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Dimensions of Health in Young People in Foster Care

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Abstract

Purpose—To describe the dimensions of health and illness from the perspective of adolescents in foster care.

Methods—Descriptive analyses of dimensions of health were conducted on N=105 adolescents in foster care. Differences among demographic (age, gender, race/ethnicity) and foster care placement (age at first placement, reason(s) for foster care placement, length of time in care, number, and types of placement) variables and the dimensions and subdimensions of health (Child Health and Illness Profile- Adolescent Edition) were determined using T-tests and ANOVA.

Results—Most were placed in long-term foster care (\bar{x} =6.46 years; SD=4.86) during adolescence (38%), with multiple placements (\bar{x} =3.99; SD=3.8). All domains of health were self-reported to be average to low average, with poorer findings in specific risk and resilience subdomains. There were no significant differences by age or race/ethnicity. Girls had lower satisfaction with health and self esteem and more physical and emotional discomfort. Preplacement adverse experiences were associated with increased risks.

Conclusions—Adolescent self-report of the domains of health for those in foster care was better than expected, based on literature review and qualitative data for the larger study. Potential explanations for this inflation of status and functioning include the need for self-protection in foster care, the familiarity of testing regimes by children in foster care with some social desirability effect, and their paradoxical responses to preplacement problems. Data including qualitative and significant other-reported data may be necessary to gain an accurate portrayal of the health status of adolescents in foster care.

Keywords

foster care; foster youth; adolescent health

Introduction

Children and adolescents in foster care are the most vulnerable to poor health compared with any other children in the United States. Children enter foster care due to detrimental experiences to their health and well-being, including child abuse and neglect. They have significantly higher rates of all health problems, including physical, mental, and developmental. Adolescents, nearly half of the foster care population, often experience multiple placements, involvement in multiple systems of care (e.g., mental health, juvenile justice, special education), and aging-out of foster care at age 18 before most are developmentally ready for independent living. The purpose of this paper is to describe specific health and illness dimensions from the perspective of youth in foster care. Baseline health status data from the Foster Youth Health Project, a study of an intervention to improve health and developmental outcomes of adolescents in foster care will be presented.

Background and Significance

There are 556,000 children and adolescents in foster care in the US today and 46% are 11–18 years old (1,2). The incidence of foster care continues to rise each year and has nearly doubled since the mid-1980's. Factors that contribute to the number of children in foster care include increases in child abuse and neglect, parental substance abuse, family homelessness, and the lack of services which emphasize placement prevention and family reunification (3,4). Most have been in care for over 2 years with many spending the duration of childhood in foster care (1). In large urban areas, the median stay is five years (5).

Multiple foster home placements are commonplace. There is a clear relationship between length of time in care and number of placements. The average time in placement is 33.6 months and number of placements is 3.3 (2). By adolescence, the risk for multiple placements is greater with increased time in care, as is the risk for deepening behavioral and emotional problems (6).

Finally, there is an overrepresentation of children from minority groups, especially African American, in the foster care system (3). The ethnicity of US children in foster care includes 32% African American, 41% White, and 19% Latino (7), in great contrast with the total population of children: 15% African American, 61% White, and 17% Latino (8).

The general health of children in foster care has been examined via retrospective case record review and cross-sectional measures of health services utilization. They have a high prevalence of untreated acute conditions, chronic illnesses, poor nutritional status, and inadequate immunizations, possibly attributed to the neglect of their basic physical needs. The presence of at least one chronic condition ranged from 40 to 76% (4,9–11).

The complex health care needs of children in foster care often continue to be neglected during their tenure in foster care (4). In previous studies, overriding systematic neglect was apparent, including incomplete medical history and records, lack of physical and psychological assessment, and poor case management (4,10). Even if a child or adolescent received an adequate assessment at initiation of foster care, rarely did appropriate treatment follow. Despite an overwhelming presence of health deficits, all of the studies found serious gaps between needs and services. Access to health care was impeded by multiple barriers, including poor health insurance coverage, limited services, low reimbursement rates for providers, and immigration status. Further, there is no consistent, reliable mechanism for accountability to ensure that these children receive appropriate, quality health care (4,5,10,11).

