

Trauma-Informed Schools Program: Detecting and Mitigating ACEs in Missouri

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Summary

Becoming a trauma-informed school is a multi-phase process. Schools must first understand what causes trauma and recognize the signs of trauma among staff and students. Such recognition allows schools to implement changes in how they approach education and behavior challenges. Trauma-informed schools shift into a new holistic approach of operating and connect the school to resources within the community, such as different forms of therapy/treatment resources.¹ Trauma can impact all aspects of individuals' lives, including their ability to learn and function adaptively. Traumatized staff may experience social challenges, which can make it difficult to effectively teach and/or care for students, whereas traumatized students can experience social, behavioral, and learning issues.

Trauma-informed schools promote learning by inducing feelings of safety, understanding, and collaboration between students and staff.²

Missouri is implementing a trauma-informed schools pilot program in which five schools within a metropolitan district were chosen to make a full transition to trauma-informed policies and practices. The program launched in 2016 and expired in 2019; however, the bill was re-implemented and is set to conclude in June 2025, with a report presenting the results of the program.³ This brief will discuss the emotional, behavioral, and economic effects of trauma, intervention efficacy, how other states are proposing and implementing programs, and how trauma can be treated.

Background

Adverse Childhood Experiences

One way to determine whether a child has experienced trauma is to conduct an Adverse Childhood Experiences (ACEs) screening. The original ACEs study, published in 1998, determined that many adult deaths can be attributed to abuse or neglect experienced as a child.⁴ The ACEs screening asks a series of ten questions regarding a child's family dynamic. The questions are broken down into three categories: abuse, neglect, and household dynamics (e.g., witnessing domestic violence and/or parental substance abuse, neighborhood violence, parental death and/or incarceration).⁵ Each question answered "yes" is summed to generate a child's ACEs score. The higher the score, the more likely an individual is to develop corresponding negative health outcomes including, but not limited to, depression, anxiety, addiction, and chronic illnesses (CDC, 2019). These adverse effects can remain with children into adulthood. According to the CDC, within 25 states, 61% of adults experienced at least one ACE when growing up.⁶

In 2019, 21.1% of children and youth (ages birth through 17 years) nationwide had one ACE and 18.7% had two or more ACEs. In Missouri in 2019, 23.9% of children and youth had one ACE and 13.9% had 2 or more.⁷ ACEs are costly to society and preventable. The potential stress associated with adverse childhood experiences can lead to health problems including heart disease and depression. The CDC states that by preventing ACEs, 1.9 million cases of heart disease and 21 million cases of depression could have been prevented; additionally, hundreds of billions of dollars could be saved each year.⁸ The estimated economic burden of ACEs-related incidents was over \$400 billion in the United States in 2015.⁹ From both a public health and economic standpoint, money, resources, and lives can be saved by implementing prevention programs.

Risk Factors for ACEs

Oftentimes, ACEs are relayed by intergenerational trauma. When children are raised in environments with household dysfunction, they are at higher risk of continuing these patterns into adulthood. These patterns of behavior can also influence how individuals parent their own children.¹⁰ Families with limited resources often experience financial stress and strain that affect parenting behaviors.¹¹ Additionally, children whose families are of lower socioeconomic status (SES) are more likely to experience ACEs and trauma.¹² If parents are unable to provide adequate nutrition, clothing, hygiene products, and healthcare for their children, they may also be unable to provide their children the help they need to cope with their traumas. School-based trauma interventions can bridge the gap for families that cannot afford such trauma treatment and who are also likely at greatest risk.

Impact of ACEs on Mind and Body

Trauma and ACEs can directly impact the body by targeting its information source, the brain. Most commonly, different sections of the brain, such as the hippocampus, can change in volume under prolonged stress, and an imbalance of stress hormones, like cortisol and norepinephrine, can change neuronal pathways.¹³ Some examples of chronic stress and trauma include neglect, abuse, and witnessing domestic and neighborhood violence, which are considered adverse childhood experiences, or ACEs. When the brain undergoes stress, it is less able to focus, which impacts learning.¹⁴ Additionally, ACEs reduce ability to problem solve and interfere with peer relations; ACEs can also increase behavioral problems including aggression.¹⁵



