
Relationship of Maternal Age and Adverse Childhood Experiences (ACEs) with Self-Harm, Psychiatric Hospitalization and Substance Use in Exploited, Trafficked and Abused Youth

[Kirsten Byrnes](#)*, HaeSung Han, Kie Fujii

Posted Date: 28 June 2023

doi: 10.20944/preprints202306.1896.v1

Keywords: trafficked youth; ACE exposure; early maternal age; teen pregnancy; exploitation; self-harm; mental health



Preprints.org is a free multidiscipline platform providing preprint service that is dedicated to making early versions of research outputs permanently available and citable. Preprints posted at Preprints.org appear in Web of Science, Crossref, Google Scholar, Scilit, Europe PMC.

Copyright: This is an open access article distributed under the Creative Commons Attribution License which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Article

Relationship of Maternal Age and Adverse Childhood Experiences (ACEs) with Self-Harm, Psychiatric Hospitalization and Substance Use in Exploited, Trafficked and Abused Youth

Kirsten Byrnes, Psy.D., HaeSung Han, Psy.D. and Kie Fujii, M.D.

¹ POETIC, Dallas, TX and the Hackensack Meridian School of Medicine, Department of Psychiatry and Behavioral Health, Nutley, NJ, USA; Kirsten.Byrnes@iampoetic.org

² POETIC, Dallas, TX, USA; HaeSung@iampoetic.org

³ Hackensack Meridian School of Medicine, Nutley, NJ, USA; kiefujii38@gmail.com

* Correspondence: byrnes.kirsten@gmail.com

Abstract: The impact of early maternal age on several outcomes (e.g. mental health issues, delinquency, aggression, impulsivity, victimization and interpersonal difficulties) has been studied since the late 1980s. Additionally, research evidences links between exposure to adverse childhood experiences (ACEs) and outcomes such as substance abuse, interpersonal and self-directed violence, and sexual risk-taking, to name a few. The current study analyzed the incidence of ACE exposure and mental health outcomes (e.g. suicidal behaviors or self-harm, psychiatric hospitalizations, and substance use) as related to early maternal age in youth known to have experienced trafficking or sexual abuse. General demographics and incidence of various experiences and clinical presentations (e.g. ACE exposure, age of mother at birth of youth and age at first birth), and history of self-harm, substance use and psychiatric hospitalization were examined in a sample of 225 youth referred for services subsequent to experiences of sex trafficking or exploitation. Relationships between ACE exposure and maternal age related to mental health outcomes was also examined. Trafficked and exploited youth reported rates of ACE exposure and poor mental health outcomes at far greater rates than the general population. Significant findings were related to early maternal age and engaging in self-harm or suicidal behaviors. Previously anticipated mediational analyses were not conducted due to the sample size and lack of correlations. Findings highlight the significant ACE exposure and high needs of exploited, trafficked and abused youth and related mental health outcomes, emphasizing the need for early and comprehensive preventive and therapeutic interventions.

Keywords: trafficked youth; ACE exposure; early maternal age; teen pregnancy; exploitation; self-harm; mental health

1. Introduction

In 2000, the U.S. Trafficking Victims Protection Act [1] has been amended to include the sexual abuse and exploitation of minors. By extension there has been a greater focus on understanding the vulnerability factors related to trafficked and exploited youth and the impact of their abuse experiences through the establishment of the National Human Trafficking Resource Center [2] and additional resources and funding through the Victims of Crime Act [3]. Despite this support, the field is still in its infancy in understanding our trafficked youth. As such, it is imperative to develop a better understanding of what factors or early life experiences may contribute to a vulnerability to being engaged in the life and the subsequent impact.

The literature has suggested that early maternal age and childhood adversity contributes to later early initiation into sexual behavior and substance use [4–6], as well as negative physical and mental health outcomes. Early maternal age is generally considered as being younger than 20. Within the United States, recent statistics suggest more than 147,000 teen pregnancies a year, as official reports track live births to mothers between the ages of 15 and 19 [7]. Various studies have suggested that

early maternal age impacts intelligence, academic achievement, mental health issues, delinquency, aggression, impulsivity, and interpersonal difficulties in offspring [1,4–6,8]. Elaborating further, Cederbaum and colleagues [4] found a significant relationship between having a teen mother and early initiation into sexual activity, though the authors did not distinguish between consensual activity versus abuse or exploitation. Teen mothers are 2.2 times more likely to have a child placed in foster care (a known risk factor for trafficking) compared to mothers aged 20–21 [9]. Additionally, specifically relevant to risk of exploitation and abuse, at least one older study has suggested that children of teen parents are 2–3 times more likely to run away [10].

