Published in final edited form as:

Child Youth Serv Rev. 2013 October ; 35(10): 1760–1765. doi:10.1016/j.chilgyouth.2013.08.001.

Pregnancy Risk Among Older Youth Transitioning Out Of Foster Care

Karen M. Matta Oshima, MSW [Doctoral Candidate],

Washington University in St. Louis, Campus Box 1196, One Brookings Drive, St. Louis, MO 63130, TEL: 508-345-2172 (mobile), kmmattao@wustl.edu

Sarah Carter Narendorf, PhD [Assistant Professor], and

University of Houston, Graduate College of Social Work, 110 HA Social Work Building, Houston, TX 7704-4013, sanarendorf@uh.edu

J. Curtis McMillen, PhD [Professor]

The University of Chicago, School of Social Service Administration, 969 E. 60th Street, Chicago, IL 60637, cmcmillen@uchicago.edu

Abstract

Youth served in the foster care system have higher rates of pregnancy than general population youth; yet we have little information about risk and protective factors to target in order to prevent early pregnancy in this population. We assessed early pregnancy risk and protective factors known for general population adolescents for their relevance to youth in the foster care system. Using data from a longitudinal study of 325 older youth from the foster care system, we examined bivariate and multivariate relationships between these factors and pregnancy between age 17 and 19 using logistic regression. Models examined risk for early parenting separately by gender. The pregnancy rate increased by 300% between ages 17 and 19. At 19, 55% of females had been pregnant, while 23% of males had fathered a child. Although this study assessed multiple known factors, few were significant for this high risk group. Females who were not sexually active at age 17 were less likely to become pregnant, but those who reported using birth control were as likely to become pregnant as those who did not. Also, females with a history of arrest were more likely to have a pregnancy between 17 and 19. Males who left the foster care system before their 19th birthday were more likely to make someone pregnant. Youth from the foster care system are at exceptional risk of early pregnancy, no matter their maltreatment history, religiosity, school connectedness, or academic achievement, particularly in the years between 17 and 19. This high risk group needs pregnancy prevention interventions and access to effective birth control.

Keywords

adolescent; pregnancy; foster care; risk/protective factors; males

© 2013 Elsevier Ltd. All rights reserved.

Correspondence to: Karen M. Matta Oshima.

Publisher's Disclaimer: This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final citable form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

1. Introduction

Adolescent pregnancy and parenting is a serious social and public health issue among foster care youth. Although the birth rate among general population adolescent females has been decreasing or remaining stable for most of the past ten years (Kost & Henshaw, 2012; Martin et al., 2009), pregnancy among foster care youth is significantly higher than among general population adolescents. Studies among general population youth have found that parenting adolescents are at risk of increased psychological distress (Kalil & Kunz, 2002), failure to finish high school (Jones, Astone, Keyl, Kim, & Alexander, 1999), substance use and victimization (Jaffee, 2002; Martin, Clark, Lynch, Kupper, & Cilenti, 1999), lower socio-economic status, and long-term poverty (Serbin et al., 2004). The children of adolescent parents have higher risk of infant mortality (Phipps, Sowers, & DeMonner, 2002), child abuse and neglect, including death (Felice et al., 1999; Overpeck, Brenner, Trumble, Trifiletti, & Berendes, 1998), school difficulties (Jaffee, Caspi, Moffitt, Belsky, & Silva, 2001), behavioral problems (Jaffee et al., 2001), and risky sexual behaviors in adolescence (Levine, Emery, & Pollack, 2007). In their young adult years, former foster youth have decidedly worse outcomes than their peers who grew up outside of foster care, possibly making them even more vulnerable to the risks of adolescent parenting. Former foster care youth are less likely to finish high school, go to college, to be employed, and earn less money even when employed (Courtney, Dworsky, Lee, & Raap, 2010). The combined circumstances of aging out of the foster care system with limited support and the challenges of adolescent parenting present a serious risk profile for both parent and child that needs to be effectively addressed.

1.1 Scope of the problem

Although there are few studies, findings thus far indicate that adolescents in the foster care system have substantially higher rates of pregnancy than general population youth (Love, McIntosh, Rosst, & Tertzakian, 2005). A study of older youth transitioning out of the foster care system in three Midwest states found that by 19 years old, half of the female respondents had been pregnant, compared with only 20% in a nationally representative sample of general population youth (Dworsky & Courtney, 2010). Although there is ample information about the risk factors of adolescent pregnancy among general population teenagers, there is little data available on pregnancy among youth in the foster care system. In particular, we have very limited knowledge of risk and protective factors for pregnancy specific to foster care youth. Additionally, the limited information available about predictors of pregnancy in this group has only examined data for female foster youth. Very little is known about risk and protective factors for male foster youth getting someone pregnant.