Strategies to Mitigate the Negative Outcomes of ACEs

The Efficacy of Institutional Interventions

Fondren et al. (2019) performed a systematic review of different trauma interventions among adolescents, noting that it is important to implement treatment within a school setting.¹⁶ Oftentimes, the consequences of childhood trauma can be amplified in the school setting and lead to behavioral problems that teachers and administrators are ill-equipped to handle. The negative effects of trauma can not only lead to behavioral issues, but also learning issues that inhibit the child's ability to focus on schoolwork. The article reviews studies that implemented three different intervention arms within schools. The first study arm is universal dissemination, which implements educational programs for teachers and administrators in order to create a better understanding of childhood trauma and its consequences. This overview of trauma also provides a basis for which students can be lightly monitored for signs of trauma. The second study arm includes targeted dissemination, which provides programs for students who are at risk of trauma. This type of program is primarily implemented where students experience shared prolonged trauma, such as war or natural disasters.

The third study arm is individualized dissemination, which is hyper-sensitive to students who are victims of severe trauma. This program offers personalized support to students most in need. The culmination of studies indicates that many schools implement only one of the three study arms. Despite a shortage of multilevel trauma interventions, the individual arms are effective in intervening against trauma-induced health outcomes associated with ACEs.¹⁷

Compared to schools with no interventions, schools with trauma interventions showed a decrease in negative behavior and an increase in positive socializing. Additionally, there is also a positive correlation between school-based trauma interventions and social, emotional learning (SEL).¹⁸ Not only do trauma-related interventions lead to positive behavior and health outcomes, they also increase children's abilities to learn. These interventions affect current health and behavior characteristics and can lead to better health outcomes overall by mitigating the effects of trauma early on and building the foundation for healthier futures for the students.¹⁹

Similar to Fondren et al., Paschall et al. (2018) determined that school-based interventions can also be effective in identifying students who may be at risk of a high ACE score.²⁰ Paschall et al. (2018) performed a study to test the efficacy of school-based mental health interventions, particularly seeking out students with depression and at risk of suicide.²¹ Over 165 schools in Oregon participated in the study. The study concluded that schools with health centers had fewer reports of depression and suicide attempts among students.²²

What Other States are Doing

Oregon piloted a trauma-informed program in two public schools. According to the Trauma-Informed Program (TIP) Pilot Report, both schools had an increase in engagement between partners within the community and family members. However, both schools found a gap between staff members' awareness of resources and their use of the resources. They recommended incorporating trauma-informed training into pre-existing programs or initiatives in order to increase utilization of the resources. The two schools had different activities and systems that worked best for their individual schools. The TIP Pilot Report recommended that schools put

sufficient effort into assessing and planning for their individual needs. For instance, hiring a professional coordinator might be beneficial.²³

In California, the Surgeon General, Nadene Burke (an ACEs research and promotion advocate), has set a goal of reducing ACEs by one half in a generation.²⁴ California created ACEs Aware, a statewide program that educates about the effects of chronic stress and ACEs, gives step-by-step guided resources for implementing screening, and urges ACEs connections among schools, health care systems, family services, and other community institutions.²⁵ Similar to ACEs Aware, New Jersey has implemented a trauma informed system that integrates various institutions statewide. The system includes schools, healthcare facilities, child welfare agencies, and the courts. This model ensures that all major sectors within the state are trained to recognize and support traumatized individuals.²⁶

Several other states' legislatures are proposing ways in which they can incorporate and improve trauma-informed programs. For example, both Arkansas and New York have proposed that ACEs-related resources and screenings be reimbursed by Medicaid.²⁷

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Policy Discussion

The trauma informed model is a form of preventative care and intervention that has the potential to reduce a host of social and economic burdens. In addition to lessening the complex effects of trauma and chronic stress on children and youth, implementing evidence-based, trauma-informed programs can decrease economic burdens at the local, state, and federal levels. Currently, becoming a trauma informed school is optional in Missouri.²⁸ Some schools may be hesitant to undertake the process as it requires upfront costs and resources for schools to eventually become trauma-informed.²⁹

Preventing ACEs and intervening to reduce the consequences of ACEs is possible and crucial to promoting child development both inside and outside of the classroom. There are multiple strategies that can help prevent ACEs and promote nurturing environments for children. Social services can help support families dealing with financial strain that in turn impacts parental behavior.^{30,31} Additionally, schools can help prevent and reduce the consequences of ACEs by educating students on what trauma is and its effects, teaching how to create healthy boundaries and strategies to deflect trauma, promoting

healthy relationships with trusted adults, and educating staff on detecting signs of trauma and intervening to mitigate trauma.³² Establishing a strategy can formally connect resources and partners to educational institutions.