Adverse childhood experiences (ACEs) include but are not limited to physical, emotional, and sexual abuse, exposure to domestic violence, physical and emotional neglect [11,12]. High rates of ACE exposure in youth predicts substance use and mental health issues [13–15], especially when considering juvenile justice involved youth [16]. Moreover, there appears to be a dose-dependent relationship between ACEs and concerning outcomes such as substance abuse, interpersonal and self-directed violence, sexual risk-taking and poor physical health [17–22]. One systematic review and meta-analysis found that individuals who experienced 4 or more ACEs were over 5 times more likely to use illicit drugs and alcohol and over 30 times more likely to have had a suicide attempt than peers who experienced no ACEs [23]. Additionally, Carr et al. (2020) found that 10.9% who engaged in self-harm, 11.4% of those who aggressed against others and 11.4% of those who engaged in “dual harm” experienced 5 or more ACEs [17].

Based on the above, the current study sought to examine relationships between early maternal age (either for mother’s first birth or referred youth’s birth), ACEs exposure and mental health outcomes such as a history of self-harm or suicidal behaviors, psychiatric hospitalization, and substance use in a sample of juvenile justice involved females with a history of exploitation, being trafficked or otherwise sexually abused who were referred for treatment.

2. Methods:

Participants in the current sample were derived from an initial sample of 242 youth referred between late 2017 and 2022 to a nonprofit organization in an urban county in the southwestern US. The organization seeks to break the cycle of revictimization and system involvement for youth and assist them in reclaiming their narratives and persisting forward through comprehensive supports (e.g. on-site school, trauma therapy center, art therapy, and paid internships). Upon acceptance into the program, youth complete various assessments and participate in a clinical interview. Among general demographic and other information, information as to whether their mother was a teen at their birth or at the birth of their mother’s first child, and self-reported histories of psychiatric hospitalization, suicidal behaviors or self-harm and substance use are collected. Youth are also administered the ACE-Q Teen Self-Report [24] to assess their exposure to 19 types of adverse experience.

3. Results:

3.1. Demographics

An initial review of the sample removed cases that had significant data missing, leaving 225 youth. Of these youth, the average age at the time of the study was 18.44 (SD=2.563), with 15.65 (SD=1.749) being the average age of referral. The sample included 7% Caucasian, 39.3% African-American/Black, 49.6%, Latinx, and 4.1% identified as mixed. Basic demographics were collected and cross tabulated to examine associations between variables. Pearson correlations, nonparametric correlations and point-biserial correlations were calculated where appropriate, dependent upon the nature of the variables. While it was expected to be able to conduct a mediational analysis to examine ACE exposure’s impact on the relationship between early maternal age and mental health variables (self-harm/suicidality, hospitalization, substance use), the lack of significant correlations prevented such an analysis.

Maternal age at first child's birth ranged from 13-34 (n=78, M=19.60, SD=4.694), with 61.5% of mothers having been a teen at the time of their first child. For program involved youth, maternal ages ranged from 15-42 (n=79, M=23.82, SD=6.016), with youth being the product of teen pregnancy 27% of the time. ACE exposure was examined, both as a total ACE-Q score and as totals for Part 1 and Part 2. For the 79 youth who provided information, youth experienced an average of 9.30 [SD=4.014] ACEs, with an average of 5.69 on Part 1 and 4.37 on Part 2. More specifically, 87.3% of youth experienced 4 or more ACEs (n=79), while 84.6% (n=78) experienced 6 or more ACEs. By extension, only 12.7% experienced 3 or less ACEs (n=79).

Over 70% of youth who provided relevant information (n=152) endorsed a history of substance use or abuse, with over 50% of respondents indicating they have a history of self-harm/suicidality or psychiatric hospitalization (54%, n=150 and 51.3%, n=150, respectively).

Table 1. Demographics.

