



MONTCLAIR STATE
UNIVERSITY

Montclair State University
**Montclair State University Digital
Commons**

Department of Social Work and Child Advocacy
Faculty Scholarship and Creative Works

Department of Social Work and Child Advocacy

2-1-2016

Resilience Among Older Adolescents in Foster Care: The Impact of Risk and Protective Factors

Svetlana Shpiegel

Montclair State University, shpiegels@mail.montclair.edu

Follow this and additional works at: <https://digitalcommons.montclair.edu/social-work-and-child-advocacy-facpubs>



Part of the [Social Work Commons](#)

MSU Digital Commons Citation

Shpiegel, Svetlana, "Resilience Among Older Adolescents in Foster Care: The Impact of Risk and Protective Factors" (2016). *Department of Social Work and Child Advocacy Faculty Scholarship and Creative Works*. 108.

<https://digitalcommons.montclair.edu/social-work-and-child-advocacy-facpubs/108>

This Article is brought to you for free and open access by the Department of Social Work and Child Advocacy at Montclair State University Digital Commons. It has been accepted for inclusion in Department of Social Work and Child Advocacy Faculty Scholarship and Creative Works by an authorized administrator of Montclair State University Digital Commons. For more information, please contact digitalcommons@montclair.edu.

Resilience Among Older Adolescents in Foster Care: the Impact of Risk and Protective Factors

Svetlana Shpiegel¹

Published online: 21 July 2015

© Springer Science+Business Media New York 2015

Abstract This study explores the phenomenon of resilience among older adolescents in foster care. Data from 351 youths approaching the age of emancipation were examined. Resilience was measured by a composite score combining six domains: educational attainment, and avoidance of teen pregnancy, homelessness, mental illness, substance use and criminal involvement. Increased physical abuse, a history of sexual abuse, placement instability and delinquency in youths' original families were associated with lower resilience. Non-white race was associated with higher resilience even after risk and protective factors were controlled. These findings highlight factors that contribute to resilient functioning and may be targeted for interventions promoting competence among these high-risk youth.

Keywords Resilience · Foster care · Adolescents · Aging-out · Risk and protective factors

In recent years, considerable attention has been given to young people who emancipate from foster care after reaching the age of maturity (Courtney 2009). These youth face the challenges of adulthood with few resources and often exhibit myriad of dysfunctional outcomes (Courtney 2009). Nonetheless, some demonstrate relatively uncompromised, or “resilient”, functioning as they transition to independent adulthood (Daining and DePanfilis 2007; Jones 2012). Few studies explore the phenomenon of resilience among these high-risk youth, and even fewer examine its contributing factors (Yates and Grey 2012). The present research describes the prevalence of resilience among adolescents approaching the age of emancipation, and identifies risk and protective factors that may contribute to resilient functioning.

✉ Svetlana Shpiegel
shpiegel@mail.montclair.edu

¹ Robert D. McCormick Center for Child Advocacy and Policy, Montclair State University, 1 Normal Ave. Dickson Hall, Room 370, Montclair, NJ 07043, USA

Review of Literature

Youth Emancipating from Foster Care

Every year, about 25,000 youth “age-out” from the foster care system in the US. (U.S. Department of Health and Human Services 2012). These youth are disadvantaged across a number of domains as they embark on adult roles (Courtney 2009). About 50 % fail to obtain a high school diploma by the age of 18, 30 % enroll in higher education institutions and less than 10 % complete a 4-year degree (Brandford and English 2004; Stott and Gustavsson 2010; Yates and Grey 2012). Between 25 and 50 % experience unemployment and about 30 % receive need-based government assistance (Courtney 2009; Hughes et al. 2008; Naccarato et al. 2010; Stott and Gustavsson 2010). In addition, many youth struggle with homelessness, mental illness, substance abuse, delinquency and early pregnancy (Courtney 2009; Hughes et al. 2008; Stott and Gustavsson 2010; McMillen et al. 2005; Svoboda et al. 2012).

Traditionally, research on emancipating foster youth has focused on dysfunctional outcomes (Yates and Grey 2012). However, more recently attention has been given to youth who evidenced competent or, “resilient”, functioning (Daining and DePanfilis 2007; Jones 2012). It has been argued that research is needed to understand individuals who “go on to lead healthy and productive lives, and the contributing factors that enabled them to succeed” (Merdinger et al. 2005, p. 868). The present study attempts to address these gaps by examining resilience and its correlates across the social ecology.

The Construct of Resilience

The construct of resilience has received ample attention since its inception in the 1970s (Luthar 2006; Masten 2001). Most scholars currently define resilience as a “pattern of positive adaptation in the context of significant risk or adversity” (Masten and Powell 2003, p. 4). The presence of positive adaptation is generally indicated by (1) achievement of “stage-salient developmental tasks”, or expectations for individual behavior at a specific age; and (2) avoidance of significant psychopathology (Luthar 2006). Several frameworks to understand resilience have been proposed over the years, many of which were influenced by Bronfenbrenner’s view of development as “embedded in multiple environmental contexts” (Fraser et al. 2004; Luthar 2006). One commonly used framework was presented by Werner and colleagues (Werner and Smith 1982, 1992), postulating that risk and protective factors affecting resilience operate at three broad levels of the system: the individual (e.g. intelligence, optimism), the family (e.g. parental psychopathology), and the community (e.g. supportive adults, school engagement). Conceptually similar frameworks have been proposed by other scholars (e.g. Masten and Coatsworth 1998) and used extensively in resilience literature.

Resilience Among Emancipating Foster Youth

Research on resilience among emancipating foster youth has been sparse (e.g. Daining and DePanfilis 2007; Hass and Graydon 2009; Jones 2012; Samuels and Pryce 2008; Yates and Grey 2012), and existing studies were often narrow in scope. For instance, several investigations focused specifically on educational resilience, that is, youth were defined “resilient” based solely on participation in higher education (Hass and Graydon 2009; Hines et al. 2005). This approach is limited, as educational success may come at the expense of vulnerability in other areas (Merdinger et al. 2005; Yates and Grey 2012). Most scholars agree that a

multidimensional perspective on resilience is needed to obtain a broader understanding of this phenomenon (Luthar 2006; Masten and Tellegen 2012).