All schools are different; therefore, not all schools will benefit from the same approaches and changes. The challenge is finding what works best for each school. School districts might need flexibility and resources to tailor trauma-informed interventions based on geographical needs correlating to historical trauma and culture.³³ The report that will be prepared following the conclusion of Missouri's Trauma-Informed Schools Pilot Program should present what was and was not beneficial for each of the five schools. It might also be beneficial to provide school demographics so that similar schools can have baseline data. This will give other schools ideas for changes in implementation as well as an opportunity to compare and contrast.³⁴ Additionally, the pilot program only included metropolitan school districts; other tools might be necessary for rural school integration, such as the availability of online resources like telehealth.³⁵

Local level: assess needs of individual schools and plan implementation accordingly. Hire a professional, if applicable. Give school districts flexibility and resources to tailor interventions and programs based on specific, individual needs and regional trauma, such as geographical history and culture.³⁶

State level: following the conclusion of Missouri's pilot program, require all schools to become trauma-informed. Funds should thus be allocated accordingly. Explore a trauma-informed system that integrates child care, parent education, the foster care

system, healthcare facilities, schools, and social services. Similar to CA, set a quantifiable goal to reduce ACEs.

Federal level: increase awareness of ACEs and the detrimental effects of living with chronic stress. Develop national campaigns to educate individuals on what trauma and chronic stress looks like and how to mitigate and prevent these harmful behavior patterns. Additionally, create incentives for states to develop their own trauma-related programs.

Conclusion

Childhood trauma and chronic stress can negatively impact individuals' health and their ability to learn and problem solve. Chronic stress and trauma can also produce long-lasting changes that are not visible, such as with brain functioning. Implementing trauma-informed programs in schools gives all children equal opportunities to develop, learn, and set goals and aspirations for their futures. Additionally, trauma-informed programs can help lessen the economic burden of individual states and the nation. Initially, schools are places where the majority of children within communities learn and grow; and school-based interventions have proven to be effective in intervening and mitigating the effects of ACEs. However, many other institutions foster critical childhood development. A trauma-informed system that encompasses all of these sectors of a child's environment can further promote ACE awareness and prevention and intervention efforts.