	N	Average	Std. Dev	Range
Age at Admission	225	15.65	1.749	8-21
Maternal Age First Birth	78	19.60	4.694	13-34
Maternal Age Youth's Birth	79	23.82	6.016	15-42
Total ACE Exposure	79	9.30	4.014	
	N	Percentage		
Ethnicity				
Caucasian/White	17	7		
African American/ Black	95	39.3		
Hispanic	120	49.6		
Mixed	10	4.1		
Teen Mother at First Birth	48	61.5		
Teen Mother at Youth's Birth	24	27		
ACE 4+	87.3	79		
ACE 6+	84.6	78		
Hx S/H or Suicidal Behavior	81	54		
Hx Psychiatric Hospitalization	77	51.3		
Hx Substance Use/Misuse	108	71.1		

3.2. Relationship Between Variables

Just under 10% of youth (n=72) born to young mothers reported a history of self-harm or suicidal behavior, with almost 13% indicating they had a history of psychiatric hospitalization (n=71). Pertaining to early maternal age and substance use, 22% of youth (n=72) in the study born to teenaged mothers endorsed substance use or abuse. Interestingly, relationships between these mental health outcomes and having a mother who gave birth to a sibling while a teen appear to be markedly stronger. In the current sample, approximately 30% had a history of self-harm or suicidal ideation (n=62), 36% had a history of psychiatric hospitalization (n=61) and almost 55% endorsed problematic use of substances (n= 62).

Examining rates of ACE exposure as related to maternal age, of those youth who were born to a teen mother (n=49), the mean ACE exposure was 10, with 13 youth having been exposed to 4 or more ACEs and 12 youth being exposed to 6 or more ACEs. Even more concerning, if youth were born to a mother whose first pregnancy was in her teens (n=49), 26 of these youth were exposed to 4 or more ACEs and 25 had 6 or more exposures. As the sample is not parametric related to any variables, nonparametric correlations were conducted. Regarding continuous variables of maternal age, both for youth in the program and first birth, and the relationship to ACE exposure, there was no significant correlation as measured by either Kendall's tau or Spearman's rho for either condition [$r_T = -.097$, $p < .298$ and $r(58) = -.111$, $p < .400$ for enrolled youth being first born to a teen mother and $r_T = .013$, $p < .898$ and $r(50) = -.010$, $p < .946$ for the mother having a child as a teen]. Similarly, point biserial correlations using maternal age as a categorical variable also did not yield significant results ($r_{pb} = .014$, $p = .921$ and $r_{pb} = -.035$, $p = .810$). These results prevented the initially intended mediation analysis. Results indicate significant negative correlations between both early maternal age at first birth [$r(50) = -0.311$, $p = .025$] and at youth's birth [$r(59) = -0.512$, $p < .001$] and a self-reported history of engaging in self-harm or suicidal behavior. However, point biserial correlations only found a significant negative correlation between maternal age at youth's birth and self-harm or suicidal behaviors [see Table 2]. Statistically significant correlations were not found amongst the other outcomes.

Table 2. Correlations Among Maternal Ages, ACEs and Mental Health Outcomes.

		S/H or Suicidal Behaviors	Psychiatric Hospitalization	Substance Use	ACE 4+	ACE 6+
Teen Mom at First Birth	Pearson Correlation	.160	.073	-.177	-.068	-.010
	Sig. (2-tailed)	.214	.578	.365	.630	.942
	N	62	61	62	52	52
Teen Mom at Youth's Birth	Pearson Correlation	-.287*	.162	.096	.047	.130
	Sig. (2-tailed)	.015	.178	.422	.724	.327
	N	72	71	72	59	59
ACEs 4+	Pearson Correlation	.087	.084	.154	--	--
	Sig. (2-tailed)	.449	.472	.182	--	--
	N	77	76	77	--	--
ACEs 6+	Pearson Correlation	.167	.176	.130	--	--
	Sig. (2-tailed)	.149	.130	.265	--	--
	N	76	75	76	--	--

*Significant at the .05 level.

4. Discussion:

As a whole, the above results strongly reiterate the prevalence of early and multiple adverse childhood experiences (ACEs) in the histories of youth who have experienced trafficking, sexual abuse and exploitation and the significant mental health impact upon youth. Across the board, the current sample far surpasses national averages in experiences of being born to teen mothers, ACE exposure, and adverse mental health outcomes. While the CDC estimated teen birth rates to be 16.7 per 1,000 females in 2019 [25], over a quarter of the youth in the current sample were born to teen

mothers. It is also important to note that over 60% of youth were born to mothers who were teens at the time of their first child. Thus the prevalence of negative mental health outcomes are likely reflective of the strain and demands upon young mothers in raising children, as well as the cumulative drain on mothers who have numerous children at a young age. Recent CDC statistics [26] suggest that nearly 1 in 6 adults, or around 15% of the population have experienced 4 or more ACEs. Those who experienced 6 or more ACEs die an average of 20 years earlier than those with less exposure [27]. A large majority of youth in this study have experienced 4 or more ACEs. It is then not surprising, in light of these results, that trafficked and abused youth in this sample evidenced negative mental health outcomes in far greater proportions than the population at large.