To date, three studies examined resilience as a multidimensional construct (Daining and DePanfilis 2007; Jones 2012; Yates and Grey 2012). In the first study (Daining and DePanfilis 2007), resilience was evaluated among 100 current and former foster youth using a composite score combining six domains of functioning: education, employment, and avoidance of early parenthood, homelessness, drug use, and criminal activity. Findings revealed that about 70 % of youths showed moderate or high resilience. In a subsequent study (Jones 2012), resilience was defined by educational and vocational participation, housing stability, avoidance of substance abuse and criminal involvement, and presence of optimism and independent living preparedness. In this sample, about two thirds of subjects were moderately or highly resilient. In the third study (Yates and Grey 2012), resilience was determined by successful functioning in external domains, such as education and employment, as well as internal domains, such as self-esteem and mental health. Nearly half of participants were classified as “resilient”, demonstrating competence across both external and internal indicators.

The studies described above shed light on the prevalence of resilience, however, little is known about mechanisms associated with its development. Evidence from existing research suggests that lower perceived life stress (Daining and DePanfilis 2007) and social support (Daining and DePanfilis 2007; Jones 2012; Yates and Grey 2012) may be predictive of resilient functioning. Other factors, including spirituality, presence of adult mentors, participation in extracurricular activities and attachment to school may also be important, particularly based on qualitative investigations (Haight et al. 2009; Hass and Graydon 2009; Hines et al. 2005). In addition, studies on domain-specific outcomes (e.g. education, employment, mental health) reveal that chronic and severe maltreatment, multiple foster care placements and frequent school transitions may be predictive of increased maladaptation (e.g. Courtney 2009; Hook and Courtney 2011; Garcia et al. 2013; Keller et al. 2007; Newton et al. 2000; Stott 2012).

Gaps in Current Research

Research on resilience among emancipating foster youth has several limitations. First, the sheer volume of studies on this topic is small, and few examine resilience as a multidimensional construct. Second, some investigations rely solely on behavioral indicators (e.g. education), and fail to address youths’ psychological well-being (e.g. Daining and DePanfilis 2007). Third, explorations of possible correlates of resilience have been sparse, with virtually no assessments of both risk and protective influences at different levels of the system. Lastly, consistent data on demographic differences is lacking. According to some studies, female foster youth exhibit competence more frequently than males (e.g. Daining and DePanfilis 2007; Keller et al. 2007; Hines et al. 2005), but others fail to detect such differences (Jones 2012; Yates and Grey 2012). Information about racial differences is similarly inconsistent—in some studies, minorities emerge as a particularly vulnerable group (Cosner Berzin et al. 2011; Garcia et al. 2013), while in others, they emerge as more resilient (Jones 2012). Research is needed to address these limitations and provide insight on the correlates of resilience as youth approach emancipation.

The Present Study

The present study examines resilience across multiple domains, using both internal and external indicators. Because no commonly accepted standards for measuring resilience exist, this study

followed strategies put forth in prior investigations (e.g. Daining and DePanfilis 2007; Jones 2012). Resilience indicators included in the analysis were educational attainment, and avoidance of negative outcomes commonly found among youth in foster care—mental illness, substance use, homelessness, criminal involvement and adolescent pregnancy. Employment and self-sufficiency indicators were not included due to the relatively young age of the participants (i.e. age 17). Following the identification of resilient youth, gender and race differences were examined, along with a comprehensive set of risk and protective factors that may contribute to resilient functioning. The selection of specific variables was based on relevance to the study population, potential malleability, and/or salience in prior research. Specific attention was paid to individual attributes, such as positive outlook and intellectual ability, as these were found to be predictive of resilience in other high-risk groups (Luthar 2006; Masten and Coatsworth 1998).

The specific research questions were:

- (1) What is the degree of resilience in this sample, as measured by a composite score combining six domains of functioning: educational attainment, and avoidance of teen pregnancy, homelessness, mental illness, substance use and criminal involvement?
- (2) Do gender and race relate significantly to resilient functioning?
- (3) Which risk and/or protective factors relate significantly to resilient functioning? In general, do risk factors or protective factors have stronger associations with resilience?

Methodology

Dataset and Procedure

This study is based on a secondary analysis of data from a longitudinal cohort study of 406¹ adolescents in the custody of the Missouri Children's Division (MCD) (VOYAGES; Mental Health Service Use of Youth Leaving Foster Care). Participants came from eight counties, six of which were in and around St. Louis, and two of which were in Southwest Missouri. Youth were interviewed every 3 months from age 17 to 19 to examine various parameters related to their transition to adulthood. The Washington University Human Subjects Committee approved all procedures in advance. Additional information about the design and procedures of the VOYAGES study can be found in previously published work (see McMillen et al. 2005; Munson and McMillen 2009; Vaughn et al. 2008).

Sample

The present study was based on a cross-sectional analysis of the baseline wave of data collection (i.e. when youth were approximately 17 years old). Only youths with complete information on all variables of interest were included in the analysis. After implementing list wise deletion, 53 youth with missing data were excluded and a final sample of 351 was obtained (87 % of the original sample). To examine possible bias resulting from list wise deletion, the final sample ($n=351$) and the excluded cases ($n=53$) were compared on race, gender, and overall resilience levels. The two groups were not significantly different on any of

¹ The dataset archived with the National Data Archive on Child Abuse and Neglect (NDACAN) contained data on 404 participants only.

the above mentioned indicators. The final sample consisted of 197 females and 154 males; 156 Whites, and 195 non-Whites. The non-White youth included 179 Blacks; 3 American-Indians; 1 Latino; 1 Middle Eastern; 1 Pacific-Islander; and 10 multiracial youth.

Measurement

The demographic variables examined were gender and race. Gender was a dichotomous variable coded female/male. Race was also a dichotomous variable coded White/non-White.

Resilience

Resilience served as the dependent variable, reflecting six domains of competence: educational attainment, and avoidance of teen pregnancy, homelessness, mental illness, substance use and criminal involvement. To assess resilience across domains, a composite score integrating these indicators was developed. This strategy was used extensively in prior research, both with foster youth (Daining and DePanfilis 2007; Jones 2012) and with other populations (e.g. Cicchetti and Rogosch 1997). In the present study, each resilience indicator was coded on a scale of 0 to 2, with higher scores representing higher resilience. Specific coding strategies for individual domains are summarized below.

Educational Attainment Youth were asked if they were currently in school, their average grades during their last semester of school, and the reasons why they may have not been in school. Youth who were in school, and whose grades for the last semester were mostly As, Bs or Cs received a score of 2 (note: three youth who had already graduated/received a GED at the time of the interview also received a score of 2). Youth who were in school, but whose grades were mostly Ds or Fs, received a score of 1. Finally, those who were not in school because they had dropped out, were expelled, or had other reasons, received a score of 0.

Avoidance of Teen Pregnancy Girls were asked if they had ever been pregnant, boys were asked if they had ever made a girl pregnant. Youth who responded “no” received a score of 2; those responding “yes” received a score of 0.