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References

- ¹ Peterson, S. (2018, September 20). Creating trauma-informed systems. The National Child Traumatic Stress Network. Retrieved from <https://www.nctsn.org/trauma-informed-care/creating-trauma-informed-systems>.
- ² Missouri Department of Mental Health. *Missouri model for trauma-informed schools*. (n.d.). Retrieved from <https://dmh.mo.gov/media/pdf/missouri-model-trauma-informed-schools>.
- ³ Missouri House of Representatives. (n.d.). HOUSE BILL NO. 776.
- ⁴ Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., Koss, M. P., & Marks, J. S. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults. The Adverse Childhood Experiences (ACE) Study. *American Journal Of Preventive Medicine*, 14(4), 245–258. [https://doi.org/10.1016/s0749-3797\(98\)00017-8](https://doi.org/10.1016/s0749-3797(98)00017-8)
- ⁵ Garcia, A., & Scarlett, G. (n.d.). *Adverse Childhood Experiences*. National Conference of State Legislatures. Retrieved from <https://www.ncsl.org/research/health/adverse-childhood-experiences-aces.aspx>.
- ⁶ Centers for Disease Control and Prevention. (2021, April 6). Preventing adverse childhood experiences. Centers for Disease Control and Prevention. Retrieved from <https://www.cdc.gov/violenceprevention/aces/fastfact.html>.
- ⁷ Survey results. NSCH 2019: Adverse childhood experiences, Missouri vs. Nationwide. (n.d.). Retrieved from <https://www.childhealthdata.org/browse/survey/results?q=8331&r=27&r2=1>.
- ⁸ Centers for Disease Control and Prevention. (2021, April 6). Preventing adverse childhood experiences. Centers for Disease Control and Prevention. Retrieved September 27, 2021, from <https://www.cdc.gov/violenceprevention/aces/fastfact.html>.
- ⁹ Peterson, C., Florence, C., & Klevens, J. (2018). The economic burden of child maltreatment in the United States, 2015. *Child Abuse & Neglect*, 86, 178–183. <https://doi.org/10.1016/j.chiabu.2018.09.018>
- ¹⁰ Jamieson, K. (2020, March 26). Aces and intergenerational trauma. Center for Child Counseling. Retrieved from <https://www.centerforchildcounseling.org/aces-and-intergenerational-trauma/>.
- ¹¹ Senia, J. M., Neppl, T. K., Gudmunson, C. G., Donnellan, M. B., & Lorenz, F. O. (2016). The intergenerational continuity of socioeconomic status: Effects of parenting, personality, and age at first romantic partnership. *Journal of family psychology : JFP : Journal of the Division of Family Psychology of the American Psychological Association (Division 43)*, 30(6), 647–656. <https://doi.org/10.1037/fam0000171>
- ¹² Walsh, D., McCartney, G., Smith, M., & Armour, G. (2019). Relationship between childhood socioeconomic position and adverse childhood experiences (ACEs): a systematic review. *Journal Of Epidemiology And Community Health*, 73(12), 1087–1093. <https://doi.org/10.1136/jech-2019-212738>
- ¹³ Bremner J. D. (2006). Traumatic stress: effects on the brain. *Dialogues in clinical neuroscience*, 8(4), 445–461. <https://doi.org/10.31887/DCNS.2006.8.4/jbremner>
- ¹⁴ Flannery, M. E. (2016, May 17). How trauma is changing children's brains. NEA. Retrieved September 27, 2021, from <https://www.nea.org/advocating-for-change/new-from-nea/how-trauma-changing-childrens-brains>.
- ¹⁵ Missouri Kids First. (n.d.). Stress and Early Brain Growth Understanding Adverse Childhood Experiences (ACEs).
- ¹⁶ Fondren, K., Lawson, M., Speidel, R., McDonnell, C., & Valentino, K. (2019, December 28). Buffering the effects of childhood trauma within the school setting: A systematic review of trauma-informed and trauma-