National estimates of self-harming behavior in adolescents appear to hover around 17%, in contrast to 50% of youth in the current study [28]. Relatedly, while odds ratios were not calculated due to the nature of sample for direct comparison, Hughes et al (2017) [23] found that odds ratios related to experiencing 4 or more ACEs and engaging in self-harm or suicidal behaviors was more than 7 times as frequent. While rates of psychiatric admission for adolescents is hard to estimate, Egorova et al. (2018) suggest that admission rates were 5.5. per 1000 youth in the US [29], compared to 54% of the current sample. The same study emphasized strong relationships between exposure to 4 or more ACEs and various types of substance use or abuse (ORs ranging from 2-7 related to problematic, moderate or severe alcohol or substance use), which has been echoed in the literature by other studies. Consistent with this literature, 70% of our sample endorsed problematic substance use or abuse. These results are mirror other studies that have found associations between young maternal age and substance use [30,31]. Future studies would not only benefit from a larger, more diverse sample, but an expanded examination of the extent or severity of the mental health impact (e.g. severity of depressive symptomology), as well as an understanding of specific substance use and frequency.

Clearly this study expected to find significant correlations between maternal age, ACE exposure and the three mental health outcomes examined. Such relationships did not emerge, which is believed largely related to a lack of variability in the sample. More specifically, as has been emphasized repeatedly above, trafficked, sexually abused and exploited youth have a high incidence of being born to young mothers, high ACE exposure and significant mental health needs, as was evident in our sample. In developing the current study, it was believed that early maternal age would be related to increased exposure to ACEs, which in turn would contribute to worse mental health outcomes. While the nature of the current sample prevented more fine-grained analyses of these relationships, the current sample highlights the high incidence of early maternal age and ACEs exposure in this sample of trafficked, exploited and abused youth. By extension, it further emphasizes the importance of future studies designed to understand the relationship of these early experiences with the later development of negative mental health outcomes to assist in the development of both preventive and therapeutic interventions.

Some limitation must be acknowledged. While this is the first study to our knowledge examining the prevalence of early maternal age, ACE exposure and various mental health outcomes specifically in a sample of trafficked and exploited youth, the sample is a relatively small convenience sample from a particular geographic location, referred largely from the juvenile justice system. Additionally, studies have suggested the importance for controlling for variables such as ethnicity, limited maternal education, youth educational level, parenting skills and parental substance use, as these factors also have bearing on mental health outcomes [4,20,30,32]. As such, larger, more diverse [ethnically, educationally, geographically, etc.] is recommended to enable the ability to control for and assess relationships with other variables.

Considering the above results, it is advisable for developmentally appropriate family planning education to begin prior to puberty so that every youth is aware and empowered to make decisions regarding their reproductive health. To minimize ACE exposure and preemptively address correlated negative mental health outcomes and build resilience, especially for youth born to teenage mothers, efforts should be made so every youth has equitable access to mental health services. Specifically, services should focus on emotion awareness and regulation skills, stress management,

healthy coping, developing safe relationships, processing trauma and navigating community resources and support for teenage parents and their families.

Author Contributions: Conceptualization, K.B and H.H.; methodology, K.B. and H.H.; formal analysis, K.B.; writing—original draft preparation, K.B and K.F.; writing—review and editing, K.B, H.H. and K.F.; project administration, K.B and H.H. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Institutional Review Board Statement: Patient consent was granted to regarding the collection of information during the intake process. Specific consent for this project was waived as the current study was a retrospective study or previous information collected that was deidentified and aggregated.

Acknowledgments: We of course would love to thank all the incredible young women who have participated in our program, our generous funders, and the team at POETIC.

Conflicts of Interest: The authors declare no conflict of interest.