1.2 Risk and protective factors

Substantial research has documented a body of risk and protective factors associated with becoming pregnant in adolescence. Pregnancy risk factors among general population youth include maltreatment (Francisco et al., 2008), mental health problems including depression (Barnet, Joffe, Duggan, Wilson, & Repke, 1996) and conduct disorder (Jaffee, 2002), substance abuse problems (Berry, Shillington, Peak, & Hohman, 2000; Miller-Johnson, Winn, Coie, Malone, & Lochman, 2004), race/ethnicity (Thompson, Bender, Lewis, & Watkins, 2008), school problems (Moore, Manlove, Gleib, & Morrison, 1998), exposure to adverse childhood experiences (Hillis et al., 2004), and a history of unprotected sex (Berry et al., 2000; Moore et al., 1998). Protective factors associated with decreased risk of pregnancy include higher academic achievement and school connectedness (Dogan-Ates & Carrion-Basham, 2007) and strong religious beliefs (Rostosky, Regnerus, & Comer Wright, 2003). However, we have little information about whether these early pregnancy risk factors also apply to youth in foster care. In one notable study, Dworsky and Courtney (2010)

examined risk and protective factors for pregnancy among female foster youth. They found that remaining in state custody until 19 and being in group care (versus other types of living situations) reduced the risk of pregnancy by age 19. Pregnancy prior to the baseline interview significantly increased the risk of subsequent pregnancies. Other current and past psycho-social variables, including race, history of abuse, school problems, delinquency, mental health diagnosis, and substance abuse diagnosis did not significantly protect against or increase the risk of pregnancy.

1.3 Purpose of the present study

It seems, therefore, that foster care youth, may not have the same set of risk factors as general population youth. Given that foster care youth are a highly vulnerable population that arguably represent some of the most at risk youth, it makes sense that early pregnancy risk factors may look quite different than general population youth. One could argue that general population youth that experience early pregnancy on average resemble foster care youth (e.g., higher rates of maltreatment, adverse childhood experiences, conduct disorders and mental health problems). It is a national priority to decrease adolescent and foster care youth pregnancy rates (Kirby, 2007), yet we know little about which foster youth are most at risk for pregnancy. However we do know that youth transitioning out of foster care often lack adequate social support and skills as they move into their young adult years. In order to develop intervention programs that effectively address the public health needs of youth in the foster care system, it is important to understand the risk and protective factors to inform these interventions. In order to help fill gaps in knowledge about pregnancy among male and female foster care youth, this study examines predictors of pregnancy at age 19 for a sample of foster youth first interviewed at age 17. Risk and protective factors previously identified in the general population are tested for this sample of older foster youth separately by gender.

2. Methods

2.1 Sample & Procedures

The sample for this study (N=325) comes from a longitudinal study of older youth in the foster care system. It consists of all the youth that completed the study at age 19, 80% of the original sample who were recruited for the study (n=404). Study participants were recruited from eight counties in Missouri, around their 17th birthday, while still in the legal custody of the Missouri Children's Division. Youth were recruited into the study between December 2001 and May 2003 from a list of all youth in legal custody that would turn 17 in the following 90 days. Youths' caseworkers were contacted for informed consent and asked to exclude youth who 1) had a documented full-scale IQ below 70; 2) lived more than 100 miles from the eight included counties, or 3) were on runaway status for more than 45 days after their 17th birthday. Caseworkers provided consent and youth assented to participate. A logistic regression analysis to predict retention was previously reported. Being male, having a history of juvenile detention, having a history of post traumatic stress disorder, and being released from state custody prior to age 19 were all found to increase the odds of prematurely leaving the study (McMillen & Raghavan, 2009). Youth were interviewed in person by trained interviewers at age 17 and again at age 19 with a structured interview protocol that used a life history calendar to improve recall accuracy. They were paid \$40 for the initial and final interviews. The Washington University Human Subjects Committee approved all procedures in advance.

2.2 Measures

2.2.1 Outcome variable—At the first and final interviews, two years apart, participants were asked if they had ever been pregnant (females) or made someone pregnant (males).

The outcome variable was created from these questions to reflect those who had a new pregnancy between the ages of 17 and 19.

