed medications for psychological or emotional problems	35	34.7	62	18.7
Substance use treatment	4	4.0	10	3.0

Note. Midwest Study=Midwest Evaluation of the Adult Functioning of Former Foster Youth: Outcomes at Ages 25 and 26

Psychological distress

The mean SOC sum was 54 ($M = 54.26$, $SD = 15.35$) with minimum and maximum scores ranging from 19 to 83 from a possible range of scores from 13 to 91. The mean GHQ sum was 15 ($M = 14.83$, $SD = 5.88$). Over 56% of respondents were identified as experiencing psychological distress noted by scores above the GHQ threshold. Although, Antonovsky (1987) did not recommend specific cut-off points for determining the level of SOC sum, several previous studies have categorized SOC scores into high and low ranges using quartile percentages. When comparing SOC scores from the current study with previous studies (using the SOC-13) using different age groups and populations from diverse countries, the mean SOC sums fall into the lowest SOC categories (low, moderate, and high) used in several previous research studies. (Eriksson, Lindstrom, & Lilja, 2007; Van der Hal-Van Raalte, Van Ijzendoorn, & Bakermans-Kranenburg, 2008; Ristkari, Sourander, Ronning, Nikolakaros, & Helenius, 2008).

Similarly, when comparing GHQ scores with previous studies (using GHQ-12) using vulnerable populations with diverse age groups such as those diagnosed with a substance abuse disorder or with medical students experiencing academic and financial related stressors, respondents in the current study had dramatically higher rates of psychological distress (Biro, Adany, & Kosa, 2011; Biro, Balajti, Adany, & Kosa, 2009; Matsuzaki, et al., 2007; Nilsson, Leppert, Simonsson, & Starrin, 2010; Ziaaddini, Dastjerdi, & Nakhaee, 2007).

Correlation analysis

Correlational analysis revealed a significant negative correlation between SOC and current mental health noted in GHQ sums ($r = -0.64$, $p < 0.001$). Correlational analysis also showed a significant relationship between ACE sums and both SOC and GHQ sums. ACE sums were negatively correlated with SOC ($r = -0.31$, $p < 0.01$) while ACEs were positively correlated with current mental health outcomes noted in GHQ sums ($r = 0.20$, $p = 0.05$). A correlational

analysis was also conducted using the five indicators of foster care experiences and ACEs and several variables were found to be correlated. Specifically, the number of foster care placements and ACEs were significantly positively correlated ($r = 0.33, p < 0.001$) indicating that as the number of foster care placements increased, the number of ACEs also increased.

Preliminary analysis

The 10 different types of abuses from the ACE questionnaire were re-coded from 10 numerical variables to four factor variables. The first four ACEs (ACE 1-4) were identified as those associated with emotional and physical abuse, physical neglect (ACE 5) was identified as another factor variable, and the remaining four ACEs (ACE 6-10) were categorized as those associated with living in a dysfunctional household. Finally, reports of no ACEs were classified as a fourth factor variable. The frequency and combinations of these ACE factor variables as a whole and before and during foster care were used for descriptive purposes.

Higher foster care placements associated with very few data points created an unusually large variance estimate of uncertainty in the complete data set, so a reduced data set of 10% ($n = 10$) was used to examine the relationship between the number of foster care placements and the number of ACEs. The few data points associated with the number of foster care placements from 13 to 60 ($n=10$) were removed resulting in 100 data points between 1-12 foster care placements. No qualitative differences were noted between the reduced data set ($N = 91$) and the full data set ($N = 101$).

Bivariate associations

The type of foster care placement reported was associated with the number of foster care placements. Specifically, respondents who reported living in both a foster care home and a group home or who reported just living in a group home while in foster care was associated with increased foster care placements and was also associated with decreased levels of sense of

coherence and increased levels of psychological distress (See Table 6). Current age of participants was not associated with the level of psychological distress, but was positively associated with variances in sense of coherence, $R^2 = .06$, $F(1, 99) = 6.04$, $p < 0.05$, $R^2_{\text{adjusted}} = .05$, suggesting that with each increase in age, minimal increases in the level of sense of coherence were noted ($b = 0.284$, $SE = 0.12$), $t(1, 99) = 2.46$, $p < 0.05$.

The number of foster care placements was associated with the number of ACEs and accounted for a significant amount of variance, $R^2 = .19$, $F(1, 89) = 21.18$, $p < 0.001$, $R^2_{\text{adjusted}} = .183$. The number of foster care placements was associated with an unique positive effect on the number of ACEs ($b = 0.453$, $SE = 0.10$), $t(1, 89) = 4.602$, $p < 0.001$. Specifically, one foster care placement corresponded to experiencing four adverse childhood experiences and each additional foster care placement was associated with an increase in ACEs by 0.45 points. This indicated that two subsequent foster care placements, for example, was associated with an increase in ACE sums by ~ 1 (0.90).

Number of years in foster care, the level of education, employment status, and contact with biological family were not associated with the level of sense of coherence or the level of psychological distress at the 0.05 level. Additionally, while type of employment was not statistically associated with the level of sense of coherence or the level of psychological distress at the 0.05 level, the data suggested that certain types of employment were associated more with psychological distress than others. Specifically, respondents who reported working as professional (i.e. engineer, doctor, lawyer, nurse, business or financial manager) compared to respondents who worked as an unskilled manual employee (i.e. dishwasher, construction worker, painter, or nurse's aide or an unskilled non-manual employee (i.e. receptionist, fast food worker, waiter, or administrative assistant), was associated with greater levels of psychological distress.

Table 6
Level of Sense of Coherence and Psychological Distress by Type of FC Placement

	Sense of Coherence				Psychological Distress			
	FC	FC/GH	GH	All	FC	FC/GH	GH	All
Number	59	37	5	101	59	37	5	101
Mean	57.66	49.27	51.00	54.26	13.93	15.70	17.40	14.75
Std Deviation	14.9	15.66	19.56	15.35	5.86	6.10	4.83	5.94

Note. N=101, FC=foster care home, GH=group home, All=total sample

Prevalence and type of adverse childhood experiences

Study participants reported experiencing an average of six ACEs ($M=6.68$, $SD=2.90$). Most respondents (97%) reported experiencing at least one ACE; nearly 70% reported five or more ACEs and 33% reported eight or more ACEs while 23% reported 9 or more. The four most reported types of abuse experienced during childhood were (1) psychological neglect (79%) defined as not feeling loved, important, special, or looked after, (2) intimidation (70%) defined as reports of swearing directed toward them, being insulted, put down, or humiliated, (3) physical abuse (61%) defined as being pushed, grabbed, slapped, or having something thrown at them, and (4) physical neglect (59%) defined as not having enough to eat, having to wear dirty clothes, or feeling that there was no one to protect or care for them.