Starfield et al. (12,13) discussed the importance of considering a broader perspective on adolescent health and illness to include biopsychosocial correlates of health. They highlighted that adolescents' conceptions of health and illness emphasize psychosocial and developmental dimensions. With an understanding of specific dimensions of health in subpopulations such as adolescents in foster care, a more refined assessment of their health and illnesses can be made to track specific problems and strengths, and target and measure the impact of health interventions.

Methods

Design

Using an experimental design, the Foster Youth Health Project (FYHP) is examining the effectiveness of a collaborative intervention on the physical health, mental health, and social development outcomes of adolescents in foster care. The intervention pairs advanced practice nurses with expertise in adolescent health with court appointed special advocates (CASAs) who are community volunteers, trained and supervised to advocate for children and adolescents in foster care. The intervention consists of bimonthly 1:1 nursing consultation sessions with the CASAs over a 2 year period, incorporating health assessment and planning, health education, and support. Adolescents and their CASAs are randomly assigned to the intervention or control group. The aims are to improve the CASA's ability to identify adolescent health and mental health problems and to engage in health targeted advocacy to better meet the needs of their youth. Outcomes of adolescents who have CASAs who receive the intervention (intervention group) will be compared with those who have CASAs only (control group). For this paper, results from baseline data analyses of demographics, foster care variables, and dimensions of health and illness of the sample will be presented.

Sample

The sample included 105 adolescents in foster care and their CASAs. Adolescents 11 to 18 years old were eligible for the study, as were CASAs who were newly assigned to adolescents. Adolescents were excluded from the study if they did not speak English or they had cognitive impairment, significant developmental delays, or major psychiatric problems.

The study was approved by the Committee on Human Research at the University of California, San Francisco in the United States and adhered to the principles of the Declaration of Helsinki. Adolescents were referred to the study by three San Francisco Bay Area Court Appointed Special Advocates Programs. The Judge in the adolescents' county was their legal representative and gave written consent for each of the eligible subjects. A letter from the CASA Executive Director was sent to all caregivers of foster youth who had been newly assigned a CASA, informing them of the study and its purpose. The FYHP was introduced to all new CASAs at one of their training sessions. A research assistant (RA) then met with the adolescent and the CASA together and presented the details of the study, including potential risks. Adolescents were assured that they could refuse to participate. Written consents from the CASA and the adolescent were obtained. Of the 125 eligible participants, 11 adolescents, 7 CASAs, and 2 family members refused to participate. Youths' reasons for refusal included perceptions of being too busy, refusing all requests, and not interested.

Data Collection Procedures

Several instruments were administered to the adolescent and the CASA. To address potential literacy issues without embarrassing the youth, the RA began by reading the instruments

aloud along with the adolescent. Most subjects were able to complete the instruments with minimal assistance.

Demographics Sheet—A Demographics Sheet was completed by subjects, including age, gender, and race/ethnicity and foster care placement variables, including age at first placement, reason(s) for foster care placement, length of time in care, and number and types of placements.

Child Health and Illness Profile- Adolescent Edition (CHIP-AE)—The adolescents completed the CHIP-AE, a composite measure of health status, assessing domains of disorder, discomfort, satisfaction with health, achievement of developmental milestones, health risks, and resilience. The CHIP-AE is a self-report measure for adolescents to give their own perceptions on their health and well-being. The CHIP-AE is unique, as it does not recommend a parent or other proxy report, considering adolescents to be the optimal, most reliable reporters of their own health.

The CHIP-AE was designed to describe health in subpopulations of adolescents, including those at socioeconomic disadvantage, and to evaluate the impact of clinical interventions (12). It has 184 items and takes about 30 minutes to complete. The CHIP-AE was rigorously tested in several large samples of diverse adolescents ($n > 3200$ over 10 years), including normative and clinical samples (12). Psychometric properties for the CHIP-AE are good, including test-retest reliability ($r = 0.49-0.87$), internal consistency (domain alphas 0.59–0.90) and criterion, convergent, and discriminant validity (12,13).