Avoidance of Homelessness A conservative definition of homelessness was used in the present study. Youth were asked if they had ever stayed overnight on the street; those responding “no” received a score of 2, those responding “yes” received 0.

Avoidance of Mental Illness Resilience was indicated by the *absence* of the following psychiatric disorders: major depression, manic episode, posttraumatic stress disorder, attention deficit and hyperactivity disorder (ADHD) and conduct disorder. These disorders were assessed using the Diagnostic Interview Schedule-Version IV (DIS-IV), which evidenced adequate reliability and validity (McMillen et al. 2005). In the present study, youth who did not meet the lifetime diagnostic criteria for any of the five disorders received a score of 2, those who met the diagnostic criteria for one disorder received a score of 1, and those who met the diagnostic criteria for more than one disorder received a score of 0.

Avoidance of Substance Use Substance use was assessed with portions of the Diagnostic Interview Schedule for DSM-IV (Robins et al. 1995). Youth were asked if they had drank any

alcoholic beverages in the past 6 months, and if they had used any of the following substances in the past 12 months: marijuana, amphetamines, sedatives, opiates, cocaine, hallucinogens, inhalants, nitrous oxide or amyl nitrate, and club drugs. For each substance, response options were yes/no. Youth who reported not drinking alcohol, and not using any of the substances, received a score of 2. Those who reported drinking alcohol, but not using any of the substances, received a score of 1. Those who reported using illicit substances received a score of 0.

Avoidance of Criminal Involvement History of arrests was used as an indicator of criminal involvement. Youth were asked if they had ever been arrested—those responding “no” received a score of 2, those responding “yes” received a score of 0.

Overall Resilience After summing the above mentioned indicators, composite resilience scores ranged from 0 to 12. In line with prior research (e.g. Daining and DePanfilis 2007), each resilience indicator accounted for an equal portion of the composite score.

Risk Factors

Eight risk factors served as independent variables in the analysis.

Child Maltreatment Three variables related to child maltreatment were included. Physical abuse and physical neglect histories were assessed using the Childhood Trauma Questionnaire (CTQ; Bernstein and Fink 1998). The CTQ has demonstrated adequate reliability in prior studies of foster youth (e.g. Auslander et al. 2002). In the present sample, Cronbach alpha coefficients were 0.88 for physical abuse and 0.79 for physical neglect. To assess sexual abuse history, three items adapted from Russell (1986) were used. Youth were asked if they were ever made to touch someone’s private parts against their wishes; if anyone had ever touched their private parts against their wishes; and if anyone ever had vaginal, oral, or anal sex with them against their wishes. Youth responding “yes” to any of the questions were identified as having a history of sexual abuse.

Child Welfare Factors Two child welfare-related variables were included. First, youth were asked how many different times they had been placed in state’s custody. Second, they were asked how many placements (foster/group homes, shelters, etc.) they lived in during the past 12 months.

School Transitions Youth were asked how many times they had changed schools in the middle of the school year since the 7th grade. A continuous variable representing the number of school transitions was used in the analysis.

Problems in the Original Family Two family-related risk factors were included. To assess a history of mental illness in the family, the following items were used: (a) “Has anyone in your family received treatment for any emotional problems such as depression or anxiety”; and (b) “Has anyone in your family ever attempted or committed suicide”. Youth responding “yes” to any of the questions were identified as having a history of mental illness. To assess a history of criminal involvement, the following item was used: “Has anyone in your family committed, been charged with, or convicted of illegal acts”. Youth responding “yes” were identified as having a history of criminal involvement.

Protective Factors

In addition to the risk factors described above, eight protective factors also served as independent variables in the analysis.

Positive Outlook Two variables related to positive outlook on life were included. First, an eight-item measure adapted from the Perceived Benefit Scale (PBS; McMillen and Fisher 1998) was used to assess positive by-products resulting from negative experiences. Second, the World Assumptions Scale (WAS, Janoff-Bulman 1989) was used to assess participants' beliefs about benevolence of the world. In the present sample ($n=351$), Cronbach alpha for these scales were 0.84 and 0.74 respectively, indicating acceptable reliability.

Religiosity Youths' religious beliefs were assessed with the seven-item Spiritual Isolation subscale of the Personal Experience Inventory (PEI; Winters and Henley 1989). Consistent with other measures of religious beliefs, items pertained to the transcendent (e.g., "I believe there is a spiritual force that can help me with my problems") as well as cognitive aspects of beliefs (e.g., "I rely on religion when I have problems"). In the present sample ($n=351$), Cronbach alpha was 0.87 indicating adequate reliability.

School Factors Two school-related factors were included in the analysis. First, youth were asked about their involvement in eight extracurricular activities at school (e.g. music groups, school sports, academic clubs, student government, etc.). A continuous variable representing total number of activities ranged from 0 to 8. Second, youth were asked if they liked school; response options were *not at all*, *somewhat*, *a little*, *and*, *a lot*. Youth stating that they liked school *a lot* were considered to possess protection.

Reading Level Reading level served as proxy for intellectual ability, and assessed with the Wide Range Achievement Test 3 (WRAT3; Wilkinson 1993; Snelbaker et al. 2001). The Cronbach alpha for the WRAT3 Blue Reading test is 0.92 for individuals ages 17 to 19 (Wilkinson 1993). The validity of the WRAT3 has been demonstrated through moderate to high correlations with other standardized academic achievement tests.

Helpful People Two variables related to the child welfare system were included. First, youth were asked about the degree of helpfulness of their current caseworker. Second, they were asked about the helpfulness of people that they currently lived with (e.g. foster parents, group home staff). Response options were *not at all*, *a little bit*, *a medium amount*, and *a lot*. For variable, those who responded *a lot* were considered to possess protection.

Data Analysis

Univariate analyses were used to calculate how many youth met the criteria for resilience in each domain, as well as their composite resilience scores. Chi-square tests and *t*-tests were used to examine demographic differences, and correlation analyses were used to evaluate relationships between the independent variables. At the final step, hierarchical multiple regression was used to assess the contribution of demographic indicators, risk factors and

protective factors to youths' composite resilience scores. Variables were entered into the regression equation in three blocks: youth gender and race were entered first, followed by eight risk factors and then followed by eight protective factors. This order of entry reflected an interest in examining the contribution of protective factors over and above possible variations in risk factors. All analyses were conducted in SPSS version 20.0.

Results

Sample Description

The study sample ($n=351$) consisted of 197 females (56 %) and 154 males (44 %); 156 whites (44 %), and 195 non-whites (56 %). As previously described, the majority of non-whites (92 %) were African-American.