When examining the prevalence of ACEs before and during foster care placement, notable differences were found. First, ACEs reported before and during foster care were statistically different ($p < 0.01$); respondents reported higher rates of ACEs before entering the foster care system ($M=4.18$, $SD=3.19$) compared to ACEs reported while in foster care ($M=3.09$, $SD=2.58$). Second, the rates of specific types of abuse associated with physical neglect (ACE 5) and living in a dysfunctional household (ACEs 6-10) were more prevalent before foster care

while the rate of psychological and physical types of abuse (ACEs 1-4) increased after entering the foster care system (See Table 7); each type of abuse in this category increased during foster care. An independent-samples Z-test was conducted to compare the frequency differences in each category of ACEs reported before and during foster care. There was a significant reduction (16%) in the rate of physical neglect reported during foster care, $z = -3.20, p = 0.001$. A significant reduction in the rate of reported abuses associated with living in a dysfunctional family (19%) was also noted during foster care, $z = -3.92, p < 0.001$.

Table 7
Frequencies of Adverse Childhood Experiences Before and During Foster Care

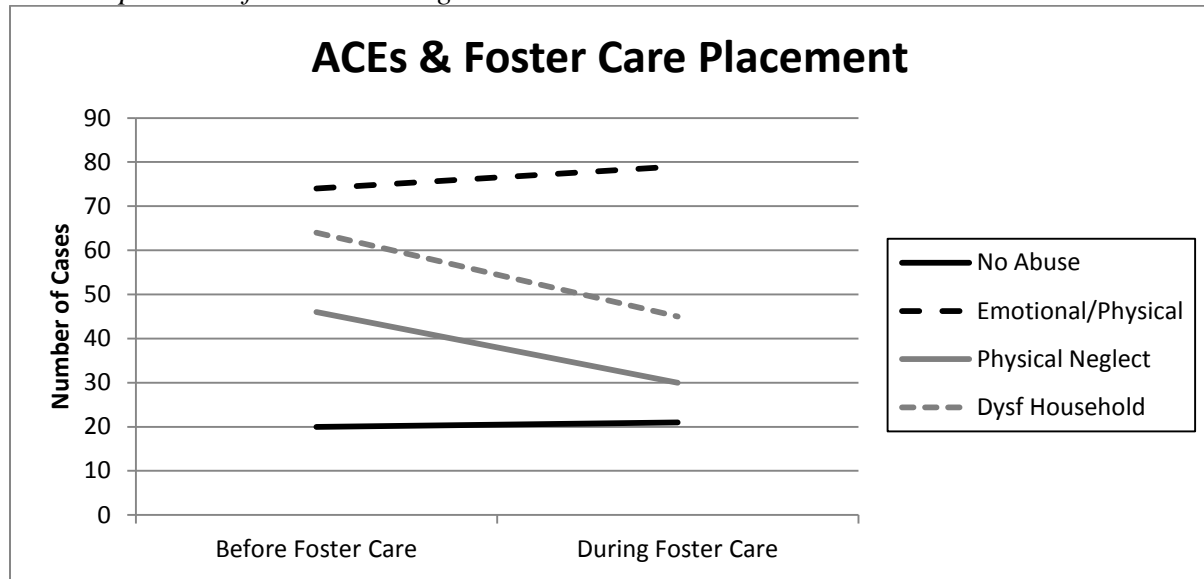
ACE	Adverse Childhood Experiences Description	Before	During
		%	%
1	Intimidation -swearing, insults, put downs, or humiliation	48	51
2	Physical abuse -pushed, grabbed, slapped, or something thrown at person	39	43
3	Sexual abuse -touched or fondled or made to touch abuser's body sexually	34	55
4	Psychological abuse -did not feel loved, important, special, or looked after	55	64
5	Physical neglect -not enough to eat, had to wear dirty clothes, or no one to protect or care for you	46	30
6	Parental loss -parents/foster parents separated, divorced or lost to you	43	22
7	Maternal abuse -mother/foster mother pushed, grabbed, slapped, or ever had something thrown at her	41	16
8	Substance abuser -lived with a problem drinker or alcoholic or drug abuser	45	16
9	Mental illness -household member depressed, mentally ill, or attempted suicide	47	23
10	Prison -household member in prison	24	12

Note. $N=101$.

Specifically, research results indicated that being placed in foster care statistically reduced the rate of abuse associated with physical neglect from 46% to 30% and the rates of abuse associated with living in dysfunctional household from 64% to 45%; whereas, the most prevalent types of abuse associated with emotional and psychological abuse were reported as prevalent (74% to 79%) while in foster care (See Figure 1). As previously mentioned, most respondents reported experiencing more than one type of abuse; similarly, most respondents

(88%) reported experiencing more than one category of ACEs both before and while in foster care.

Figure 1
ACEs Reported Before and During Foster Care Placement



Note. Dysf Household=dysfunctional household types of abuse

Thirty-eight percent of respondents reported experiencing emotional and physical types of abuse, physical neglect, and abuses associated with dysfunctional households (all three categories of ACEs) before foster care; of those in this category combination, 37% continued to experience all three categories of ACEs while in foster care. Twenty percent of respondents reported no ACEs before foster care; of these, 75% reported experiencing abuse subsequent to foster care placement such as emotional and physical abuse at 45%. The most prevalent category of abuse reported during foster care was emotional and physical abuse (30%). The second prevalent category combination of abuses (25%) were those associated with all three categories of abuses: emotional and physical types of abuse, physical neglect, and abuses associated with dysfunctional households such as experiencing a parental loss, witnessing maternal abuse, living

with a substance abuser or a mentally ill household member, and having a household member incarcerated.

Adverse childhood experiences, foster care experiences, and adult psychosocial well-being

A step-wise multiple linear regression analysis was conducted to predict psychosocial well-being (level of sense of coherence and psychological distress) using ACEs before foster care as the independent variable in first step. Independent variables added in the second step included ACEs during foster care and the number of foster care placements (See Table 8).

ACEs before foster care were highly correlated with cumulative ACEs ($r = .79, p < 0.001$) and entered in the first step as the effect on psychosocial well-being associated with high number of ACEs among this population could be independent of ACEs experienced during foster care.

In step 1 of the regression model, the number of ACEs reported before foster care was significantly associated with reductions in the level of sense of coherence. In the second step of the regression model (full model) when adding the number of ACEs reported during foster care and the number of foster care placements, only the number of ACEs reported before foster care continued to be associated with significant reductions in the level of sense of coherence (See Table 8). Similar results were noted when using the same independent variables to predict the level of psychological distress. ACEs reported before foster care was the only predictor variable associated with significant increases in the level of psychological distress (See Table 8). ACEs reported before foster care in the full models accounted for more variations in the level of sense of coherence and psychological distress, but each model only provided 1% more explanatory power when compared to the regression models used in step 1.