Data Analysis

Descriptive statistics, means and standard deviations for the continuous variables and frequencies and percents for the categorical variables, were calculated for all demographic and foster care placement variables. Differences among gender, adolescent developmental age groupings (early, ages 11–13; middle, ages 14–16; late, ages 17–18), and race/ethnicity on CHIP-AE domains and subdomains were examined using t test (gender) and one-way analyses of variance (ANOVAs) (age group and race/ethnicity). For all dichotomous foster care placement variables (e.g., physical abuse- yes/no), t tests were run on the CHIP-AE domains and subdomains.

Results

Sample Characteristics

Of the initial 105 adolescent subjects, there were 54 females (51.4%). The mean age was 14.3 years old ($SD = 1.99$), with a range of 11 to 18 years old. There were 61 African American (58.1%), 26 Latino (24.8%), 15 White (14.3%), 9 Asian (8.6%), and 8 other (7.6%) adolescent subjects.

Most were first placed in foster care during adolescence ($n = 34$, 38%), including 22 early and 12 middle adolescents. The next largest group was placed during the infant/toddler period, from birth to 3 years old ($n = 31$, 34.6%). The mean age of first placement was 7.34 years ($SD = 5.25$), but ranged from birth to 16 years.

Subjects could select more than one “reason(s) for foster care placement.” (See Table 1.) Of the 90 subjects who reported the length of time in foster care, 42 spent over 5 years in care (46.3%); $\bar{x} = 6.5$ years, $SD = 4.86$. Seventeen were in foster care 3–4 years (18.8%), 17 from 1–3 years (18.8%), and 8 less than 1 year (8.8%).

Subjects had a mean of approximately 4 placements ($\bar{x}=3.99$, $SD=3.82$), with a range of 1 to 23 placements. The types of current placement included, group home ($n=36$, 34.3%), relative/kinship care ($n=30$, 28.6%), foster family home ($n=23$, 21.9%), reunification (replaced with biological family for a supervised period) ($n=16$, 15.2%), and residential treatment ($n=6$, 5.7%). In some cases, subjects reported more than one current placement.

Dimensions of Health

The CHIP-AE is a multidimensional measure of health and well-being with six main domains of health. Each main domain has several subdomains (12). To reflect relatively healthy adolescents, a mean of 20 and standard deviation of 5 were set by researchers for subdomain scores. A score of 17–23 in 5 domains (satisfaction, discomfort, resilience, risk, and achievement) reflects an Average level of the domain with less than 17 rating Poor and greater than 23 rating Good. A reverse scale fits the disorders domain (12). There were no significant differences found for racial and/or ethnic groups or adolescent age groupings in the domains and subdomains.

Satisfaction Domain—A youth's satisfaction with her/his health is measured by evaluating two subdomains: satisfaction with health and self-esteem. The higher the score, the greater satisfaction (12). Compared to norms, the sample reported an Average level of satisfaction with health ($\bar{x}=19.4$, $SD=5.2$). Girls reported significantly lower satisfaction scores, including overall satisfaction with health (girls $\bar{x}=17.5$, boys $\bar{x}=22.0$; $t=4.99$, $p<000$) and self-esteem (girls $\bar{x}=17.9$, boys $\bar{x}=20.8$; $t=2.98$, $p<.004$). This put them at a very low Average in the satisfaction domain ($\bar{x}=17.4$ for girls, $\bar{x}=21.4$ for boys; $t=4.39$, $p<000$).

Discomfort Domain—Subjects reported symptoms they currently experienced and subdomains included physical and emotional discomfort. Higher scores reflect less discomfort (12). Scores were in the Average range ($\bar{x}=20.4$, $SD=5.1$). Girls reported significantly more discomfort (that is, lower scores) than boys overall (girls $\bar{x}=18.9$, boys $\bar{x}=21.9$; $t=3.09$, $p<.003$); and in the physical (girls $\bar{x}=17.5$, boys $\bar{x}=20.8$; $t=2.84$, $p<.006$) and emotional (girls $\bar{x}=16.9$, boys $\bar{x}=20.7$; $t=3.56$, $p<.001$) subdomains.