Resilience Indicators

Table 1 presents a summary of resilience scores for the study participants. The average composite score for the overall sample was 8.35, and the median score was 9. When individual domains were evaluated, 69 % had adequate educational attainment, 86 % avoided teen pregnancy, 83 % had never been homeless, and 64 % had no criminal involvement. Nevertheless, only 50 % reported no lifetime mental health diagnoses, and as little as 40 % avoided

Table 1 Resilience indicators and composite resilience scores ($N=351$)

Resilience indicator	0 (lowest) %	1 (midpoint) %	2 (highest) %
Education	16	15	69
Teen pregnancy	14	–	86
Homelessness	17	–	83
Mental health	25	25	50
Substance use	48	12	40
Criminal involvement	36	–	64
Composite resilience	<i>M</i> (SD)	Median	Mode
	8.35	9	8
			Min/max
			0–12

Categories of resilience defined as following:

Education: 0 = not in school; 1 = in school, grades Ds and Fs; 2 = in school, grades As, Bs or Cs, or graduated/GED

Teen pregnancy: 0 = been pregnant/made a girl pregnant; 2 = never been pregnant/made a girl pregnant

Homelessness: 0 = ever stayed overnight on the street; 2 = never stayed overnight on the street

Mental health: 0 = lifetime diagnosis of two or more of the following: major depression, manic episode, posttraumatic stress disorder, attention deficit and hyperactivity disorder (ADHD) and conduct disorder; 1 = lifetime diagnosis of one disorder only; 2 = not diagnosed with any of the disorders

Substance abuse: 0 = used any of the following in the past 12 months—marijuana, amphetamines, sedatives, opiates, cocaine, hallucinogens, inhalants, nitrous oxide or amyl nitrate, and club drugs, either with or without alcohol; 1 = used alcohol only in the past 6 months; 2 = did not use substances or alcohol

Criminal involvement: 0 = ever been arrested; 2 = never been arrested

Composite resilience: sum of scores on the six domains described above

Min minimum, *Max* maximum

both alcohol and drug use. Noteworthy, only 15 % of youths ($N=53$) obtained a composite score of 12 indicating highest competence in all domains.

Demographic Differences in Resilience Indicators

Gender and racial differences in composite resilience scores and in individual domains were examined next. Composite scores were roughly similar for males and females ($M=8.30$ and $M=8.40$ respectively; $t=.32$, $p=.74$), though non-whites obtained significantly higher scores than whites ($M=8.79$ and $M=7.81$ respectively; $t=-3.35$, $p<.01$). When resilience indicators were examined individually, females were more likely to avoid criminal involvement (72 versus 55 %; $\chi^2=10.16$, $p<.01$), but less likely to avoid teen pregnancy (80 versus 93 %; $\chi^2=10.31$, $p<.01$). No gender differences were detected for educational attainment, substance use, mental illness or homelessness. When racial differences were examined, non-whites were more likely to avoid mental illness (57 versus 41 %; $\chi^2=9.61$, $p<.01$), homelessness (88 versus 78 %; $\chi^2=4.98$, $p<.05$) and substance use (48 versus 30 %; $\chi^2=12.76$, $p<.01$), and a trend in the same direction was present for criminal involvement (69 versus 58 %; $\chi^2=3.62$, $p=.057$). No racial differences were present for educational attainment or adolescent pregnancy.

Risk and Protective Factors

An examination of risk factors revealed that on average, youth were placed in state's custody 1.31 times, and had 2.16 school transitions in the middle of the year since the 7th grade. During the past year, youth lived in an average of 2.60 placements, indicating considerable placement instability. As expected for a foster care population, youths' scores on measures of physical abuse and physical neglect were in the moderate to high range ($M=11.28$ and $M=10.22$; a cut off score of 10 indicates moderate or severe maltreatment as per Bernstein and Fink 1998), and about one-third reported a history of sexual abuse. Furthermore, many reported a history of mental illness (54 %) and criminal involvement (67 %) in their original families.

Conversely, the average readings scores for the participants were relatively low ($M=38.58$), corresponding with a 7th grade reading level only. Youth were involved in an average of 1.11 extracurricular activities at school, though only 32 % indicated that they liked school *a lot*. Furthermore, 36 % reported that they were helped *a lot* by their caseworker, and 58 % were helped *a lot* by people they currently lived with. Despite facing difficult circumstances, many youth believed in benevolence of the world ($M=21.39$), and were able to find some benefit in their negative experiences ($M=23.37$). The majority of youths also reported some degree of religious beliefs ($M=20.01$).

Table 2 presents bivariate correlations between risk and protective factors included in the analysis. As expected, risk factors were moderately positively correlated with one another, with highest correlation present for physical abuse and physical neglect scores ($r=.57$). For the most part, protective factors were also positively correlated, with highest correlation present for benevolence of the world and religious beliefs scores ($r=.29$). Interestingly, several risk factors were positively correlated with protective factors, suggesting that higher risk youth possessed higher protection in some domains. For instance, youth with higher physical abuse scores and those with sexual abuse histories were more likely to enjoy school ($r=.15$ and $r=.16$, $p<.01$), while those with higher physical neglect scores engaged in more

Table 2 Bivariate correlations between risk and protective factors (N=351)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. PhyAb		0.57***	0.30***	0.11*	0.11*	0.17**	0.14**	0.19**	0.04	-0.08	0.09	0.18**	-0.04	0.15**	0.13*	-0.12**
2. PhyNeg			0.22**	0.11*	0.00	0.18**	0.14**	0.18**	-0.06	-0.13*	0.00	0.16**	-0.04	0.05	0.04	-0.02
3. SexAb				0.12*	0.12*	0.19***	0.15**	0.22***	0.01	-0.08	0.12*	0.06	0.03	0.16**	-0.03	-0.00
4. NmbCus					0.01	0.11*	0.08	0.16**	0.07	-0.01	-0.04	0.04	0.10	0.01	-0.00	-0.05
5. NmbPlc						0.25***	0.10	0.15**	-0.02	-0.08	-0.03	0.01	0.01	0.02	0.03	-0.10
6. SchlCng							0.18**	0.12*	-0.00	-0.00	-0.06	0.01	0.05	0.10	-0.08	-0.02
7. Famleg								0.18**	0.09	0.04	0.05	0.05	0.14**	0.03	0.01	0.00
8. FamEm									0.07	-0.03	0.11*	-0.01	0.12*	0.06	0.01	-0.05
9. PecBenf										0.24***	0.24***	0.14**	0.18**	0.15**	0.10	0.17**
10. BenWrid											0.29**	0.16**	0.10	0.17**	0.10*	0.24**
11. RelBel												0.23***	0.03	0.22***	0.10	0.05
12. ExtAc													-0.01	0.26***	0.11*	0.06
13. RedLev														-0.01	-0.05	-0.01
14. LikeSch															0.06	0.05
15. HlpDCF																0.05
16. HlpLive																