References

1. Trafficking Victims Protection Act of 2000, Public Law No. 106-386 (2000).
2. National Human Trafficking Resource Center (NHTRC). <https://humantraffickinghotline.org/en>
3. Victims of Crime Act of 1984, Public Law No. 98-473. Amended through Public Law No. 117-103. (2022).
4. Cederbaum, J. A., Jeong, C. H., Yuan, C. and Lee, J. O. (2020). Sex and substance use behaviors among children of teen mothers: A systematic review. *Journal of Adolescence*, 79, 208-220. <https://doi.org/10.1016/j.adolescence.2020.01.008>.
5. De Genna, N. M., Goldschmidt, L., & Cornelius, M. D. (2015). Maternal patterns of marijuana use and early sexual behavior in offspring of teenage mothers. *Maternal and Child Health Journal*, 19, 626–634.
6. Hendrick, C. E., & Maslowsky, J. (2019). Teen mothers' educational attainment and their children's risk for teenage childbearing. *Developmental Psychology*, 55, 1259–1273.
7. Centers for Disease Control. (2021). Teen Births. Retrieved from <https://www.cdc.gov/nchs/fastats/teen-births.htm>
8. National Research Council. (1987). *Risking the Future: Adolescent Sexuality, Pregnancy, and Childbearing, Volume II: Working Papers and Statistical Appendices*. Washington, DC: The National Academies Press. <https://doi.org/10.17226/946>.
9. Hoffman, S.D., (2006) By the Numbers: The Public Costs of Adolescent Childbearing. The National Campaign to Prevent Teen Pregnancy. Washington, DC.
10. Maynard, R.A., (Ed.). (1996). Kids Having Kids: A Robin Hood Foundation Special Report on the Costs of Adolescent Childbearing. New York: Robin Hood Foundation.
11. Bellis, M.A., Hughes, K., Leckenby, N., Perkins, C. and Lowey, H. (2014). National household survey of adverse childhood experiences and their relationship with resilience to health-harming behaviours in England. *BMCMedicine*, 12(1), 72, doi: 10.1186/1741-7015-12-72.
12. Felitti, V.J., Anda, R.F., Nordenberg, D., Williamson, D.F., Spitz, A.M., Edwards, V., Koss, M.P. and Marks, J.S. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults. *American Journal of Preventive Medicine*, 14(4), 245-258. doi: 10.1016/S0749-3797(98)00017-8.
13. Benedini, K. M., & Fagan, A. A. (2020). From child maltreatment to adolescent substance use: Different pathways for males and females? *Feminist Criminology*, 15(2), 147–173.
14. Chatterjee, D., McMorris, B., Gower, A. L., Forster, M., Borowsky, I. W., & Eisenberg, M. E. (2018). Adverse Childhood Experiences and early initiation of marijuana and alcohol use: The potential moderating effects of internal assets. *Substance Use & Misuse*, 53(10), 1624–1632. <https://doi.org/10.1080/10826084.2017.1421224>
15. Scheidell, J. D., Quinn, K., McGorray, S. P., Frueh, B. C., Beharie, N. N., Cottler, L. B., & Khan, M. R. (2018). Childhood traumatic experiences and the association with marijuana and cocaine use in adolescence through adulthood. *Addiction*, 113(1), 44–56. <https://doi.org/10.1111/add.13921>
16. Folk, J. B, Ramos, L. M. C., Bath, E. P., Rosen, B., Marshall, B. D. L., Kemp, K., Brown, L., Conrad, S., Tolou-Shams, M. (2021). The prospective impact of Adverse Childhood Experiences on justice-involved youth's psychiatric symptoms and substance use. *Journal of Consulting and Clinical Psychology*, 89(6), 483-498). <https://doi.org/10.1037/ccp0000655>
17. Carr, J. M., Steeg, S., Mok, P. L. H., Pedersen, C. B., Antonsen, S., Kapur, N. & Webb, R. T. (2020). Adverse Childhood Experiences and risk of engaging subsequently un self-harm and violence towards other people– “Dual harm.” *International Journal of Environmental Research and Public Health*, 17, 9409. doi: 10.3390/ijerph17249409