Resilience Domain—Resilience was measured by personal characteristics and behaviors that subjects considered as protective against sickness and injury. The higher the score, the more resilient (12). Subdomains of resilience included physical activity, interpersonal problem-solving, home safety and health, and family involvement. Foster youth had an Average score for resilience ($\bar{x}=20.9$, $SD=5.2$). Boys reported a significantly higher level of physical activity than girls (boys $\bar{x}=21.5$, girls $\bar{x}=18.9$; $t=2.61$, $p<.01$).

Risks Domain—Risk considers personal characteristics and behaviors that increase one's likelihood for illness and/or injury. Higher scores reflect less risk; that is, better *minimization* of risk (12). Subdomains included individual risks, threats to achievement, and peer influences. The risks domain was Average for this group ($\bar{x}=20.1$, $SD=6.4$).

Achievement Domain—The achievement domain assesses the adolescent's performance expectations in school and work. The higher the score means a higher level of achievements (12). Subdomains included academic performance and work performance. Most of the sample ($n=104$) reported Average academic performance ($\bar{x}=19.7$, $SD=4.93$). Sixteen subjects responded to questions about work and the scores were in the Average range ($\bar{x}=18.4$, $SD=5.5$).

Disorders Domain—Specific injuries and acute and chronic illnesses are recorded in this domain and subdomains were acute minor, acute major, recurrent, long-term medical, long-term surgical, and psychosocial disorders. The higher the score, the more disorders reported (12). Subjects reported Good health with a low endorsement of disorders ($\bar{x}=15.4$, $SD=7.2$).

Correlations with Foster Care Variables

Three foster care variables (total number of placements, total years in foster care, and age at first placement) were correlated with the dimensions and subdimensions of health. Cohen (14) suggests that correlations indicating at least a moderate effect are at or above .30. Significant moderate correlations included: Age at first placement being inversely related to satisfaction with health ($r=-.32$, $p=.002$), self-esteem ($r=-.30$, $p=.004$), resilience ($r=-.34$, $p=.001$), and family involvement ($r=-.39$, $p=.000$). More total years spent in foster care was associated with higher family involvement ($r=.31$, $p=.004$).

Reasons for Placement—T-tests compared parental reason for placement (yes/no) groups on the domains and subdomains of health. Placement reasons that involved parents included physical, emotional, and sexual abuse and parental substance abuse and death. Adolescents in foster care who had parents who abused substances had greater satisfaction with health, higher self-esteem, more family involvement, and reported fewer of their own risk taking behaviors. Adolescents who were physically abused reported more overall risks with more peer influences on their behavior. Those who reported emotional abuse reported less family involvement. Those who reported sexual abuse had more emotional discomfort and less resilience. Finally, those adolescents whose parent died had greater overall risks. (See Table 2.)

Child-related reasons for placement included aggression, peer problems, truancy, running away, suicidal, substance use, and pregnancy. Domains that differed significantly between the child-related reasons for placement (yes/no) groups were risks and achievement. (See Table 3.) Adolescents who did not report any of these personal behaviors as reasons for placement had better scores in all domains and subdomains.

There were significant differences among the types of placement (yes/no) groups and the domains and subdomains of health, especially for disorders, risks, and resilience. (See Table 4.) Adolescents in group home placements were less resilient, with less family involvement and demonstrated more overall risks, including individual risk taking, peer influences, and threats to achievement. But, they also reported less major disorders. Young people in relative placements had greater family involvement and less acute minor and recurrent disorders. Adolescents in foster family homes reported higher academic performance, but more recurrent disorders.

Discussion

Adolescents are one of the healthiest age groups in the United States (15). Adolescents in foster care are at heightened risk for poor health, including physical and mental health conditions (9–11). While the developers of the CHIP-AE (12) would strongly argue in favor of adolescents as the best and only reporters of their health, adolescents in foster care have particular reasons that they may portray their health status with an overly positive social bias. By adolescence, many in foster care have experienced a wide variety of testing (e.g., psychological, educational) with results evaluating home and academic placement appropriateness. They may learn to present themselves in the best light, with the fewest problems; this may result in a greater level of personal stability, including the least amount of attention from authority figures and life disruption.