2.2.2 Demographic variables—Gender was coded by observation. Race was coded by self report. The majority of youth in the study were either African-American or white. A small number of youth were biracial or another race and these youth were combined with African American youth for analysis into a category called Youth of Color.

2.2.3 Predictor variables—All predictor variables were derived from the first interview at age 17. Mental health disorders were assessed using the Diagnostic Interview Schedule—Version IV (Robins, Cottler, & Bucholz, 1995). Major depression, posttraumatic stress disorder, bipolar I, attention deficit hyperactivity disorder, and disruptive behavioral disorder (a combination of oppositional defiant disorder and conduct disorder) were included. Individual mental health diagnosis variables were recoded into a single variable indicating whether the youth ever had a mental health diagnosis or not. Delinquent behavior was assessed using history of arrest by age 17, based on self-report. A substance use disorder variable was created by combining answers questions from the Comprehensive Addiction Severity Index (Meyers et al., 2006), matching DSM-IV criteria for a substance use or abuse disorder. Dichotomous maltreatment history variables were created for each type of abuse using two questions on sexual molestation (Russell, 1986), and cut off scores from the Child Trauma Questionnaire (Bernstein & Fink, 1998) for physical abuse and neglect.

Birth control use was measured by asking respondents what, if anything, they or their partner used the last time they had sex to prevent pregnancy or sexually transmitted diseases. Based on this question and whether they reported having had sex or not, this variable was split into three groups: 1) those who had sex and used birth control, 2) those who had sex and did not use birth control of any kind, and 3) those who had not had sex by age 17. Those who had sex and used birth control were used as the reference group.

Education variables included overall grades earned and number of school activities they were involved in such as sports or academic clubs as a proxy for school connectedness. Living situation was coded into four groups based on youth report of where they were currently living: independent living, foster home, kinship care or congregate or group care. A dichotomous variable was created for custody status to indicate whether the youth was still in state custody at age 19. Religious practices and beliefs were measured using two scales created from questions about religious practices (e.g., how often a person prays) and questions about beliefs and attitudes towards religion (e.g., relying on religion when you have problems) (Multidimensional measurement of religiousness/spirituality for use in health research, 1999).

2.4 Analysis

Variables associated with teen pregnancy in the general population were tested for bivariate association with pregnancy between ages 17 and 19. Dichotomous tests of significance were chi-square and tests of mean differences were t-tests. Logistic regression was used to test for risk and protective factors with variables significant at the bivariate level. Multivariable logistic regression models were created using only the variables that were significant at the bivariate level and analyzed separately by gender. Because prior pregnancy is a highly significant indicator of later pregnancy, we controlled for pregnancy prior to age 17 in all regression models.

3. Results

3.1 Descriptive statistics

The sample used in this analysis contained 325 youth of whom 61% were female (n=197) and 59% were youth of color (n=192). See Table 1 for more descriptive statistics of the sample. In the two years between the initial and final interviews, the overall pregnancy rate increased by over 300%. At the initial interview, 14% (n=44) of the final 325 included in the analysis had been or reported making someone pregnant; 4% of the males (n=5) and 20% of the females (n=39). At the final interview, the overall pregnancy rate had increased to 42% (n=137), including 55% of females (n=108) and 23% of males (n=29).

3.2 Female bivariate statistics

At the bivariate level for female youth, pregnancy at or prior to the baseline interview at 17, endorsing a substance abuse disorder, not using birth control at the last reported sexual intercourse (as compared to those who did use birth control), a history of being arrested at least once, and leaving the foster care system prior to age 19 were all significant for predicting pregnancy between ages 17 and 19. See Table 2 for bivariate odds ratios and confidence intervals. Not yet being sexually active at age 17 was a significant protective factor in decreasing risk of pregnancy between ages 17 and 19 (as compared to those who reported using birth control at last sexual intercourse). Notably, among those female youth using birth control during the last intercourse, 91% reported using condoms. Most of the variables tested at the bivariate level were not significant, including race, history of mental health disorders, maltreatment history, grades, participation in school activities, type of foster care, and religious beliefs and behaviors.

3.3 Male bivariate statistics

At the bivariate level for male youth, fathering a child prior to or at baseline, endorsing a substance abuse disorder, failing grades, and leaving the foster care system prior to age 19 all positively predicted fathering a child between ages 17 and 19. Not yet being sexually active at age 17 significantly reduced the risk of fathering a child between the ages of 17 and 19 (as compared to those who reported using birth control at the most recent sexual intercourse). See Table 4 for odds ratios and confidence intervals. Notably 98% of male foster youth reported using condoms as birth control at the most recent intercourse. On the bivariate level the majority of the variables tested were not significant, including race, history of mental health disorders, abuse history, participation in school activities, arrest history, type of foster care, and religious belief and activities.