- responsive interventions among trauma-affected youth. Retrieved from https://www.sciencedirect.com/science/article/pii/S0190740919308588?casa_token=rKysZNxmbK0AAAAA%3ARgVWDDmpAoC_bwZdfXKH6P3qnlrrayYnAwTr-gz8yK3dnVQmgDgbcT6UlwTAOPxUfrho9Grid6qR
- ¹⁷ Fondren, K., Lawson, M., Speidel, R., McDonnell, C., & Valentino, K. (2019, December 28). Buffering the effects of childhood trauma within the school setting: A systematic review of trauma-informed and trauma-responsive interventions among trauma-affected youth. Retrieved from https://www.sciencedirect.com/science/article/pii/S0190740919308588?casa_token=rKysZNxmbK0AAAAA%3ARgVWDDmpAoC_bwZdfXKH6P3qnlrrayYnAwTr-gz8yK3dnVQmgDgbcT6UlwTAOPxUfrho9Grid6qR
 - ¹⁸ Fondren, K., Lawson, M., Speidel, R., McDonnell, C., & Valentino, K. (2019, December 28). Buffering the effects of childhood trauma within the school setting: A systematic review of trauma-informed and trauma-responsive interventions among trauma-affected youth. Retrieved from https://www.sciencedirect.com/science/article/pii/S0190740919308588?casa_token=rKysZNxmbK0AAAAA%3ARgVWDDmpAoC_bwZdfXKH6P3qnlrrayYnAwTr-gz8yK3dnVQmgDgbcT6UlwTAOPxUfrho9Grid6qR
 - ¹⁹ Fondren, K., Lawson, M., Speidel, R., McDonnell, C., & Valentino, K. (2019, December 28). Buffering the effects of childhood trauma within the school setting: A systematic review of trauma-informed and trauma-responsive interventions among trauma-affected youth. Retrieved from https://www.sciencedirect.com/science/article/pii/S0190740919308588?casa_token=rKysZNxmbK0AAAAA%3ARgVWDDmpAoC_bwZdfXKH6P3qnlrrayYnAwTr-gz8yK3dnVQmgDgbcT6UlwTAOPxUfrho9Grid6qR
 - ²⁰ Paschall, M. J., & Bersamin, M. (2018). School-Based Health Centers, Depression, and Suicide Risk Among Adolescents. *American Journal Of Preventive Medicine*, 54(1), 44–50. <https://doi.org/10.1016/j.amepre.2017.08.022>
 - ²¹ Paschall, M. J., & Bersamin, M. (2018). School-Based Health Centers, Depression, and Suicide Risk Among Adolescents. *American Journal Of Preventive Medicine*, 54(1), 44–50. <https://doi.org/10.1016/j.amepre.2017.08.022>
 - ²² Paschall, M. J., & Bersamin, M. (2018). School-Based Health Centers, Depression, and Suicide Risk Among Adolescents. *American Journal Of Preventive Medicine*, 54(1), 44–50. <https://doi.org/10.1016/j.amepre.2017.08.022>
 - ¹²³ Oregon Department of Education. (2019, October). The Use of Implementation Science to Study Trauma-Informed Practices: A Closer Look at Implementation in Two Oregon Schools.
 - ²⁴ Wolfson, R. (2020, February 18). Working with UCSF, California Surgeon General aims to cut adverse childhood experiences by half. University of California San Francisco. Retrieved from <https://www.ucsf.edu/news/2020/02/416676/working-ucsf-california-surgeon-general-aims-cut-adverse-childhood-experiences>.
 - ²⁵ Implement Ace Screening. ACEs Aware. (n.d.). Retrieved from <https://www.acesaware.org/implement-screening/>.
 - ²⁶ New Jersey Department of Education. *Resources: Conditions for Learning*. (n.d.). Retrieved from <https://www.nj.gov/education/reopening/resources/conditionsforlearning.shtml>.
 - ²⁷ Cooper, R. (2021, June 14). State Strategies to Mitigate Adverse Childhood Experiences during the COVID-19 Pandemic and Beyond. The National Academy for State Health Policy. Retrieved from <https://www.nashp.org/state-strategies-to-mitigate-adverse-childhood-experiences-during-the-covid-19-pandemic-and-beyond/>.
 - ²⁸ Missouri model for trauma-informed schools. Missouri Department of Mental Health. (n.d.). Retrieved from <https://dmh.mo.gov/media/pdf/missouri-model-trauma-informed-schools>.
 - ²⁹ Rene' Yoesel, M., & Bashore, C. (2018, November). Building trauma informed schools an communities where are we now? MSCA Fall Conference.
 - ³⁰ Rene' Yoesel, M., & Bashore, C. (2018, November). Building trauma informed schools an communities where are we now? MSCA Fall Conference.
 - ³¹ Centers for Disease Control and Prevention (2019). Preventing adverse childhood experiences: leveraging the best available evidence. Atlanta, GA: National Center for Injury Prevention and Control, Centers for Disease Control and Prevention.
 - ³² Centers for Disease Control and Prevention (2019). Preventing adverse childhood experiences: leveraging the best available evidence. Atlanta, GA: National Center for Injury Prevention and Control, Centers for Disease Control and Prevention.
 - ³³ Oregon Department of Education. (2019, October). The use of implementation science to study trauma-informed practices: a closer look at implementation in two oregon schools.
 - ³⁴ Oregon Department of Education. (2019, October). The use of implementation science to study trauma-informed practices: a closer look at implementation in two oregon schools.
 - ³⁵ National Advisory Committee on Rural Health and Human Services. (2018, August). Exploring the rural context for adverse childhood experiences (aces).
 - ³⁶ Oregon Department of Education. (2019, October). The use of implementation science to study trauma-informed practices: a closer look at implementation in two oregon schools.