Previous research demonstrated that adolescents in foster care create a façade of healthy functioning and pseudoindependence in order to protect themselves from further devaluation by others and the uncertainty of foster care (16). Protection strategies include guarding foster child status, maintaining a defensive posture, distancing oneself from others, and keeping relationships superficial. These strategies protect the young person in foster care from further disappointment, rejection, and trauma, including losses associated with additional placement and school transitions. The instability of foster care lends itself to repeated personal loss and interpersonal disconnection (16). Most of the subjects' problem behaviors and mental health issues can be seen as having difficulties with interpersonal relationships (e.g., social problems, disruptive behaviors). To enhance their strengths and promote resiliency, relationships with consistent health care providers and community volunteers can be protective factors, supplementing an adolescent's self conceptions of being well and functional.

The data collected on the CHIP-AE was in great contrast to the qualitative field notes taken by the Foster Youth Health Project nurses who delivered the intervention to half of the subjects' CASAs. CASA bimonthly consultations with the nurses focused on the problems and needs of these adolescents in foster care. The sessions were typically focused on the many physical, mental health, and developmental (especially school-related) challenges experienced by these subjects. Although the field notes from the sessions are currently under analysis, nurses reported that adolescents were not very "tuned in to health issues," but predominant health problems included obesity/overweight/inactivity, asthma/allergies, and other forms of cardiovascular risk (e.g., prediabetes). CASAs reported that many adolescents had serious mental health problems including depression, disruptive behavioral disorders, and learning differences.

This discrepancy was supported by focus groups of youth in foster care who viewed that their "problem behaviors" were appropriate responses to serious detrimental preplacement experiences rather than diagnosable mental health problems (17). Literature supports that the health status of adolescents in foster care is of serious concern with many experiencing physical and mental health problems, yet lacking treatment (4,10). Outcomes following placement are also dire, (18) including homelessness, low graduation and employment rates, and further institutionalization, especially incarceration.

Perhaps the sole reliance on adolescent self-report of health status in a foster care population provides an incomplete and insufficient measure of this complex, multidimensional construct. Adolescent and caregiver reports of health will never likely be the same or even correlated. Caregiver reports may actually be useful as supplements to promote our understanding of the health problems and needs of adolescents in foster care. The results of our baseline analyses suggest that self-report may not be the only useful strategy for collecting health status data in this population.

The relationships among dimensions and subdimensions of health, and demographics and foster care placement variables point out particular subgroups of adolescents in foster care that may be especially vulnerable to poor health. As we know, adolescent girls, in general, suffer from lower self-esteem and more emotional problems than males (19). This finding is emphasized in adolescent girls in foster care; results indicated their lower self-esteem, lower satisfaction with health, and more emotional distress. Adolescents who were first placed at a younger age versus during adolescence appear to be more stable. However, adolescent placement was associated with less satisfaction with health, lower self-esteem, lower resilience, and less family involvement.

Parental substance abuse was associated with less individual risk taking behavior, greater satisfaction with their health, self-esteem, and resilience in the area of family involvement. In contrast, subjects who were physically abused reported greater risk, especially in the area of peer influences. Those with emotional abuse reported less family involvement and those reporting sexual abuse demonstrated more emotional discomfort and less resilience. Parental death was associated with more overall risks. Despite severe adversity leading to foster care placement, it is important to evaluate the factors which alone and in interaction, contribute to both risk and resilience. Risk and protective factors in the adolescent, foster family, biological family, and other outside figures in the adolescent's social world, as well as continued experiences, both within and outside of foster care, may all interact to promote both positive and negative outcomes (20,21).

Negative behaviors like aggression, running away, suicidal behavior, and substance abuse were associated with increased risk. Negative behavior and coping styles tend to persist into adolescence and beyond. Risk factors for aggression are multiple and interactive, including individual, family, school, peer, community, and neighborhood related (22). Nearly one quarter of the sample reported that peer problems contributed to their placement in foster care. Most research supports that children in foster care experience more behavior problems and poor peer relationships that can be attributed to their histories of abuse and neglect, during which learning to relate to others has been negatively impacted (23,24).