3.4 Female multivariate model

The multivariate regression model for females included all the variables found to be significant on the bivariate level. Both use of birth control during most recent sexual intercourse and history of arrest remained significant in this model. The overall model is significant. Females who reported a pregnancy at or prior to baseline were more likely to have a pregnancy between 17 and 19. Additionally, female foster care youth with a history of arrest prior to age 17 were more likely to have a pregnancy between the ages of 17 and 19. Compared to those who reported using birth control at the most recent sexual intercourse, those females that were not sexually active at age 17 were less likely to get pregnant between ages 17 and 19. See Table 5 for odds ratios and confidence intervals.

3.5 Male multivariate model

The regression model for male youth includes all the variables that were significant at the bivariate level. The overall model is significant. Only one variable remained significant in

the final male model--age of leaving foster care. Compared to males who stayed in the foster care system through the entire study (past their 19th birthday), those who left at younger ages were more likely to report making someone pregnant between ages 17 and 19. See Table 5 for odds ratios and confidence intervals.

4. Discussion

4.1 Overall results

The key message from these findings is that young people from the foster care system are at exceptional risk of early pregnancy, no matter their maltreatment history, religious beliefs and practices, connectedness at school, or their academic achievement. The years between 17 and 19 are a high risk period for foster youth. Along with the difficulties that transitioning out of the foster care system brings, they are at serious risk of early pregnancy. About 20 percent of general population female youth experience pregnancy by age 19 (Dworsky & Courtney, 2010) compared to over 50 percent of foster care youth. The time period between age 17 and 19 appears to be a critical period to intervene with these young people.

Although this study assessed risk and protective factors commonly found in the literature, we found few were significant for this high risk group. The results of this study seem to indicate that simply being in the foster care system is a significant risk factor for pregnancy in and of itself. This raises the question of what is different about young people in the foster care system from general population adolescents that is significantly influencing their pregnancy rate. There may be an unknown factor or factors not measured in this study that could provide more explanation of the increased risk of pregnancy among foster care youth. Better understanding of the key public health care targets to effectively reduce the early pregnancy rates is needed.

4.2 Female sexual activity

This study found that females aging out of the foster care system are at incredibly high risk for early pregnancy, if they are sexually active at age 17 regardless of their reported use of birth control the most recent time they had sex. It seems that delaying sexual intercourse past the age of 17 may provide some protection from pregnancy. A likely explanation is the most simple, without engaging in intercourse, the opportunities for becoming pregnant are decreased and possibly non-existent. Additionally, perhaps those who delay intercourse, make better use of birth control or are simply more determined not to get pregnant. However, this does make a good case for encouraging females in foster care to consider carefully the choice to engage in sexual activity.

4.3 Delinquent females

This study found that females with a history of arrest prior to age 17 were at significantly higher risk of pregnancy. Perhaps the combination of delinquent behaviors and foster care acts as a proxy for reckless and impulsive behaviors, including improper or irregular use of birth control. Clearly, this subset of foster care youth should be given more attention and concern as a group at particular high risk of pregnancy and the subsequent outcomes. Further research would help to better assess the specific issues that are leading to the significantly increased rates of pregnancy for this subset of girls. A study that includes measures of impulsivity, birth control knowledge and use patterns and pregnancy intentions and plans would improve the current knowledge of these issues. On a hopeful note, in a recent study youth in the foster care system in Oregon, Multidimensional Treatment Foster Care (MTFC) was found to decrease the pregnancy rate to 27% for the intervention group, compared to 47% for the control group among juvenile justice girls mandated to out of home

care (Kerr, Leve, & Chamberlain, 2009). Although the results have not yet been replicated MTFC is a promising possibility for reducing the pregnancy rate among youth in the foster care system.

4.4 Males remaining in foster care

The age that a male leaves the foster care system influences his risk of getting someone pregnant. Males aging out of the foster care system are at increased risk of getting someone pregnant between ages 17 and 19 if they leave the foster care system before age 19. Young people who stay in the system longer have made a choice to stay engaged with adults who provide both supervision and support. The implications for practice are that foster youth may benefit from high levels of supervision. Similar to Dworsky and Courtney (2010), we found that remaining in foster care longer provides protection from early pregnancy. However, we only found this protective factor for males. Although staying in foster care longer was significant on the bivariate level for females, the relationship did not hold in the final regression model when controlling for previous pregnancy. This is an interesting finding that warrants further research. In particular, there is a possibility that the gender difference in this finding is due to the fact that males can more easily avoid reporting fathering a child without detection (or may be unaware of fathering a child) than females can avoid reporting a pregnancy. Therefore, a study that uses methods other than self-report to measure pregnancy (e.g., medical records check, collateral report) may find different results.