Table 8
Regression Analysis Predicting Sense of Coherence and Psychological Distress from ACEs reported Before FC, ACEs reported During FC, and the Number of FC Placements

	<i>Sequential Regression</i>								
	R^2_{change}	F_{change}	R^2_{total}	R^2_{adj}	F_{total}	b	(SE)	t	P
<i>Sense of Coherence</i>									
<i>Step 1</i>	.08	9.28	.09	.08	9.28(1,99)*				
Intercept						60.15	(2.43)	24.76	
ACEs before FC						-1.41	(0.46)	-3.05	<0.01
<i>Step 2</i>	.01	-4.98	.12	.09	4.30(3,97)*				
Intercept						62.44	(2.72)	22.99	
ACEs before FC						-1.10	(0.50)	-2.18	<0.05
ACEs during FC						-1.00	(0.62)	-1.62	0.11
Number of placements						-0.08	(0.19)	-0.44	0.66
<i>Psychological Distress</i>									
<i>Step 1</i>	.06	6.85	.06	.06	6.85(1,99)*				
Intercept						12.77	(0.95)	13.43	
ACEs before FC						0.47	(0.18)	2.62	0.01
<i>Step 2</i>	.01	-3.53	.09	.07	3.33(3,97)*				
Intercept						12.25	(1.07)	11.50	
ACEs before FC						0.49	(0.20)	2.49	<0.05
ACEs during FC						0.35	(0.24)	1.45	0.15
Number of placements						-0.10	(0.08)	-1.34	0.18

Note. $N=101$. FC-foster care, Number of placements=number of foster care placements

Discussion

The results of this study showed an association between the number of ACEs and the psychological distress of adult women formerly in foster care as children. Over half of the respondents in this study were identified as experiencing present psychological distress noted in scores above the GHQ threshold used to identify individuals at risk or likely to have mental problems. Depression (43%) and posttraumatic stress disorder (29%) were the most prevalent diagnoses reported. Though, the age range of participants in this current study was much larger (18- 71 years of age) compared to previous studies, research findings were consistent with those examining the mental health outcomes of youth and adults formerly from foster care as children

(Courtney et al., 2007; Jackson, O'Brien, & Pecora, 2011; Pecora et al., 2005; White, Havalchak, Jackson, O'Brien, & Pecora, 2007).

Nearly all respondents (97%) reported experiencing at least one ACE and the data clearly indicated that most ACEs often co-occurred with another ACE. While the mean number of ACEs reported was six, one third reported eight or more ACEs and nearly a quarter reported nine or more. While results indicated that the number of ACEs reported before foster care were significantly associated with reductions in the level of sense of coherence and increases in the level of psychological distress, the data also suggested that the number of foster care placements and the type of foster care placements were also associated with adult well-being. More foster care placements were associated with increased rates of ACEs and more school changes, while living in two types of placements (foster care home and a group home) or living in only a group home compared to living only in foster care homes were adversely associated with the level of sense of coherence and the level of psychological distress. The current data suggests that children entering the foster care system were an already challenged and vulnerable population and at risk of experiencing cumulative adverse childhood experiences associated with the social setting of foster care (Buchanan, et al., 2000; Jackson, et al., 2011; Pecora, 2005; Stahmer, et al., 2005; Wilson & Horner, 2005).

Though, 20% of respondents reported no ACEs before foster care, 75% of these respondents reported experiencing abuse subsequent to foster care placement such as emotional and physical abuse. Several factors may explain why some children entering the foster care system may report experiencing no abuse despite a disposition of foster care placement indicating the need for child protection. While definitions of certain abuse such as neglect encompass acts directly toward a child, these same definitions also include indirect acts of

maltreatment when it is used in reference to parental deficits such as insufficient parental skills and moral or mental parental attributes (Jack, 1997). How a social worker views parental characteristics, uses a previous known complaint of maltreatment reported to child welfare (founded or unfounded), or how maltreatment is defined are factors that often influence the decision making process of a social worker; many of these factors may be associated with parental attributes rather than directly attributed to children involved with child welfare (Dorsey, Mustillo, Farmer, & Elbogen, 2008). In this setting, it is plausible that many children placed in the foster care system due to parental characteristics/problems identified by a social worker may not consider themselves as abused or neglected.

Although the levels of educational attainment in this study were higher than previous studies examining the outcomes of this vulnerable population (Courtney, et al., 2010, 2011; Pecora et al., 2005) and unemployment rates seemed to improve with age, the current study suggests that lower levels of educational attainment and high rates of unemployment noted in younger adults may not attenuate with time. Although respondents in the current study appeared to be faring better educationally compared to previous studies, such as the Midwest Study, the rates of educational attainment were still substantially lower when compared to similar age groups from the general population. While many in the current study appeared to have overcome many obstacles and challenges, too many were identified as experiencing present psychological distress. These findings may suggest that many may be dealing with the latent effects of childhood adversities associated with foster care and cumulative childhood adversities.

Results from the current study are consistent with previous studies showing an association between cumulative childhood adversities and the severity of mental health problems. The high numbers of ACEs reported in this population is significant. Anda et al.

(2006) found that individuals who reported an ACE score of ≥ 4 were 2.2 times more likely to experience elevated perceptions of stress, 4 times more likely of not being able to control their anger, and 5.5 times more likely to be involved with domestic violence. Felitti (2002) noted that individuals reporting an ACE score of ≥ 4 were 4.6 times more at risk of experiencing mental problems (depression) compared to an individual who reported experiencing no ACEs; they also noted that the rate of attempted suicide was 12.2 times higher. Finally, Chartier, Walker, & Naimark (2010) found that respondents who reported ≥ 5 ACEs had an increased rate of experiencing multiple health issues by 1.7 times. Researchers also noted that cumulative childhood adversities necessitated higher rates of medical care.

The current study indicated that foster care was associated with a significant reduction in the rate of abuse associated with neglect by 16% and the rate of abuse associated with living in a dysfunctional household by 19%. The data also indicated that the most prevalent types of abuse reported before foster care continued to be as prevalent while in foster care. Each type of abuse associated with both emotional and physical types of abuse increased suggesting that foster care may not be protecting children from the most prevalent type of abuses reported such as not feeling loved, important, special, or looked after. The implications of these findings are significant and consistent with previous research findings examining the frequency and impact of various types of maltreatment, such as psychological abuse (Rosenkranz, et al., 2012). Research suggests that while psychological abuse may be one of the most prevalent type of abuse, it is also more often overlooked, less likely to be reported, and can potentially be independently associated with deleterious neurobiological development resulting in internal and external developmental problems (Rosenkranz, et al., 2012; Teicher, Samson, Polcari, & McGreenery, 2006; van Harmelen, et al., 2010).