Limitations

Results can only be generalized to adolescents with CASAs and may not be generalizable to all adolescents in foster care. Applicability may also be limited to adolescents with similar demographic and placement history profiles and not reflect the experiences of adolescents in stable foster care or those in rural or suburban contexts in other regions of the country.

The concept of health in adolescents differs from that of adults. Adolescents use multiple and maybe different dimensions and subdimensions of health to assess their functioning. The Starfield group was accurate in thinking that adolescents would be the best reporters of their perceptions and experiences of health.¹⁹ But, youth in foster care have multiple reasons for underplaying their needs and problems in order to reduce the visibility of what they may perceive to be their diminished foster child status or to minimize life disruption (25).

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References

1. U.S. Department of Health and Human Services, Administration for Children and Families, Administration on Children, Youth, and Families, Children's Bureau. Federal and State Reporting Systems, Statistics, 2007. Washington, DC: U.S. DHHS; [Accessed May 22, 2008]. Adoption and Foster Care Analysis and Reporting System (AFCARS). [Online]. Available at: <http://www.acf.hhs.gov/programs/cb/systems/index.htm>

2. Child Welfare League of America, National Data Analysis System (CWLA, NDAS). Mean and Median Lengths of Stay for Children in Out-of-Home Care, Statistics, 2005. 2008 [Accessed May 22, 2008]. [Online]. Available at: http://ndas.cwla.org/data_stats/access/predefined/home.asp?MainTopicID=3
3. Government Accounting Office (GAO). African American Children in Foster Care: Assistance Needed to Help States Reduce the Proportion in Care. GAO-07-816. Washington, DC: Government Accounting Office; 2007.
4. Simms MD, Dubowitz H, Szilagyi MA. Health Care Needs of Children in the Foster Care System. *Pediatr*. 2000; 106(4 Suppl):909–918.
5. Wulczyn, FH.; Hilsop, KB. Foster Care Dynamics in Urban and Non-Urban Counties, HHS-100-99-0007, Statistics. 2002 [Accessed May 22, 2008]. [Online]. Available at: <http://aspe.hhs.gov/HSP/fostercare-issues02/dynamics/index.htm>
6. U.S. Department of Health and Human Services, Administration for Children and Families, Administration on Children, Youth, and Families, Children's Bureau. Mental Health Services for Adolescents in Foster Care, Statistics, 2005. Washington, DC: U.S. DHHS; [Accessed May 22, 2008]. Adoption and Foster Care Analysis and Reporting System (AFCARS). [Online]. Available at: http://cbexpress.acf.hhs.gov/articles.cfm?article_id=1031&ref=htmlEml
7. Child Welfare Information Gateway. Child Welfare/Foster Care Statistics. 2007 [Accessed May 22, 2008]. [Online]. Available at: http://www.childwelfare.gov/systemwide/statistics/childwelfare_foster.cfm
8. U.S. Bureau of the Census. Census 2000 Special Reports: Children and the Households They Live In, Statistics, 2004. 2004 [Accessed May 22, 2008]. [Online]. Available at: <http://www.census.gov/prod/2004pubs/censr-14.pdf>
9. Diaz A, Edwards S, Neal WP, et al. Foster Children with Special Needs: The Children's Aid Society Experience. *Mt Sinai J Med*. 2004; 71:166–169. [PubMed: 15164129]
10. Jee SA, Simms MD. Health and Well-Being in Children in Foster care. *Pediatr Rev*. 2006; 27(1): 34–36. [PubMed: 16473838]
11. American Academy of Pediatrics (AAP), Committee on Early Childhood, Adoption, and Dependent Care. Health Care of Young Children in Foster Care. *Pediatr*. 2002; 109:536–541.
12. Starfield, B.; Ensminger, M.; Green, BF., et al. Manual for the Child Health and Illness Profile: Adolescent Edition (CHIP-AE). Baltimore: Johns Hopkins University Press; 1995.
13. Riley AW, Forrest CB, Starfield B, et al. Reliability and Validity of the Adolescent Health Profile-Types. *Med Care*. 1998; 36(8):1237–1248. [PubMed: 9708595]
14. Cohen, J. Statistical Power Analysis for the Behavioral Sciences. Hillsdale, NJ: Lawrence Erlbaum Association; 1987.
15. Health Resources & Services Administration. Child Health USA. Rockville, MD: USDHHS; 2003. Maternal Child Health Bureau.
16. Kools S. Self-Protection in Adolescents in Foster Care. *J Child Adolesc Psychiatr Nurs*. 1999; 12(4):139–152. [PubMed: 10876516]
17. California Youth Connection. Foster Youth Proposals to Improve Mental Health Services. Sacramento: California Youth Connection; 2000.
18. Courtney ME, Piliavin I, Grogan-Kaylor A, et al. Foster Youth Transitions to Adulthood: A Longitudinal View of Youth Leaving Care. *Child Welfare*. 2001; 80(6):685–717. [PubMed: 11817658]
19. Pipher, M. Reviving Ophelia: Saving the Selves of Adolescent Girls. NY: Ballantine; 1994.
20. Drapeau S, Saint-Jacques MC, Lépine R, et al. Processes that Contribute to Resilience Among Youth in Foster Care. *J Adolesc*. 2007; 30(6):977–999. [PubMed: 17400289]
21. Schofield G, Beek M. Risk and Resilience in Long-Term Foster Care. *British J S Work*. 2005; 35(5):1283–1301.
22. Valois RF, MacDonald JM, Bretous L, et al. Risk Factors and Behaviors Associated With Adolescent Violence and Aggression. *Am J Health Behav*. 2002; 26(6):454–464. [PubMed: 12437020]