4.5 Birth control needs

Our finding that all sexually active youth were highly likely to get pregnant by age 19, whether using birth control or not suggests that youth in the foster care system are using birth control ineffectively or inconsistently or both. This may be partially related to the methods of birth control that they are choosing or that are available to them. Youth in our study overwhelmingly reported that condoms were their choice for birth control. This method requires young people to be prepared with a condom every time they have sex and to have the skills needed to talk to their partner about actually using it. These barriers may result in inconsistent use. It would benefit these young people if the foster care system would support their consistent and effective use of birth control to prevent pregnancy. This may mean providing females with long-term use products that do not require the user to remember to use birth control each time they engage in intercourse. Although this can be a difficult issue for foster care systems, the high rates of pregnancy warrant conversation about how to more effectively support the use of birth control among youth in the system.

4.6 Areas for further research

Although we were able to identify risk factors associated with early pregnancy, we cannot be certain what causes youth in the foster care system to get pregnant at such high rates. For example, we know that females aging out of the foster care system are getting pregnant despite using birth control, at least once. This raises the possibility that foster care youth are deliberately choosing to get pregnant or father a child. One study found that these youth may be deliberately choosing pregnancy and parenting as an opportunity to create a family of their own that will always be with them. Moreover, they may lack the parental (foster or biological) support and information to effectively prevent pregnancy (Love et al., 2005). This indicates possible new areas of research of risk and protective factors such as feelings of connectedness with family of origin or foster family associated with early pregnancy for this high risk group.

5. Limitations

A limitation of this study is that the parent study was not designed specifically to explore questions about birth control use, pregnancy and sexual activity. A study that asks more specific questions about birth control use, pregnancy outcomes, and sexual activities among foster care youth would help to improve our understanding of their drastically high rates of pregnancy. Readers should be aware that this data does not include measures of sexual orientation, gender identity or whether pregnancies resulted from consensual or non-consensual sexual activity which may be important issues to further explore in future studies.

As noted earlier, the measure of pregnancy was self-report which may have led to under ascertainment, especially among male foster youth. Those who were willing to report that they had made someone pregnant may be inherently different than those who are unwilling to report. Nevertheless, this study provides new information about those who report fathering children among foster youth, a population that is most often left out of studies of early parenthood. Also, there is a risk that other behaviors in this study are under ascertained due to self-report. Another limitation of this study is the small sample size of male youth reporting impregnating someone. A larger sample may have provided more statistical power for analysis.

6. Implications/Conclusions

There are further areas for research in order to better understand the high rates of pregnancy among youth in the foster care system. These youth are often dealing with difficult mental health and past trauma issues that make them vulnerable to poor decision making including being easily misled by others, especially in romantic relationships, impulsivity, and trauma related to the separation from family. Moreover, the prospect of early pregnancy may be far more appealing to foster care youth than to society in general. Future research needs to include constructs that capture these factors in order to better understand key public health targets and improve prevention.

Those who work with foster care youth—health care professionals, social workers, foster care parents, case workers, and others—will benefit from awareness of the incredibly high rates of early pregnancy among foster care youth. Providing information and access to effective methods of birth control may be a key component of decreasing pregnancy rates, but also workers must remain aware that foster care youth may be deliberately (versus accidentally) choosing early parenting for a variety of reasons. Foster care youth should be supported in obtaining access to interventions that can shore up their internal and external support systems and to therapy to manage outcomes of past traumas, decrease impulsivity and high risk behaviors and increase good decision making skills.

References

- Barnet B, Joffe A, Duggan AK, Wilson MD, Repke JT. Depressive symptoms, stress, and social support in pregnant and postpartum adolescents. *Archives of Pediatrics & Adolescent Medicine*. 1996; 150(1):64–69. [PubMed: 8542009]
- Bernstein, DP.; Fink, L. *The Childhood Trauma Questionnaire Manual*. San Antonio, TX: The Psychological Corporation; 1998.
- Berry EH, Shillington AM, Peak T, Hohman MM. Multi-ethnic comparison of risk and protective factors for adolescent pregnancy. *Child & Adolescent Social Work Journal*. 2000; 17(2):79–96.
- Courtney, ME.; Dworsky, A.; Lee, JS.; Raap, M. *Midwest evaluation of the adult functioning of former foster youth: Outcomes at ages 23 and 24*. Chicago: Chapin Hall at the University of Chicago; 2010.