Policy implications

Several child welfare policy and practice recommendations are proposed to positively influence the creation of a developmentally sensitive foster care system to ensure that the unique developmental needs of vulnerable children are truly addressed. First, a focus on social health policies is recommended. Comprehensive social health policies and services that ameliorate the social problems afflicting many families such as poverty, domestic violence, and parental drug and alcohol dependence are needed (Romanelli, et al., 2009). Social determinants of health such as poverty are identified as one of the largest public health concerns (Frieden, 2010). Population level interventions that target social determinants of health potentially have the greatest impact towards improving overall social health by reducing the number of ACEs and family separations (Freiden, 2010).

Second, policy and practice recommendations include reducing the number of foster care placements and protecting children from subsequent maltreatment while in foster care. Research results from the current study noted that respondents who reported greater foster care placements also reported greater number of ACEs. Multiple foster care placements often increase the vulnerability of children. Institutional demands of child welfare and current policies and practices prevent many children from experiencing continuity of care and comprehensive medical services while in foster care (Richardson & Lelliott, 2003). In a U.S. study reported by Ruben, O'Reilly, Luan, & Localio (2007), researchers noted that 70% of multiple placements for children in foster care were due to child welfare administration demands and issues related to new staff. Unintended consequences of institutional care has created a social setting where children linger far too long in “temporary” care; they will belong to many and live with

everyone, but in the end, will often “belong to no one” (Bruskas, 2010; Bullock, Courtney, Parker, Sinclair, & Thoburn, 2006; Pelton, 1987).

While children must be protected from egregious child abuse, children must also be protected from subsequent maltreatment while in foster care. The current study found that adults formerly in foster care as children reported high rates of subsequent maltreatment while in foster care. U.S. statutory guidelines and national standards require that 99.68% of children in foster care be protected from further abuse while in government care (USDHHS, Administration for Children and Families, Children’s Bureau, 2009). This means that 99.68% of children in government care during a 12 month period will not experience subsequent indicated or substantiated maltreatment by a foster parent (or any member of the foster care family) or by personnel associated with a foster care facility such as institutional or group care. Recent data from the National Child Abuse and Neglect System (NCANDS) reported that in 2009 only 24 states were in compliance related to the federal standards of protecting children from further abuse while in foster care (USDHHS, Administration for Children and Families, Children’s Bureau, 2009). A total of 2, 042 children were victims of maltreatment while in foster care. The perpetrators of maltreatment included both kinship and non-related foster parents.

Finally, child welfare policies and practices that directly address the developmental needs of all children in foster care are recommended. Protecting the well-being of children necessitates more than merely removing children from adverse environments by placing them in foster care. Several researchers have pointed out the deficit of improvement plans that directly deal with the experiential and cultural factors of children (Pecora, Jensen, Romanelli, Jackson, & Ortiz, 2009; Rosen, et al., 2003; Tilbury & Thoburn, 2009). Antonovsky stresses the importance of not only protecting children, but also emphasizes the importance of helping children interpret life events

to ensure that adversity and trauma do not distort or impair mental health. Entering the foster care system is a “traumatic shock” for many children and often compounded by the fear of the “unknown” and misperceptions of those associated with the social setting of foster care such as social workers (Mitchell, et al., 2010; Winter, 2010). In a study by Mosek (2004), many children had a difficult time conceptualizing where they came from and where they were currently living and struggled with their sense of belonging. Too many developed negative and erroneous perceptions of child welfare and many believed they were the cause of their family separations (Bruskas, 2008; Jee, Tonniges, & Szilagyi, 2008; vaughn Heineman, 2008; Winter, 2010).

Child welfare policy and practices that help children understand recent life events such as being placed in the foster care system protects developmental health. Antonovsky purports that children who are provided with nurturing support after a traumatic life event, such as family separations, are better equipped to deal with subsequent emotional problems such as loss and grief. Supportive caregivers who help children understand life events and who also provide stability and predictability help protect and develop children’s sense of coherence. Children with a strong sense of coherence will be able to more effectively manage the emotional aftermath of a traumatic event while children with a weak sense of coherence may struggle to make sense resulting in experiences of unresolved chronic emotional stress. The literature suggests that the quality of out-of home care either ameliorates or worsens the effects of childhood adversities. Researchers posit that the quality of a child’s social context has a greater influence on psychological well-being. The significant correlation between childhood experiences of foster care or social disadvantage with psychosocial problems is often attributed to cumulative adversities and the lack of supportive caregivers rather than to the adversity itself (Clark, Caldwell, Power, & Stansfeld, 2010; Keilson, 1980).

Strengths and limitations

One of the strengths of this study is associated with the anonymity research design as opposed to face to face interviews. This research design reduces the likelihood of obtaining socially desirable answers. The shame or embarrassment associated with reporting accounts of maltreatment to an unknown person (researcher) becomes less of an issue for many with the anonymous design of this study. Further, because study participants were adults, the consequences of reporting abuse and neglect do not pose the same threats of reprisals or fears of creating worse outcomes (i.e. subsequent placement with an unknown family) associated with reports of abuse from children still living in foster care (Chapman, et al., 2004; Warshak, 2003; Widom & Shepard, 1996).

Several limitations of the current research study need to be addressed. First, the correlational cross-sectional research design of this study using retrospective data cannot determine causal relationships. Second, it is possible that some respondents may have had a difficult time recalling past events which may contribute to bias. Third, because this study did not include adult men formerly in foster care as children and participants were not randomly selected, participants may only represent a self-selected portion of the population of interest. For instance, some data in this study differed from previous research studies examining the educational outcomes of adults formerly in foster as children. While 8% of respondents reported having a graduate degree and 34% reported currently attending college, other studies noted much lower rates of obtaining even a bachelorette degree (2-2.5%) or currently being enrolled in college (17%) (Courtney, Dworsky, Lee, & Raap, 2010; Pecora et al., 2005).

Several participant differences in the current study may be attributed to these differences. First, educational outcomes in the current study may be a result of a predominantly Caucasian

sample; study participants in the current study self-identified themselves as Caucasian (73%) and 16% as African American. Data from the U.S. Census Bureau (2012a) noted that rates of college graduates or the rate of attaining a higher education for Whites compared to Blacks was higher (30.8% vs. 19.8% respectively). Previous studies examining the outcomes of young adults formerly in foster care had a more diverse representative sample consistent with the literature showing a disproportionate use of social services (foster care) among ethnic populations (Berger, et al., 2009; Frame, 2002). For example, 55% of respondents in the Midwest study identified themselves as African American compared to 29.7% of respondents who self-identified themselves as White (Courtney et al., 2011). Fifty-four percent of young adults in *The Northwest Foster Care Alumni Studies* by Pecora et al., (2005) were reported as people of color.