23. Leve LD, Fisher PA, DeGarmo DS. Peer Relationships at School Entry: Sex Differences in the Outcomes of Foster Children. *Merrill-Palmer Quarterly*. 2007; 53(4):557–577. [PubMed: 19234614]
24. Price JM, Brew V. Peer Relationships of Foster Children: Developmental and Mental Health Service Implications. *J Appl Dev Psychol*. 1998; 19(2):199–220.
25. Kools S. Adolescent Identity Development in Foster Care. *Fam Relations*. 1997; 46(3):263–271.

Table 1

Reason(s) for Foster Care Placement: Frequencies and Percentages

Reason for Placement	Frequency	Percentage
Parent-Related		
Parental Substance Abuse	66	62.9%
Neglect	56	53.3%
Physical Abuse	30	28.6%
Emotional Abuse	29	27.6%
Incarceration	25	23.8%
Mental Illness	23	21.9%
Sexual Abuse	15	14.3%
Death	5	4.8%
Child-Related		
Aggression	31	29.5%
Peer Problems	25	23.8%
Truancy	18	17.1%
Sexual Acting-Out	13	12.4%
Running Away	12	11.4%
Suicidal	9	8.6%
Child Substance Abuse	7	6.7%
Pregnancy	3	2.8%
Other*	34	18.8%

* Other child behaviors, including depression, withdrawn, other mental health diagnoses (e.g., ADHD, oppositional defiant disorder), antisocial behavior (e.g., lying, stealing, prostitution, weapons), lack of social skills (e.g., poor hygiene, lack of impulse control)

Means, Standard Deviations, and T-tests of Significant Foster Youths' Parental Reasons for Placement of CHIP-AE Domains and Subdomains of Health

Table 2

Parental Reason for Placement	Domain/O Subdomain**	Yes (n)		No (n)		t Test	p Value*		
		Mean	SD	Mean	SD				
Parental Substance Abuse	Satisfaction with Health	66	20.30	4.82	39	17.94	5.64	2.27	.026
	○ Self-esteem	66	20.17	4.85	39	17.81	5.44	2.31	.023
	Resilience								
Physical Abuse	○ Family involvement	65	19.15	5.40	37	16.65	6.16	2.14	.035
	Risks								
	○ Individual risks	66	24.93	5.48	39	21.29	6.75	3.02	.003
Emotional Abuse	Risks	30	18.19	7.20	75	20.89	5.86	-1.99	.049
	○ Peer influences	30	16.33	9.29	75	19.67	7.02	-2.00	.048
Sexual Abuse	Resilience								
	○ Family involvement	28	15.88	6.99	74	19.14	5.03	-2.26	.030
	Discomfort								
Parental Death	○ Emotional discomfort	15	14.37	7.75	90	19.47	5.10	-2.46	.026
	Resilience	14	18.23	6.32	88	21.35	4.91	-2.12	.036
	Risks	5	14.51	8.67	100	20.40	6.14	-2.05	.043

* Significance for t-test is 2-tailed.