- Dogan-Ates A, Carrion-Basham CY. Teenage pregnancy among latinas: Examining risk and protective factors. *Hispanic Journal of Behavioral Sciences*. 2007; 29(4):554–569.
- Dworsky A, Courtney ME. The risk of teenage pregnancy among transitioning foster youth: Implications for extending state care beyond age 18. *Children & Youth Services Review*. 2010; 32(10):1351–1356.
- Felice ME, Feinstein RA, Fisher MM, Kaplan DW, Olmedo LF, Rome ES, Staggers BC. Adolescent pregnancy--current trends and issues: 1998 American Academy of Pediatrics Committee on Adolescence, 1998–1999. *Pediatrics*. 1999; 103(2):516–520. [PubMed: 9925856]
- Francisco MA, Hicks K, Powell J, Styles K, Tabor JL, Hulton LJ. The effect of childhood sexual abuse on adolescent pregnancy: an integrative research review. *J Spec Pediatr Nurs*. 2008; 13(4):237–248. [PubMed: 19238712]
- Hillis SD, Anda RF, Dube SR, Felitti VJ, Marchbanks PA, Marks JS. The association between adverse childhood experiences and adolescent pregnancy, long-term psychosocial consequences, and fetal death. *Pediatrics*. 2004; 113(2):320–327. [PubMed: 14754944]
- Jaffee SR. Pathways to adversity in young adulthood among early childbearers. *Journal of Family Psychology*. 2002; 16(1):38–49. [PubMed: 11915409]
- Jaffee SR, Caspi A, Moffitt TE, Belsky J, Silva P. Why are children born to teen mothers at risk for adverse outcomes in young adulthood? Results from a 20-yr longitudinal study. *Development and Psychopathology*. 2001; 13(2):377–397. [PubMed: 11393652]
- Jones AS, Astone NM, Keyl PM, Kim YJ, Alexander CS. Teen childbearing and educational attainment: A comparison of methods. *Journal of Family and Economic Issues*. 1999; 20(4):387–418.
- Kalil A, Kunz J. Teenage Childbearing, Marital Status, and Depressive Symptoms in Later Life. *Child Development*. 2002; 73(6):13.
- Kerr DCR, Leve LD, Chamberlain P. Pregnancy rates among juvenile justice girls in two randomized controlled trials of multidimensional treatment foster care. *Journal of Consulting and Clinical Psychology*. 2009; 77(3):588–593. [PubMed: 19485598]
- Kirby, D. Emerging answers 2007: Research findings on programs to reduce teen pregnancy and sexually transmitted diseases. Washington, DC: The National Campaign to Prevent Teen Pregnancy; 2007.
- Kost, K.; Henshaw, S. U.S. teenage pregnancies, births and abortions, 2008: National trends by age, race and ethnicity. Guttmacher Institute; 2012. Retrieved from <http://www.guttmacher.org/sections/adolescents.php?pub=reports>
- Levine JA, Emery CR, Pollack H. The Well-Being of Children Born to Teen Mothers. *Journal of Marriage & Family*. 2007; 69(1):105–122.
- Love, LT.; McIntosh, J.; Rosst, M.; Tertzakian, K. Fostering hope: Preventing teen pregnancy among youth in foster care. Washington, DC: The National Campaign to Prevent Teen Pregnancy; 2005.
- Martin, JA.; Hamilton, BE.; Sutton, PD.; Venture, SJ.; Menacker, F.; Kirmeyer, S.; Matthews, TJ. Births: Final data for 2006. Hyattsville, MD: National Center for Health Statistics, Center for Disease Control; 2009.
- Martin SL, Clark KA, Lynch SR, Kupper LL, Cilenti D. Violence in the lives of pregnant teenage women: Associations with multiple substance use. *American Journal of Drug & Alcohol Abuse*. 1999; 25(3):16.
- McMillen JC, Raghavan R. Pediatric to adult mental health service use of young people leaving the foster care system. *J Adolesc Health*. 2009; 44(1):7–13. [PubMed: 19101453]
- Meyers K, Hagan TA, McDermott P, Webb A, Randall M, Frantz J. Factor structure of the Comprehensive Adolescent Severity Inventory (CASI): results of reliability, validity, and generalizability analyses. *The American journal of drug and alcohol abuse*. 2006; 32(3):287–310. [PubMed: 16864465]
- Miller-Johnson S, Winn D-MC, Coie JD, Malone PS, Lochman J. Risk Factors for Adolescent Pregnancy Reports Among African American Males. *Journal of Research on Adolescence* (Blackwell Publishing Limited). 2004; 14(4):471–495.
- Moore KA, Manlove J, Gleib DA, Morrison DR. Nonmarital school-age motherhood: Family, individual, and school characteristics. *Journal of Adolescent Research*. 1998; 13(4):433–457.