Second, the current study included a larger age range that may account for further differences in the level of educational attainment when compared to previous studies. Fifty percent of participants in this study were between 36 to 71 years old while 25% were between 18-25 years old and 26% were between 26 and 35 years old. Pecora et al. (2005) noted that while obtaining a bachelor's degree or higher was considerably lower compared to young adults from the general population (1.8% vs. 24% respectively), the rates of obtaining a baccalaureate degree increased with age. The pattern of educational attainment rates in the current increased with age and is consistent with the educational attainment data obtained from the U.S. Census Bureau (2012b); results from this population survey noted increasing rates in the level of obtaining a high school degree to obtaining a doctorate associated with increasing age groups.

Additional rigorous research studies with larger representative samples of adult women formerly from foster care as children is recommended to confirm the current research data

suggesting an association between cumulative ACEs and the severity of psychological distress. Additionally, this research study did not assess how children managed and coped with childhood adversities before or while in foster care. Finally, the current study did not take into account the effect of subsequent adversities experienced after transitioning out of foster care or recent adverse life events.

Conclusion

The current study suggests that adult women who have been in foster care as children are vulnerable to psychological distress associated with cumulative experiences of childhood adversities prior to entering the foster care system. The remarkable plasticity of the brain during early development makes it possible for children to overcome adverse life events, but this is highly dependent on enriching environments that provide social experiences that can help ameliorate the effects of early adversities. Best practices for protecting vulnerable children in child welfare must ensure that placing children in foster care does not create more harm than good. Proposed policy and practice recommendations to protect vulnerable children include social services that address the social problems afflicting many families to strengthen families and reduce the number of adverse childhood experiences as well as the need for foster care placements. Additional recommendations include reducing the number of foster care placements, protecting children from subsequent abuse while in foster care, and addressing the emotional burdens and challenges of all children in foster care. Health care providers and those caring for vulnerable children who understand the effects of cumulative childhood adversities and histories of foster care placements may ameliorate the effect of childhood adversities by addressing their unique developmental needs early.

References

- Akhtar, L. M. (2010). Intangible casualties: the evacuation of British children during World War II. *Journal of Psychohistory*, 37(3), 224-254.
- Anda, R. F., & Brown, D. W. (2010). *Adverse childhood experiences and population health in Washington: The face of a chronic public health disaster*. Olympia: Washington State Family Policy Council.
- Anda, R. F., Croft, J. B., Felitti, V. J., Nordenberg, D., Giles, W. H., Williamson, D. F., et al. (1999). Adverse childhood experiences and smoking during adolescence and adulthood. *Journal of the American Medicine Association*, 282(17), 1652-1658.
- Anda, R. F., Felitti, V. J., Bremner, J. D., Walker, J. D., Whitfield, C., Perry, B. D., et al. (2006). The enduring effects of abuse and related adverse experiences in childhood. A convergence of evidence from neurobiology and epidemiology. *European Archives of Psychiatry and Clinical Neuroscience*, 256(3), 174-186.
- Antonovsky, A. (1967). Social class, life expectancy and overall mortality. *Milbank Memorial Fund Quarterly*, 45(2), 31-73.
- Antonovsky, A. (1987). *Unraveling the mystery of health: How people manage stress and stay well*. San Fransico and London: Jossey-Bass Inc. and Jossey-Bass Limited.
- Antonovsky, A. (1993). The structure and properties of the sense of coherence scale. *Social Science & Medicine*, 36(6), 725-733.
- Australian Institute of Family Studies, National Child Protection Clearinghouse (2010). *History of Child Abuse and Neglect*. Australian Government. Retrieved July 23, 2012 from <http://www.aifs.gov.au/nch/pubs/sheets/rs22/>

- Benbenishty, R., & Schiff, M. (2009). Perceptions of readiness to leave care among adolescents in foster care in Israel. *Children and Youth Services Review, 31*, 662-669.
- Berger, L. M., Bruch, S. K., Johnson, E. I., James, S., & Rubin, D. (2009). Estimating the "impact" of out-of-home placement on child well-being: approaching the problem of selection bias. *Child Development, 80*(6), 1856-1876.
- Biro, E., Adany, R., & Kosa, K. (2011). Mental health and behaviour of students of public health and their correlation with social support: a cross-sectional study. *BMC Public Health, 11*(871), 2-8.
- Biro, E., Balajti, I., Adany, R., & Kosa, K. (2009). Determinants of mental well-being in medical students. *Social Psychiatry and Psychiatric Epidemiology, 45*(2), 253-258.
- Bowlby, J. (1998). *Attachment and Loss: Separation* (Vol. 2). London: Pimlico.
- Bruskas, D. (2008). Children in foster care: a vulnerable population at risk. *Journal of Child and Adolescent Psychiatric Nursing, 21*(2), 70-77.
- Bruskas, D. (2010). Developmental health of infants and children subsequent to foster care. *Journal of Child and Adolescent Psychiatric Nursing, 23*(4), 231-241.
- Buchanan, A., Ten Brinke, J., & Flouri, E. (2000). Parental background, social disadvantage, public "care," and psychological problems in adolescence and adulthood. *Journal of the American Academy of Child and Adolescent Psychiatry, 39*(11), 1415-1423.
- Bullock, R., Courtney, M. E., Parker, R., Sinclair, I., & Thoburn, J. (2006). Can the corporate state parent? *Children and Youth Services Review, 28*, 1344-1358.
- Campbell, K. A., Cook, L. J., LaFleur, B. J., & Keenan, H. T. (2010). Household, family, and child risk factors after an investigation for suspected child maltreatment: a missed

opportunity for prevention. *Archives of Pediatrics & Adolescent Medicine*, 164(10), 943-949.

Cassel, L., & Suedfeld, P. (2006). Salutogenesis and autobiographical disclosure among Holocaust survivors *The Journal of Positive Psychology*, 1(4), 212-225.

Chapman, D. P., Whitfield, C. L., Felitti, V. J., Dube, S. R., Edwards, V. J., & Anda, R. F. (2004). Adverse childhood experiences and the risk of depressive disorders in adulthood. *Journal of Affective Disorders*, 82(2), 217-225.

Chartier, M. J., Walker, J. R., & Naimark, B. (2010). Separate and cumulative effects of adverse childhood experiences in predicting adult health and health care utilization. *Child Abuse & Neglect*, 34(6), 454-464.