** Subdomains of health are the subscales for each domain and are indented and preceded with the symbol ○. Only results that were significant are reported for domains and subdomains; in some cases, there were only significant results in subdomains and non-significant domain results are not reported.

Means, Standard Deviations, and T-tests of Significant Foster Youth Child Reasons for Placement of CHIP-AE Domains and Subdomains of Health

Table 3

Child Reason for Placement	Domain/O Subdomain	Yes (n)		No (n)		t Test	P Value*		
		Mean	SD	Mean	SD				
Aggression	Risks	31	17.55	6.08	74	21.19	6.19	-2.77	.007
	○ Threats to achievement	31	15.98	6.75	74	19.81	5.05	-3.20	.002
Truancy	Achievement								
	○ Academic performance	17	17.40	6.17	87	20.21	4.56	-2.18	.031
Running Away	Risks	12	16.48	6.62	93	20.58	6.20	-2.14	.035
	○ Individual risks	12	18.79	7.80	93	24.19	5.74	-2.94	.004
	○ Peer influences	12	13.53	9.01	93	19.38	7.47	-2.50	.014
Suicidal Behavior	Risks								
	○ Threats to achievement	9	13.73	7.54	96	19.14	5.48	-2.74	.007
Substance Abuse	Risks								
	○ Individual risks	7	16.82	8.61	98	24.06	5.76	-3.10	.002

* Significance for t-test is 2-tailed.

** Subdomains of health are the subscales for each domain and are indented and preceded with the symbol ○. Only results that were significant are reported for domains and subdomains; in some cases, there were only significant results in subdomains and non-significant domain results are not reported.

Table 4
Means, Standard Deviations, and T-tests of Significant Types of Placements and CHIP-AE Domains and Subdomains of Health

Type of Placement	Domain/O Subdomain	Yes (n)		No (n)		t Test	P Value*		
		Mean	SD	Mean	SD				
Group Home	Resilience domain	36	19.21	5.26	66	21.86	4.97	-2.5	.01
	○ Family involvement	36	15.73	5.78	66	19.61	5.35	-3.4	.00
	Risk domain	36	7.19	1.20	69	21.39	5.50	-2.7	.01
	○ Individual risk taking behavior	36	21.61	7.30	69	24.60	5.33	-2.2	.03
	○ Peer influences	36	16.43	8.78	69	19.91	7.07	-2.2	.03
Relative Placement	○ Threats to achievement	36	16.91	6.65	69	19.61	5.19	-2.3	.02
	Disorders domain								
	○ Acute major disorders	36	9.45	6.67	69	12.04	3.53	-2.2	.04
	Resilience domain								
	○ Family involvement	30	20.41	4.63	72	17.34	6.01	2.5	.01
Foster Family Home	Disorders domain	30	12.77	8.50	74	16.53	6.38	-2.5	.02
	○ Acute minor disorders	30	15.96	4.95	74	18.89	5.79	-2.4	.02
	○ Recurrent disorders	30	16.24	7.75	74	19.48	6.15	-2.0	.05
	Achievement domain								
	○ Academic performance	23	21.83	5.49	81	19.16	4.63	2.3	.02
Disorders domain		22	18.26	4.12	82	14.69	7.69	3.0	.01
	○ Recurrent disorders	22	21.80	2.96	82	17.67	7.24	4.0	.00

* Significance for t-test is 2-tailed.

** Subdomains of health are the subscales for each domain and are indented and preceded with the symbol ○. Only results that were significant are reported for domains and subdomains; in some cases, there were only significant results in subdomains and non-significant domain results are not reported.