- Multidimensional measurement of religiousness/spirituality for use in health research. Kalamazoo, MI: Fetzer Institute; 1999.
- Overpeck MD, Brenner RA, Trumble AC, Trifiletti LB, Berendes HW. Risk factors for infant homicide in the United States. *The New England Journal Of Medicine*. 1998; 339(17):1211–1216. [PubMed: 9780342]
- Phipps MG, Sowers M, DeMonner SM. The risk for infant mortality among adolescent childbearing groups. *J Womens Health (Larchmt)*. 2002; 11(10):889–897. [PubMed: 12626088]
- Robins, LN.; Cottler, LB.; Bucholz, K. Diagnostic Interview Schedule for DSM-IV. St. Louis, MO: Washington University in St. Louis; 1995.
- Rostosky SS, Regnerus MD, Comer Wright ML. Coital Debut: The Role of Religiosity and Sex Attitudes in the Add Health Survey. *Journal of Sex Research*. 2003; 40(4):358–367. [PubMed: 14735410]
- Russell, DEH. The secret trauma: Incest in the lives of girls and women. New York: Basic Books; 1986.
- Serbin, LA.; Stack, DM.; De Genna, N.; Grunzweig, N.; Temcheff, CE.; Schwartzman, AE.; Ledingham, J. When Aggressive Girls Become Mothers: Problems in Parenting, Health, and Development across Two Generations. In: Putallaz, M.; Bierman, KL., editors. Aggression, antisocial behavior, and violence among girls: A developmental perspective. New York: NY: Guilford Publications; 2004. p. 262-285.
- Thompson SJ, Bender KA, Lewis CM, Watkins R. Runaway and pregnant: risk factors associated with pregnancy in a national sample of runaway/homeless female adolescents. *J Adolesc Health*. 2008; 43(2):125–132. [PubMed: 18639785]

Highlights

- Pregnancy rate among foster care youth increased 300% between the ages of 17 and 19.
- Females who are not sexually active at age 17 lower the risk of pregnancy by age 19.
- Females with a history of arrest at age 17 more likely to get pregnant by age 19.
- Males who leave foster care before age 19 are at higher risk of fathering a child.

Table 1

Frequencies/Means of Predictor Variables at Age 17 for Female Youth (N = 197)

Variables (at age 17)	Frequencies/Means	
	<u>Pregnant between 17 & 19</u> <u>(n=108)</u>	<u>Not Pregnant</u> <u>(n=89)</u>
Race		
--Of Color	56.5% (n=61)	57.3% (n=51)
--White	43.5% (n=47)	42.7% (n=38)
Had a Prior Pregnancy ***	33.3% (n=36)	3.4% (n=3)
Has a Mental Health Disorder	40.7% (n=44)	37.1% (n=33)
Has a History of Abuse		
--Sexual abuse	51.9% (n=56)	43.8% (n=39)
--Physical abuse	47.2% (n=51)	46.1% (n=41)
--Neglect	46.3% (n=50)	44.9% (n=40)
Has Substance Abuse Disorder *	30.6% (n=33)	15.7% (n=14)
Birth control use ***		
--used during last intercourse	74.1% (n=80)	55.0% (n=49)
--did not use	15.7% (n=17)	9.0% (n=8)
--not sexually active	10.2% (n=11)	36.0% (n=32)
Grades		
--Passing	76.9% (n=83)	80.9% (n=72)
--Failing	23.1% (n=25)	19.1% (n=17)
In at least 1 School Activity	64.8% (n=70)	56.2% (n=50)
Arrested 1 or more times **	35.2% (n=38)	18.0% (n=16)
Left Foster Care Prior to 19 **	66.7% (n=72)	48.3% (n=43)
Type of Foster Care		
--In Congregate Care	42.6% (n=46)	61.8% (n=34)
--Other foster care	57.4% (n=62)	38.2% (n=55)
Religious Behaviors/Beliefs		
--Religiousness/Spirituality	17.3 (SD=6.5)	16.6 (SD=6.5)
--Religious Beliefs & Attitudes	17.3 (SD=3.8)	17.1 (SD=4.0)