PhyAb physical abuse, PhyNeg physical neglect, SexAb sexual abuse, NmbCus number of times placed in state's custody, NmbPlc number of placements in past 12 months, SchlCng number of school transitions, FamEm mental health problems in the family, FamLeg criminal involvement in the family, RedLev benevolent world scale, PerBen perceived benefit scale, RelBel religious beliefs, LikeSch attachment to school, ExtAc number of extracurricular activities, HlpDCF perceived helpfulness of caseworker, HlpLive perceived helpfulness of people youth lived with

* $p < .05$; ** $p < .01$; *** $p < .00$

extracurricular activities ($r=.16$, $p<.01$). Overall, the correlations among risk and protective factors were modest, indicating that they tend to represent empirically distinct constructs.

Multivariate Analyses

Table 3 summarizes the results of multiple regression analysis examining the contribution of demographic variables, risk factors and protective factors to youths' composite resilience scores. The contribution of gender and race (step 1) was statistically significant, accounting for about 2 % of variance in resilience scores. The contribution of risk factors (step 2) was also significant, accounting for an additional 17 % of variance. The contribution of protective factors (step 3) was not significant, accounting for less than 1 % of variance. The three sets of independent variables together accounted for 20 % of variance in youths' composite resilience scores.

In the final model, gender was not a significant predictor of resilience, though a trend towards higher resilience scores for females was present. Non-white race was associated with

Table 3 The contribution of risk and protective factors to youth resilience scores—multiple regression analysis ($N=351$)

Step/predictor	β	R^2 adj	F change
1. Demographic variables		0.02	5.66**
Gender	-0.09		
Race	0.11*		
2. Risk factors		0.19	10.30***
Physical abuse	-0.16**		
Physical neglect	0.05		
Sexual abused	-0.12*		
# Entries to custody	0.00		
# Placements	-0.22***		
# School transitions	-0.08		
Legal problems in family	-0.18***		
Mental health problems in family	-0.05		
3. Protective factors		0.20	1.30
Perceived benefit	0.02		
Benevolence of world	-0.03		
Religious beliefs	0.07		
Extracurricular activities	0.07		
Reading level	0.03		
Likes school	0.05		
Helpful caseworker	-0.01		
Helpful people at placement	0.04		

Dependent variable: composite resilience score

Only the final model (i.e. including three blocks of independent variables) is presented

* $p<.05$

** $p<.01$

*** $p<.001$

higher resilience even after other variables were controlled. Among the risk factors studied, higher physical abuse scores, a history of sexual abuse, increased number of placements in the past year and a history of criminal involvement in the original family were associated with lower resilience. Surprisingly, none of the protective factors studied contributed significantly to resilience after risk factors were controlled.

Discussion

The goal of the present study was to explore how risk and protective factors relate to resilience among older adolescents in foster care. The factors studied covered three conceptual domains deemed important for the development of resilience: individual characteristics, family factors and extra-familial context (Masten and Coatsworth 1998; Werner and Smith 1982, 1992). Variations in manifestations of resilience, as well as demographic differences, were assessed to obtain a broader understanding of this phenomenon.

The Prevalence of Resilient Functioning

The first research question pertained to the degree of resilience among this population. Results revealed that the majority of youths demonstrated moderate or high resilience across multiple domains ($M=8.35$; suggesting resilience in at least four of the six domains studied). These findings are in line with prior research indicating that many foster youth manage to function successfully during the period of transition to adulthood (Daining and DePanfilis 2007; Hass and Graydon 2009; Jones 2012; Keller et al. 2007; Yates and Grey 2012).

Despite fairly high resilience scores overall, only 15 % of youths possessed a score of 12, indicating highest competence in all domains. This finding supports the notion that foster youth can struggle in some domains, while simultaneously possessing strengths in others (Keller et al. 2007; Yates and Grey 2012). To illustrate, while half of participants in this sample had diagnosable mental disorders, more than two-thirds were able to function successfully in educational settings, and over 80 % avoided homelessness and teenage pregnancy. Similar “discordance” across different indicators of adjustment was noted in prior research (e.g. Farruggia et al. 2006; Yates and Grey 2012). The presence of discordant patterns of adjustment supports the need for a multidimensional assessment of resilience, including both success in salient developmental tasks (e.g. education) and avoidance of psychopathology (Jaffee and Gallop 2007; Masten and O’Dougherty Wright 2010). The inclusion of internal indicators is particularly important, given the high rates of mental illness in this population.

The Contribution of Demographic Indicators

The second research question pertained to the contribution of gender and race to resilient functioning. Past research with foster youth did not show a consistent effect of demographic factors. In some investigations, females exhibited resilience more frequently than males (Daining and DePanfilis 2007; Hass and Graydon 2009; Hines et al. 2005), while in others, no differences were found (Jones 2012; Yates and Grey 2012). It should be noted that the selection of specific competence domains may at least partially explain these inconsistencies. In studies emphasizing external indicators of adjustment (e.g. absence of criminal involvement), females may evidence higher resilience, but when internal indicators are emphasized

(e.g. mental health), the pattern may be reversed (Yates and Grey 2012). In the present study, males and females possessed similar composite resilience scores, perhaps due to the inclusion of both external and internal indicators. Nevertheless, some differences did emerge in individual domains—i.e. higher likelihood of criminal involvement for males, as well as higher likelihood of teenage pregnancy for females. Such gender-specific differences should be taken into account when designing intervention and prevention programs for this population.

Non-white youth scored higher in most individual domains, and possessed higher overall resilience scores than their white peers. This is an interesting finding, as minority youths are often portrayed as particularly vulnerable to negative outcomes (e.g. Cosner Berzin et al. 2011; Garcia et al. 2013). Nonetheless, these results correspond with at least one prior study, in which non-whites were somewhat more resilient than whites (Jones 2012). In the present investigation, this effect persisted after risk and protective factors were controlled, suggesting unmeasured factors may have been in effect, or that current risk and/or protective factors operated differently for whites and non-whites. Larger samples are needed to examine potential interactive effects between race and different risk and protective influences.