Child Welfare Information Gateway, Protecting Children Strengthening Families, Administration for Children and Families. (2010). *Federal Laws Related to Adoption: The Social Security Act of 1935*. Washington, DC: U.S. Department of Health and Human Services. Retrieved August 11, 2012 from <http://www.childwelfare.gov/adoption/laws/federal/>

Child Welfare Information Gateway, Protecting Children Strengthening Families, Administration for Children and Families. (2009). *Federal Laws Related to Adoption: Major Federal Legislation Concerned with Child Protection, Child Welfare, and Adoption*. Washington, DC: U.S. Department of Health and Human Services. Retrieved August 11, 2012 from <http://www.childwelfare.gov/pubs/otherpubs/majorfedlegis.pdf>

Child Welfare Information Gateway, Protecting Children Strengthening Families, Administration for Children and Families. (2008). *What is child abuse?* Washington, DC: U. S. Department of Human Health and Services. Retrieved July 23, 2012 from <http://www.childwelfare.gov/pubs/factsheets/whatiscan.cfm>

- Clark, C., Caldwell, T., Power, C., & Stansfeld, S. A. (2010). Does the influence of childhood adversity on psychopathology persist across the lifecourse? A 45-year prospective epidemiologic study. *Annals of Epidemiology*, 20(5), 385-394.
- Collins, M. E., Paris, R., & Ward, R. L. (2008). The permanence of family ties: implications for youth transitioning from foster care. *American Journal of Orthopsychiatry*, 78(1), 54-62.
- Courtney, M. E., Dworsky, A., Brown, A., Cary, C., Love, K., & Vorhies, V. (2011). *Midwest Evaluation of the Adult Functioning of Former Foster Youth: Outcomes at age 26*. Chicago: Chapin Hall Center for Children at the University of Chicago.
- Courtney, M. E., Dworsky, A., Cusick, G. R., Havlicek, J., Perez, A., & Keller, T. (2007). *Midwest evaluation of the adult functioning of former foster youth: Outcomes at age 21*. Chicago: Chapin Hall Center for Children at the University of Chicago.
- Courtney, M. E., Dworsky, A., Lee, J., & Raap, M. (2010). *Midwest Evaluation of the Adult Functioning of Former Foster Youth: Outcomes at age 23 and 24*. Chicago: Chapin Hall Center for Children at the University of Chicago.
- Colton, M. D., Drakeford, M., Roberts, S., Scholte, E., Casas, F., & Williams, M. (1997). Social workers, parents and stigma. *Child and Family Social Work*, 2(4), 247-257.
- Davidson-Arad, B., & Benbenishty, R. (2010). Contribution of child protection workers' attitudes to their risk assessments and intervention recommendations: a study in Israel. *Health and Social Care in the Community*, 18(1), 1-9.
- Dong, M., Anda, R. F., Felitti, V. J., Dube, S. R., Williamson, D. F., Thompson, T. J., et al. (2004). The interrelatedness of multiple forms of childhood abuse, neglect, and household dysfunction. *Child Abuse & Neglect*, 28(7), 771-784.

- Dong, M., Giles, W. H., Felitti, V. J., Dube, S. R., Williams, J. E., Chapman, D. P., et al. (2004). Insights into causal pathways for ischemic heart disease: adverse childhood experiences study. *Circulation, 110*(13), 1761-1766.
- Dorsey, S., Mustillo, S. A., Farmer, E. M., & Elbogen, E. (2008). Caseworker assessments of risk for recurrent maltreatment: association with case-specific risk factors and re-reports. *Child Abuse Neglect, 32*(3), 377-391.
- Eriksson, M., & Lindstrom, B. (2005). Validity of Antonovsky's sense of coherence scale: A systematic review. *Journal of Epidemiological and Community Health, 59*(6), 560-466.
- Eriksson, M., & Lindstrom, B. (2006). Antonovsky's sense of coherence scale and the relation with health: a systematic review. *Journal of Epidemiology & Community Health, 60*(5), 376-381.
- Eriksson, M., Lindstrom, B., & Lilja, J. (2007). A sense of coherence and health. Salutogenesis in a societal context: Aland, a special case? *Journal of Epidemiology & Community Health, 61*(8), 684-688.
- Felitti, V. J. (2002). [The relationship of adverse childhood experiences to adult health: Turning gold into lead]. *Z Psychosomatic Medicine and Psychotherapy, 48*(4), 359-369.
- Felitti, V. J. (2009). Adverse childhood experiences and adult health. *Academy of Pediatrics, 9*(3), 131-132.
- Felitti, V. J., & Anda, R. F. (2010). The Relationship of Adverse Childhood Experiences to Adult Health, Well-being, Social Function, and Healthcare. In R. Lanius, E. Vermetten & C. Pain (Eds.), *The Impact of Early Life Trauma on Health and Disease: The Hidden Epidemic* Cambridge University Press.

- Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., et al. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults. The Adverse Childhood Experiences (ACE) Study. *American Journal of Preventive Medicine, 14*(4), 245-258.
- Frame, L. (2002). Maltreatment reports and placement outcomes for infants and toddlers in out-of-home care. *Infant Mental Health Journal, 23*(5), 517-540.
- Freundlich, M., & Avery, J. R. (2005). Planning for permanency for youth in congregate care. *Children and Youth Services Review, 27*(2), 115-134.
- Frieden, T. R. (2010). A framework for public health action: the health impact pyramid. *American Journal of Public Health, 100*(4), 590-595.
- Goldberg, D., & Williams, P. (1988). *A user's guide to the General Health Questionnaire David Goldberg and Paul Williams*. London: GL Assessment Limited.
- Goldberg, D. P., & Hillier, V. F. (1979). A scaled version of the General Health Questionnaire. *Psychological Medicine, 9*(1), 139-145.
- Gunston, T. (1995). A Model of Foster Care Services for South Africa. *Community Alternatives: International Journal of Family Care, 7*(1), 107-125.
- Halverson, K., Puig, M. E., & Byers, S. R. (2002). Culture loss: American Indian family disruption, urbanization, and the Indian Child Welfare Act. *Child Welfare, 81*(2), 319-336.
- Harden, B. J., & Zero to Three (Organization) (2007). *Infants in the child welfare system: a developmental framework for policy and practice*. Washington, DC: Zero To Three.