Significance levels:

*
=.05,**
=.01,***
=.001

Table 2

Odds Ratios for Variables Significant at the Bivariate Level for Females (N=197)

Variable	Odds Ratio	Confidence Limits
Prior Pregnancy ***	14.33	4.24–48.48
Substance Abuse Disorder *	2.36	1.17–4.76
Birth control use		
--used during last intercourse	---	---
--did not use *	1.30	0.52–3.24
--not sexually active ***	0.21	0.10–0.46
Arrested 1 or more times **	2.48	1.27–4.84
Left Foster Care Prior to 19 **	2.14	1.20–3.81

Significance levels:

*
=.05,**
=.01,***
=.001

Table 3

Frequencies of Predictor Variables at Age 17 for Males (N =128)

Variables (at age 17)	Frequencies	
	<u>Impregnated between 17 & 19</u> (n=29)	<u>Did Not Impregnate</u> (n=99)
Race		
--Of Color	72.4% (n=21)	59.6% (n=59)
--White	27.6% (n=8)	40.4% (n=40)
Prior Fathering of a Child **	13.8% (n=4)	1.0% (n=1)
Has a Mental Health Disorder	40.7% (n=7)	27.3% (n=27)
Has a History of Abuse		
--Sexual abuse	24.1% (n=7)	14.1% (n=14)
--Physical abuse	65.5% (n=19)	39.4% (n=39)
--Neglect	34.5% (n=10)	46.5% (n=46)
Has Substance Abuse Disorder **	41.4% (n=12)	18.2% (n=18)
Birth control use **		
--used during last intercourse	6.9% (n=2)	59.6% (n=59)
--did not use	86.2% (n=25)	6.1% (n=6)
--not sexually active	6.9% (n=2)	34.3% (n=34)
Grades **		
--Passing	58.6% (n=17)	83.8% (n=83)
--Failing	44.4% (n=12)	16.2% (n=16)
In at least 1 School Activity	58.6% (n=17)	61.6% (n=61)
Arrested 1 or more times	51.7% (n=15)	38.4% (n=38)
Left Foster Care Prior to 19 ***	79.3% (n=23)	39.4% (n=39)
Type of Foster Care		
--In Congregate Care	48.3% (n=14)	42.4% (n=42)
--Other foster care	51.7% (n=15)	57.6% (n=57)
Religious Behaviors/Beliefs		
--Religiousness/Spirituality	14.8 (SD=6.2)	16.1 (SD=6.2)
--Religious Beliefs & Attitudes	16.3 (SD=3.7)	17.2 (SD=4.0)

Significance levels:

*
=.05,**
=.01,***
=.001

Table 4

Odds Ratios for Variables Significant at the Bivariate Level for Males (N=128)

Variable	Odds Ratio	Confidence Limits
Prior Fathering of a Child***	15.68	1.68–6.53
Substance Abuse Disorder**	3.18	1.29–7.80
Birth control use		
--used during last intercourse	---	---
--did not use ^{ns}	0.79	0.15–17
--not sexually active**	0.14	0.03–0.62
Failing Grades**	3.66	1.47–9.12
Left Foster Care Prior to 19***	5.90	2.20-15-79

Significance levels:

*
=.05,**
=.01,***
=.001

Table 5

Multiple Regression for Male and Female Youth (N=325)

Variables	Females (n=197)		Males (n=128)	
	Odds Ratio	CL	Odds Ratio	CL
Prior Pregnancy/Fathering	11.43***	3.25–40.19	10.51	1.00–110.61
Birth Control Use				
--Used during last intercourse	Reference	Reference	Reference	Reference
--Did not use	0.95	0.33–2.72	0.51	0.08–3.13
--Not sexually active at 17	0.35*	0.15–0.80	0.22	0.05–1.05
Leaving Foster Care Before 19	1.93	0.99–3.77	3.18*	1.07–9.48
Substance Abuse Disorder	1.29	0.57–2.92	2.23	0.77–6.48
Arrest History	2.18*	1.01–4.69	---	---
Failing Grades	---	---	2.80	0.98–7.96

Significance levels:

*
=.05,**
=.01,***
=.001Female Model: Wald Chi-Square=33.38, df=6, $p<.0001$ Male Model: Wald Chi-Square=22.50, df=6, $p=.001$