The Contribution of Risk and Protection

The third research question pertained to the contribution of risk and protective factors to resilient functioning. As expected, several risks were associated with *lower* resilience. Participants exposed to higher physical abuse, and those with sexual abuse histories, possessed lower resilience scores. This is consistent with prior research documenting detrimental effects of maltreatment on individual development (e.g. Brodsky et al. 2001; Cicchetti and Valentino 2006; Cicchetti and Rogosch 1997; MacMillan et al. 2001; Mersky and Topitzes 2010; Molnar et al. 2001). Nonetheless, in one prior study of foster youth, no relationship was found between severity of maltreatment and resilient functioning (Yates and Grey 2012). This may reflect high baseline levels of maltreatment among the youth, with limited between-subjects variability. In addition, the effects of maltreatment may be moderated by subsequent child welfare experiences, such as placement characteristics and the quality of relationships with foster parents.

As expected, increased number of placements during the past year was associated with lower resilience. The adverse effects of placement instability have been documented extensively in prior research (e.g. Newton et al. 2000; Ryan and Testa 2005). While some children experience multiple placements due to pre-existing difficulties (i.e. mental illness), prospective studies demonstrate that even for youth without identified problems, placement instability has detrimental effects (e.g. Newton et al. 2000). Results from the present investigation strengthen such findings, indicating that stable, long-term placements for adolescents may be key for fostering competent functioning during the period of transition to adulthood.

A history of criminal involvement in youths' original families was also associated with lower resilience. This finding corresponds with studies indicating that children of delinquent parents exhibit difficulties such as law-breaking behaviors (Dannerbeck 2005), school failure (Trice and Brewster 2004) and psychological maladjustment (Wilbur et al. 2007). Furthermore, criminally-involved families may reside in dangerous neighborhoods affected by poverty, unemployment, substance abuse and social disorganization (Jones 2012). Foster youth often maintain contact with biological families throughout their years in care, and the frequency of contact may increase as they approach emancipation (Courtney 2009; McMillen and Tucker 1999). Contact with family members who live in dangerous environments and commit illegal acts may expose youth to negative influences, decreasing their likelihood of resilience.

Interestingly, none of the protective factors studied contributed significantly to resilience. This is an unexpected finding, since factors such as high intellectual ability (Masten et al. 1999), positive outlook (Barskova and Oesterreich 2009; McMillen and Fisher 1998) religious affiliation (Miller et al. 2000; Miller and Gur 2002), presence of supportive adults (Lemon Osterling and Hines 2006; Munson and McMillen 2009) satisfaction in school (Elmor and Huebner 2010) and participation in extracurricular activities (Luthar 2006; Peck et al. 2008) were found to be predictive of resilience in other high-risk groups. It is unclear why such effects have not been replicated here. One possibility is that other protective factors are more salient for foster youth. Potential candidates may include peer attachment (Yates and Grey 2012), sustained contact with foster families (Jones 2012) and ego-resilience (Yates and Grey 2012). Additional protective factors to evaluate in future research may be sibling contact, receipt of independent living services and various placement characteristics.

Furthermore, it is possible that resilient functioning of foster youth relates more strongly to decreased risk than to increased protection. The amount of variance accounted for by risk factors was substantial (17 %), while the amount of variance accounted for by protective factors was inconsequential (less than 1 %). In most existing investigations, successful foster youth are automatically labeled “resilient”, and variations in risk exposure are not measured directly. As noted by Cicchetti and Garnezy (1993), “...the issue of magnitude of risk cannot be minimized, and risk should not be assumed merely in response to the presumed presence of a stressor” (p. 500). Without a detailed assessment of risk, it is impossible to determine whether foster youth who exhibit resilience are simply those exposed to less adversity, or those possessing some form of protection. Future research should include risk assessments to shed more light on this issue.

Implications for Practice

Based on present findings, minimizing risk may be an important strategy for improving adolescent functioning during the period of transition to adulthood. Preventing maltreatment via timely services and establishing stable, long-term placements for youth entering out-of-home care may be critical for fostering competence. As youth mature, increased attention should also be paid to their relationships with biological family members. Educating youth about the risks and benefits of such relationships and providing them with reasonable alternatives for support and consultation are of particular importance.

Furthermore, child welfare officials and policymakers generally emphasize youths’ educational and vocational outcomes, while placing much less emphasis on other aspects of adjustment. Fully half of youths in the present sample had at least one diagnosable mental disorder, and as many as 60 % reported either alcohol or drug use. Interventions designed to address such difficulties are sorely needed, especially as youth “age-out” and lose existing sources of support and supervision. Independent living programs are often narrowly focused on behavioral outcomes (e.g. completing education, obtaining employment, finding stable living arrangements, etc.), and relatively few resources are allocated to addressing deeper emotional needs. Specialized programs designed to address such needs, preferably in non-threatening environments (e.g. on college campuses, family doctors’ offices, etc.), are critical for facilitating competence.

Limitations and Directions for Future Research

The results of the present study should be interpreted in light of its limitations. First, the sample was restricted to several counties in one state, and may not be representative of all youth in

foster care. Second, findings are limited by the cross-sectional nature of the analysis. Causal inferences about the impact of risk and protective factors on resilience cannot be made from this investigation. Furthermore, the measurement of risk and protective factors was subject to several problems, such as using single items for measuring important constructs, and reliance on items with unknown psychometric properties. Finally, specific strategies for measuring resilience (e.g. selection of indicators and their coding), and the construction of composite resilience score (e.g. absence of weighting), may have biased the findings. To minimize such problems, the strategies employed relayed heavily on prior investigations and were grounded in salient conceptual considerations.

Future research should use longitudinal designs, preferably with nationally-representative samples. Such studies will improve generalizability and the ability to make causal inferences. In addition, in-depth examinations of pathways leading to resilience are needed, including a comparison of higher-risk versus lower-risk youth. Also, future studies should examine a broader array of protective factors, including relationships with biological and foster family members, as well as various peer influences. Lastly, increased attention should be paid to developing reliable and valid measures of resilience, including examining whether certain indicators should be given more weight as the most “critical” markers of competence (Luthar et al. 2000).

Acknowledgments I would like to thank the Chair of my dissertation committee, Dr. Kathleen Pottick, as well as members of the committee, Drs. Cassandra Simmel, N. Andrew Peterson and Julie Phillips for their constructive feedback on earlier versions of this project.

The data used in this publication were made available by the National Data Archive on Child Abuse and Neglect, Cornell University, Ithaca, NY, and have been used with permission. Data from *Mental Health Service Use Of Youth Leaving Foster Care (Voyages) 2001–2003* were originally collected by Curtis McMillen, Lionel D Scott and Wendy Fran Auslander. Funding for the project was provided by the National Institute of Mental Health (Award Number: 1R01 MH 61404). The collector of the original data, the funder, NDACAN, Cornell University and their agents or employees bear no responsibility for the analyses or interpretations presented here.