- Hu, Y., Stewart-Brown, S., Twigg, L., & Weich, S. (2007). Can the 12-item General Health Questionnaire be used to measure positive mental health? *Psychological Medicine, 37*(7), 1005-1013.
- Jackson, C. (2007). The General Health Questionnaire. *Occupational Medicine, 57*(1), 79.
- Jackson, L. J., O'Brien, K., & Pecora, P. J. (2011). Posttraumatic stress disorder among foster care alumni: the role of race, gender, and foster care context. *Child Welfare, 90*(5), 71-93.
- Jee, S. H., Tonniges, T., & Szilagyi, M. A. (2008). Foster care issues in general pediatrics. *Current Opinion in Pediatrics, 20*(6), 724-728.
- Johnson, P. R., Yoken, C., & Voss, R. (1995). Family foster care placement: The child well-being: What we can learn from children. *Child Welfare, 87*(1), 959-974.
- Keilson, H. (1980). Sequential traumatization of children. *Danish Medical Bulletin, 27*(5), 235-237.
- Keys, M. (2009). Determining the skills for child protection practice: From quandary to quagmire. *Child Abuse Review, 18*, 297-315.
- Matsuzaki, I., Sagara, T., Ohshita, Y., Nagase, H., Ogino, K., Eboshida, A., et al. (2007). Psychological factors including sense of coherence and some lifestyles are related to general health questionnaire-12 (GHQ-12) in elderly workers in Japan. *Environmental Health and Preventive Medicine, 12*(2), 71-77.
- McMillen, J. C., Zima, B. T., Scott, L. D., Jr., Auslander, W. F., Munson, M. R., Ollie, M. T., et al. (2005). Prevalence of psychiatric disorders among older youths in the foster care system. *Journal of American Academy of Child & Adolescent Psychiatry, 44*(1), 88-95.
- Melton, G. B. (2005a). Building humane communities respectful of children: the significance of the convention on the rights of the child. *American Psychologist, 60*(8), 918-926.

- Melton, G. B. (2005b). Treating children like people: a framework for research and advocacy. *Journal of Clinical Child & Adolescent Psychology, 34*(4), 646-657.
- Mitchell, M. B., Kuczynski, L., Tubbs, C. Y., & Ross, C. (2010). We care about care: Advice by children in care for children in care, foster parents and child welfare workers about the transition into foster care. *Child & Adolescent Social Work Journal, 15*(2), 176-185.
- Mosek, A. (2004). Relations in Foster Care. *Journal of Social Work 4*(3), 323-343.
- Myers, J. E. B. (2006). *Child protection in America : past, present, and future*. Oxford ; New York: Oxford University Press.
- Najjar, F., Weller, R. A., Weisbrot, J., & Weller, E. B. (2008). Post-traumatic stress disorder and its treatment in children and adolescents. *Current Psychiatry Reports, 10*(2), 104-108.
- Newton, R. R., Litrownik, A. J., & Landsverk, J. A. (2000). Children and youth in foster care: disentangling the relationship between problem behaviors and number of placements. *Child Abuse & Neglect, 24*(10), 1363-1374.
- New Zealand Government, Ministry of Social Development, Te Manatu Whakahiato Ora (2008). *Briefing to the incoming Minister: Supporting vulnerable children and young people*, New Zealand Government. Retrieved July 23, 2012 from <http://www.msd.govt.nz/about-msd-and-our-work/publications-resources/corporate/briefing-incoming-minister/index.html#SocialOutcomes4>
- Nilsson, K. W., Leppert, J., Simonsson, B., & Starrin, B. (2010). Sense of coherence and psychological well-being: improvement with age. *Journal of Epidemiology & Community Health, 64*(4), 347-352.
- Pecora, P. J., Jensen, P. S., Romanelli, L. H., Jackson, L. J., & Ortiz, A. (2009). Mental health services for children placed in foster care: an overview of current challenges. *Child Welfare, 88*(1), 5-26.

- Pecora, P. J., Kessler, R. C., Williams, J., O'Brien, K., Downs, A. C., English, D., et al. (2005). *Improving family foster care: Findings from the Northwest Foster care Alumni Study*. Seattle: WA: Casey Family Programs.
- Pelton, L. H. (1978). Child abuse and neglect: the myth of classlessness. *American Journal of Orthopsychiatry*, 48(4), 608-617.
- Pelton, L. H. (1987). Not for poverty alone: Foster care population trends in the twentieth century. *Journal of Sociology and Social Welfare*, 14(2), 37-62.
- Perry, B. D., & Szalavitz, M. (2006). *The boy who was raised as a dog: and other stories from a child psychiatrist's notebook: what traumatized children can teach us about loss, love, and healing*. New York: Basic Books.
- Proctor, L. J., Skriner, L. C., Roesch, S., & Litrownik, A. J. (2010). Trajectories of behavioral adjustment following early placement in foster care: predicting stability and change over 8 years. *Journal of American Academy of Child Adolescent Psychiatry* 49(5), 464-473.
- Richardson, J., & Lelliott, P. (2003). Mental health of looked after children. *Advances in Psychiatric Treatment*, 9, 249-251.
- Ristkari, T., Sourander, A., Ronning, J. A., Nikolakaras, G., & Helenius, H. (2008). Life events, self-reported psychopathology and sense of coherence among young men--a population-based study. *Nordic Journal of Psychiatry*, 62(6), 464-471.
- Romanelli, L. H., Hoagwood, K. E., Kaplan, S. J., Kemp, S. P., Hartman, R. L., Trupin, C., et al. (2009). Best practices for mental health in child welfare: parent support and youth empowerment guidelines. *Child Welfare*, 88(1), 189-212.

- Rosen, A., Proctor, E., & Staudt, M. (2003). Targets of change and interventions in social work: An empirically based prototype for developing practice guidelines. *Research on Social Work Practice, 13*(2), 208-233.
- Rosenkranz, S. E., Muller, R. T., & Henderson, J. L. (2012). Psychological maltreatment in relation to substance use problem severity among youth. *Child Abuse & Neglect, 36*(5), 438-448.
- Rubin, D. M., O'Reilly, A. L., Luan, X., & Localio, A. R. (2007). The impact of placement stability on behavioral well-being for children in foster care. *Pediatrics, 119*(2), 336-344.
- Salama-Younes, M., Montazeri, A., Ismail, A., & Roncin, C. (2009). Factor structure and internal consistency of the 12-item General Health Questionnaire (GHQ-12) and the Subjective Vitality Scale (VS), and the relationship between them: a study from France. *Health and Quality of Life Outcomes, 7*, 22.
- Scottish Executive (2007). *Looked after children & young people: We can and must do better*. The Scottish Government, Scotland. Retrieved July 23, 2012 from <http://www.lookedafterchildrenscotland.org.uk/about/wecanandmust/index.asp>
- Schene, P. A. (1998). Past, present, and future roles of child protective services. *The Future of Children, 8*(1), 23-38.
- Simonsson, B., Nilsson, K. W., Leppert, J., & Diwan, V. K. (2008). Psychosomatic complaints and sense of coherence among adolescents in a county in Sweden: A cross-sectional school survey. *BioPsychoSocial Medicine, 2*(4), 8.
- Stahmer, A. C., Leslie, L. K., Hurlburt, M., Barth, R. P., Webb, M. B., Landsverk, J., et al. (2005). Developmental and behavioral needs and service use for young children in child welfare. *Pediatrics, 116*(4), 891-900.