18. Haahr-Pedersen, I., Perera, C., Hyland, P., Vallières, F., Murphy, D., Hansen, M., Spitz, P., Hansen, P. & Cloitre, M. (2020). Females have more complex patterns of childhood adversity: Implications for mental, social, and emotional outcomes in adulthood. *European Journal of Psychotraumatology*, 11, 1708618. <https://doi.org/10.1080/20008198.2019.1708618>
19. Logan-Greene, P., Tennyson, R. L., Nurius, P. S. & Borja, S. (2017). Adverse Childhood Experiences, coping resources, and mental health problems among court-involved youth. *Child Youth Care Forum*, 46, 932-946. doi: 10.1007/s10566-017-9413-2
20. Nikulina, V., Gelin, M., & Zwillig, A. (2017). Is there a cumulative association between Adverse Childhood Experiences and Intimate Partner Violence in adulthood? *Journal of Interpersonal Violence*, 36(3-4):NP1205-1232NP. doi: 10.1177/0886260517741626.
21. Petrucci K, Davis J, Berman T. 2019. Adverse childhood experiences and associated health outcomes: A systematic review and meta-analysis. *Child Abuse & Neglect* 97, 104127. DOI: <https://doi.org/10.1016/j.chiabu.2019.104127>
22. Schilling, E. A., Aseltine, R. H. Jr., & Gore, S. (2007). Adverse childhood experiences and mental health in young adults: A longitudinal survey. *BMC Public Health*, 7, Article 30. <https://doi.org/10.1186/1471-2458-7-30>
23. Hughes, K., Bellis, M. A., Hardcastle, K. A. Sethi, D., Butchart, A., Mikton, C., Jones, L., & Dunne, M. P. (2017). The effect of multiple adverse childhood experiences on health: A systematic review and meta-analysis. *The Lancet*, 2, e356-e366.
24. Center for Youth Wellness. CYW Adverse Childhood Experiences Questionnaire (ACE-Q) Teen Self-Report. Retrieved from <https://centerforyouthwellness.org/wp-content/uploads/2018/06/CYW-ACE-Q-TEEN-SR-1-copy.pdf>
25. Center for Disease Control. (2021). Reproductive Health: Teen Pregnancy. Retrieved from <https://www.cdc.gov/teenpregnancy/about/index.htm>
26. Merrick, M. T., Ford, D. C., Ports, K. A., Guinn, A. S., Chen, J., Klevens, J., Metzler, M., Jones, C. M., Simon, T. R., Daniel, V. M., Ottley, P. & Mercy, J. A. (2019). Vital signs: Estimated proportion of adult health problems attributable to adverse childhood experiences and implications for prevention—25 states 2015-2017. *Morbidity and Mortality Weekly Report*, 68, 999-1005. doi: <http://dx.doi.org/10.15585/mmwr.mm6844e1>
27. Brown, D. W., Anda, R. F., Tiemeier, H., Felitti, V. J., Edwards, V. J., Croft, J. B. & Giles, W. H. (2009). Adverse childhood experiences and the risk of premature mortality. *American Journal of Preventative Medicine*, 37(5), 389-396. doi:10.1016/j.amepre.2009.06.021
28. Giles, D., Christou, M. A., Dixon, A. C., Featherson, O.J., Rapti, I., Garcia-Anguita, A., Villasis-Keever, M., Reebye, P., Cristou, E., Al Kabir, N. & Cristou, P. A. (2018). Prevalence and Characteristics of Self-Harm in Adolescents: Meta-Analyses of Community-Based Studies 1990-2015. *Journal of the American Academy of Child and Adolescent Psychiatry*, 57(10), 733-741. doi:10.1016/j.jaac.2018.06.018
29. Egorova, N. N., Pincus, H. A., Shemesh, E. & Kleinman, L. C. (2018). Behavioral Health Diagnoses Among Children and Adolescents Hospitalized in the United States: Observations and Implications. *Psychiatric Services*, 69(8), 910-918. <https://doi.org/10.1176/appi.ps.201700389>
30. McGrath, J. J., Petersen, L., Agerbo, E., Mors, O., Mortensen, P. B., & Pedersen, C. B. (2014). A comprehensive assessment of parental age and psychiatric disorders. *JAMA Psychiatry*, 71(3), 301-309.
31. Pogarsky, G., Thornberry, T. P., & Lizotte, A. J. (2006). Developmental outcomes for children of young mothers. *Journal of Marriage and Family*, 68(2), 332-344.
32. Levine, J. A., Emery, C. R., & Pollack, H. (2007). The well-being of children born to teen mothers. *Journal of Marriage and Family*, 69(1), 105-122.

Disclaimer/Publisher's Note: The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of MDPI and/or the editor(s). MDPI and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.