References

- Auslander, W. F., McMillen, J. C., Elze, D., Thompson, R., Jonson-Reid, M., & Stiffman, A. (2002). Mental health problems and sexual abuse among adolescents in foster care: relationship to HIV risk behaviors and intentions. *AIDS and Behavior*, *6*, 351–359.
- Barskova, T., & Oesterreich, R. (2009). Posttraumatic growth in people living with a serious medical condition and its relation to physical and mental health: a systematic review. *Disability and Rehabilitation*, *31*(21), 1709–1733.
- Bernstein, D. P., & Fink, L. (1998). *The Childhood Trauma Questionnaire Manual*. San Antonio: The Psychological Corporation.
- Brandford, C., & English, D. (2004). *Foster youth transition to independence study*. Seattle: Office of Children’s Administration Research.
- Brodsky, B. S., Oquendo, M., Ellis, S., Haas, G. L., Malone, K. M., & Mann, J. J. (2001). The relationship of childhood abuse to impulsivity and suicidal behavior in adults with major depression. *American Journal of Psychiatry*, *158*, 1871–1877.
- Cicchetti, D., & Garmezy, N. (Eds.) (1993). Milestones in the development of resilience [Special issue]. *Development and Psychopathology*, *5*(4), 497–774.
- Cicchetti, D., & Rogosch, F. A. (1997). The role of self-organization in the promotion of resilience in maltreated children. *Development and Psychopathology*, *9*, 797–815.
- Cicchetti, D., & Valentino, K. (2006). An ecological-transactional perspective on child maltreatment: Failure of the average expectable environment and its influence on child development. In D. Cicchetti & D. J. Cohen (Eds.), *Developmental psychopathology* (2nd ed., pp. 129–201). Hoboken: John Wiley & Sons.
- Cosner Berzin, S., Rhodes, A. M., & Curtis, M. A. (2011). Housing experiences of former foster youth: how they fare in comparison to other youth? *Children and Youth Services Review*, *33*, 2119–2126.

- Courtney, M. E. (2009). Describing the problem: Outcomes for older youth exiting the foster care system in the U.S. In B. Kerman, A. B. Maluccio, & M. M. Freundlich (Eds.), *Achieving permanence for older children and youth in foster care*. New York: Columbia University Press.
- Daining, C., & DePanfilis, D. (2007). Resilience of youth in transition from out-of home care to adulthood. *Children and Youth Services Review, 29*, 1158–1178.
- Dammerbeck, A. M. (2005). Differences in parenting attributes, experiences and behaviors: of delinquent youth with and without a history of parental incarceration. *Youth Violence and Juvenile Justice, 3*, 199–213.
- Elmor, G. M., & Huebner, E. S. (2010). Adolescents' satisfaction with school experiences: relationships with demographics, attachment relationships, and school engagement behavior. *Psychology in the Schools, 47*(6), 525–537.
- Farruggia, S. P., Greenberger, E., Chuansheng, C., & Heckhausen, J. (2006). Perceived social environment and adolescents' well-being and adjustment: comparing a foster care sample with a matched sample. *Journal of Youth and Adolescence, 35*, 349–358.
- Fraser, M. W., Kirby, L. D., & Smokowski, P. R. (2004). Risk and resilience in childhood. In M. W. Fraser (Ed.), *Risk and resilience in childhood: An ecological perspective* (2nd ed., pp. 13–66). Washington, DC: NASW.
- Garcia, A. R., Pecora, P. J., Harachi, T., & Aisenberg, E. (2013). Institutional predictors of developmental outcomes among racially diverse foster care alumni. *American Journal of Orthopsychiatry, 82*(4), 573–584.
- Haight, W., Finet, D., Bamba, S., & Helton, J. (2009). The beliefs of resilient African-American adolescent mothers transitioning from foster care to independent living: a case-based analysis. *Children and Youth Services Review, 31*, 53–62.
- Hass, M., & Graydon, K. (2009). Sources of resiliency among successful foster youth. *Children and Youth Services Review, 31*(4), 457–463.
- Hines, A. M., Merdinger, J., & Wyatt, P. (2005). Former foster youth attending college: resilience and the transition to young adulthood. *American Journal of Orthopsychiatry, 75*(3), 381–394.
- Hook, J. L., & Courtney, M. E. (2011). Employment outcomes of former foster youth as young adults: the importance of human, personal and social capital. *Children and Youth Services Review, 33*, 1855–1865.
- Hughes, D. M., Condron, B., Jackson, N., Pitchal, E., Garton, N., & Elliott, S. P. (2008). *Preparing our kids for education, work and life: A report of the task force on youth aging out of DSS care*. Boston, MA, USA: The Boston Foundation.
- Jaffee, S. R., & Gallop, R. (2007). Social, emotional, and academic competence among children who have had contact with child protective services: Prevalence and stability estimates. *Journal of the American Academy of Child and Adolescent Psychiatry, 46*, 757–765.
- Janoff-Bulman, R. (1989). Assumptive worlds and the stress of traumatic events: applications of the schema construct. *Social Cognition, 7*, 113–136.
- Jones, L. (2012). Measuring resiliency and its predictors in recently discharged foster youth. *Child and Adolescent Social Work Journal, 29*, 515–533.
- Keller, T. E., Cusick, G. R., & Courtney, M. E. (2007). Approaching the transition to adulthood: distinctive profiles of adolescents aging out of the child welfare system. *Social Service Review, 81*, 453–484.
- Lemon Osterling, K., & Hines, A. (2006). Mentoring adolescent foster youth: promoting resilience during developmental transitions. *Child and Family Social Work, 11*, 242–253.
- Luthar, S. S. (2006). Resilience in development: A synthesis of research across five decades. In D. Cicchetti & D. J. Cohen (Eds.), *Developmental psychopathology: Risk, disorder, and adaptation* (2nd ed., Vol. 3). New York: Wiley.
- Luthar, S. S., Cicchetti, D., & Becker, B. (2000). The construct of resilience: a critical evaluation and guidelines for future work. *Child Development, 71*, 543–562.
- MacMillan, H. L., Flemming, J. E., Streiner, D. L., et al. (2001). Child abuse and lifetime psychopathology in a community sample. *American Journal of Psychiatry, 158*, 1878–1883.
- Masten, A. S. (2001). Ordinary magic: resilience processes in development. *American Psychologist, 56*, 227–238.
- Masten, A. S., & Coatsworth, J. D. (1998). The development of competence in favorable and unfavorable environments. *American Psychologist, 53*, 205–220.
- Masten, S. A., & O'Dougherty Wright, M. (2010). Resilience over lifespan: Developmental perspectives on resistance, recovery and transformation. In J. W. Reich, A. J. Zautra, & J. S. Hall (Eds.), *Handbook of adult resilience* (pp. 213–237). New York: Guilford.
- Masten, A. S., & Powell, J. L. (2003). A resilience framework for research, policy, and practice. In S. S. Luthar (Ed.), *Resilience and vulnerability: Adaptation in the context of childhood adversities* (pp. 1–25). New York: Cambridge University Press.
- Masten, A. S., & Tellegen, A. (2012). Resilience in developmental psychopathology: contributions of the Project Competence Longitudinal Study. *Development and Psychopathology, 24*, 345–361.
- Masten, A. S., Hubbard, J. J., Gest, S. D., Tellegen, A., Garmezy, N., & Ramirez, M. (1999). Competence in the context of adversity: pathways to resilience and maladaptation from childhood to late adolescence. *Development and Psychopathology, 11*, 143–169.
- McMillen, J. C., & Fisher, R. H. (1998). The Perceived Benefit Scales: measuring perceived positive life changes after negative life events. *Social Work Research, 22*, 173–187.