- Stanley, N., Riordan, D., & Alaszewski, H. (2005). The mental health of looked after children: matching response to need. *Health and Social Care in the Community*, *13*(3), 239-248.
- Teicher, M. H., Samson, J. A., Polcari, A., & McGreenery, C. E. (2006). Sticks, stones, and hurtful words: relative effects of various forms of childhood maltreatment. *American Journal of Psychiatry*, *163*(6), 993-1000.
- Tiet, Q. Q., Bird, H. R., Davies, M., Hoven, C., Cohen, P., Jensen, P. S., et al. (1998). Adverse life events and resilience. *Journal of the American Academy of Child and Adolescent Psychiatry*, *37*(11), 1191-1200.
- Tilbury, C., & Thoburn, J. (2009). Using racial disproportionality and disparity indicators to measure child welfare outcomes. *Children and Youth Services Review*, *31*(10), 1101-1106.
- Trocme, N., Fallon, B., MacLaurin, B., & Neves, T. (2003). What is driving increasing child welfare caseloads in Ontario? Analysis of the 1993-1998 incidence studies. *Child Welfare*, *84*(3), 341-362.
- UK Department for Education, Children and young people (2010). *The Munro Review of Child Protection, Part One: A Systems analysis*. The United Kingdom government. Retrieved July 23, 2012 From <http://www.education.gov.uk/search/results?q=the+munro+review>
- U. S. Census Bureau (2012a). *The 2012 Statistical Abstract: The National Data Book, Education: Educational Attainment (229)*. Washington, DC: Government Printing Office. Retrieved August 16, 2012 from http://www.census.gov/compendia/statab/cats/education/educational_attainment.html
- U. S. Census Bureau (2012b). *The 2012 Statistical Abstract: The National Data Book,*

Education: Educational Attainment (231). Washington, DC: Government Printing Office. Retrieved August 16, 2012 from

http://www.census.gov/compendia/statab/cats/education/educational_attainment.html

U. S. Census Bureau (2012c). *The 2012 Statistical Abstract: The National Data Book, Labor Force, Employment, & Earnings: Unemployed Persons (622)*. Washington, DC: Government Printing Office. Retrieved August 16, 2012 from

http://www.census.gov/compendia/statab/cats/labor_force_employment_earnings/unemployed_persons.html

U.S. Department of Health and Human Services, Administration for Children and Families, Children's Bureau (2008). *Chapter 3, Children: Child Maltreatment 2008*. Retrieved July 23, 2012 from

<http://www.acf.hhs.gov/programs/cb/pubs/cm08/chapter3.htm#mal>

U.S. Department of Health and Human Services, Administration for Children and Families, Children's Bureau (2009). *Child Maltreatment 2009*. Washington, DC: U.S. Department of Health and Human Services. Retrieved July 23, 2012 from

<http://www.acf.hhs.gov/programs/cb/pubs/cm09/index.htm>

U.S. Department of Health and Human Services, Administration for Children and Families, Children's Bureau (2010). *Children's Bureau Child and Family Services Reviews Fact Sheet for Tribal Child Welfare Officials*. Retrieved July 23, 2012 from

http://www.acf.hhs.gov/programs/cb/cwmonitoring/general_info/fact_sheets/tribalfactsheet.htm

U.S. Department of Health and Human Services, Administration for Children and Families, Children's Bureau (2011). *Foster Care FY2002-FY2010 Entries, Exits, and Numbers of*

Children in Care on the Last Day of Each Federal Fiscal Year. Retrieved July 23, 2012

From http://www.acf.hhs.gov/programs/cb/stats_research/index.htm

- Van der Hal-van Raalte, E. A. M., Van Ijzendoorn, M. H., & Bakermans-Kranenburg, M. J. (2008). Sense of coherence moderates late effects of early childhood Holocaust exposure. *Journal of Clinical Psychology, 65*(12), 1352-1367.
- van Harmelen, A. L., van Tol, M. J., van der Wee, N. J., Veltman, D. J., Aleman, A., Spinhoven, P., et al. (2010). Reduced medial prefrontal cortex volume in adults reporting childhood emotional maltreatment. *Biological Psychiatry, 68*(9), 832-838.
- vaughn Heineman, T. (2008). "The network is down": Building an alternative network to address the multiple disruptions in clinical work with foster children and youth. *Journal of Infant, Child, and Adolescent Psychotherapy, 7*(2), 145-150.
- Warshak, R. A. (2003). Payoffs and pitfalls of listening to children. *Family Relations, 52*(4), 373-384.
- White, C. R., Havalchak, A., Jackson, L. J., O'Brien, K., & Pecora, P. J. (2007). *Mental health, ethnicity, sexuality, and spirituality among youth in foster care: Findings from the Casey Field Office Mental Health Study*. Seattle, WA: Casey Family Programs.
- Widom, C. S., & Shepard, R. L. (1996). Accuracy of adult recollections of childhood victimization: Part 1. Childhood physical abuse. *Psychological Assessment, 8*(4), 412-421.
- Wilkinson, R. G. (2005). *The impact of inequality: How to make sick societies healthier*. New York: New Press-Distributed by W.W. Norton.

- Wilson, D., & Horner, W. (2005). Chronic child neglect: Needed developments in theory and practice. *Families in Society: The Journal of Contemporary Human Services*, 86(4), 471-481.
- Winter, K. (2010). The perspectives of young children in care about their circumstances and implications for social work practice. *Child and Family Social Work*, 15(2), 186-195.
- Zeanah, C. H., Boris, N. W., & Scheeringa, M. S. (1997). Psychopathology in infancy. *The Journal of Child Psychology and Psychiatry*, 38(1), 81-99.
- Zeanah, C. H., Keyes, A., & Settles, L. (2003). Attachment relationship experiences and childhood psychopathology. *Annals of the New York Academy of Sciences*, 1008, 22-30.
- Zeira, A. (2004). New Initiatives in out-of-home placement in Israel. *Child and Family Social Work*, 9, 305-507.
- Ziaaddini, H., Dastjerdi, Q., & Nakhaee, N. (2007). The relationship of childhood maltreatment and household dysfunction and drug use in later life in Iran. *Journal of Applied Sciences*, 7(7), 1067-1070.
- Zellman, G. L. (1990). Report decision-making patterns among mandated child abuse reporters. *Child Abuse Neglect*, 14(3), 325-336.