- McMillen, J. C., & Tucker, J. (1999). The status of older adolescents at exit from out-of-home care. *Child Welfare, 78*, 339–360.
- McMillen, J. C., Zima, B., Auslander, W., Scott, L., Munson, M. R., Ollie, M., & Spitznagel, E. (2005). Prevalence of psychiatric disorders among older youths in the foster care system. *Journal of the American Academy of Child and Adolescent Psychiatry, 44*(1), 88–95.
- Merdinger, J., Hines, A. M., Lemon, K., & Wyatt, P. (2005). Pathways to college for former foster youth: toward understanding factors that contribute to educational success. *Child Welfare, 84*(6), 867–896.
- Mersky, J. P., & Topitzes, J. (2010). Comparing early adult outcomes of maltreated and non-maltreated children: a prospective longitudinal investigation. *Children and Youth Services Review, 32*(8), 1086–1096.
- Miller, L., & Gur, M. (2002). Religiosity, depression, and physical maturation in adolescent girls. *Journal of the American Academy of Child and Adolescent Psychiatry, 41*(2), 206–214.
- Miller, L., Davies, M., & Greenwald, S. (2000). Religiosity and substance use and abuse among adolescents in the National Comorbidity Survey. *Journal of the American Academy of Child and Adolescent Psychiatry, 39*(9), 1190–1197.
- Molnar, B. E., Buka, S. L., & Kessler, R. C. (2001). Child sexual abuse and subsequent psychopathology: results from the National Comorbidity Survey. *American Journal of Public Health, 91*, 753–760.
- Munson, M. R., & McMillen, J. C. (2009). Natural mentoring and psychosocial outcomes among older youth transitioning from foster care. *Children and Youth Services Review, 31*(1), 104–111.
- Naccarato, T., Brophy, M., & Courtney, M. E. (2010). Employment outcomes of foster youth: the results from the midwest evaluation of the adult functioning of foster youth. *Children and Youth Services Review, 32*(4), 551–559.
- 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.
- Peck, S., Roeser, R. W., Zarrett, N. R., & Eccles, J. S. (2008). Exploring the role of extracurricular activity involvement in the educational resilience of vulnerable adolescents: pattern and variable centered approaches. *Journal of Social Issues, 64*, 135–156.
- Robins, L., Cottler, L., Bucholz, K., & Compton, W. (1995). *Diagnostic interview schedule for DSM-IV*. St. Louis: Washington University in St. Louis.
- Russell, D. E. H. (1986). *The secret trauma: Incest in the lives of girls and women*. New York: Basic Books.
- Ryan, J. P., & Testa, M. F. (2005). Child maltreatment and juvenile delinquency: investigating the role of placement and placement instability. *Children and Youth Services Review, 27*(3), 227–249.
- Samuels, G. M., & Pryce, J. M. (2008). ‘What doesn’t kill you makes you stronger’: survivalist self-reliance as resilience and risk among young adults aging out of foster care. *Children and Youth Services Review, 30*(10), 1198–1210.
- Snelbaker, A. J., Wilkinson, G. S., Robertson, G. J., & Glutting, J. J. (2001). Wide Range Achievement Test 3 (WRAT). In W. I. Dornan & M. Hersen (Eds.), *Understanding psychological assessment*. New York: Kluwer Academic/Plenum Publishers.
- Stott, T. (2012). Placement instability and risky behaviors of youth aging-out of foster care. *Child and Adolescent Social Work Journal, 29*, 61–83.
- Stott, T., & Gustavsson, N. (2010). Balancing permanency and stability for youth in foster care. *Children and Youth Services Review, 32*, 619–625.
- Svoboda, D. V., Shaw, T. V., Barth, R. P., & Bright, C. L. (2012). Pregnancy and parenting among youth in foster care: a review. *Children and Youth Services Review, 34*, 867–875.
- Trice, A. D., & Brewster, J. (2004). The effects of maternal incarceration on adolescent children. *Journal of Police and Criminal Psychology, 19*, 27–35.
- U.S. Department of Health and Human Services. (2012). The AFCARS Report: Preliminary Estimate for FY 2011. Washington: D.C. Retrieved June 10, 2013 from <http://www.acf.hhs.gov/sites/default/files/cb/afcarsreport19.pdf>
- Vaughn, M. G., Shook, J. J., & McMillen, C. (2008). Aging out of foster care and legal involvement: toward a typology of risk. *Social Service Review, 82*, 419–446.
- Werner, E. E., & Smith, R. S. (1982). *Vulnerable but invincible: A study of resilient children*. New York: McGraw-Hill.
- Werner, E. E., & Smith, R. S. (1992). *Overcoming the odds: High risk children from birth to adulthood*. Ithaca: Cornell University Press.
- Wilbur, M. B., Marani, J. E., Appugliese, D., Woods, R., Siegal, J. A., Cabral, H. J., et al. (2007). Socioemotional effects of fathers’ incarceration on low-income, urban, school-aged children. *Pediatrics, 120*, 678–685.
- Wilkinson, G. S. (1993). *The Wide Range Achievement Test: Administration manual*. Wilmington: Wide Range, Inc.
- Winters, K. C., & Henley, G. A. (1989). *Personal experience inventory: Manual*. Palo Alto: Consulting Psychologists Press.
- Yates, T. M., & Grey, I. K. (2012). Adapting to aging-out: profiles of risk and resilience among emancipated foster youth. *Development and Psychopathology, 24*, 475–492.