

RELATIONSHIP BETWEEN SELF-CARE INQUIRY AND
STRESS LEVELS IN ADOLESCENTS WITH
SUBSTANCE USE DISORDERS

by

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ABSTRACT

Adolescents living with substance use disorders are presented with many challenges when confronted with the reality of recovery from addiction. Despite numerous interventions used to assist adolescents seeking rehabilitation, few interventions focus on everyday stressors or triggers that contribute to substance use. Research has shown that stress significantly impacts substance use. This study evaluates whether inquiring about self-care strategies for adolescents seeking recovery from a substance use disorder will reduce stress levels, thus improving the chances of adolescents maintaining recovery. Adolescents participating in outpatient treatment at a recovery facility were recruited for this study. They were asked to fill out surveys once a week for four weeks about their level of stress and self-care activities. Due to several unforeseen circumstances, the nature of this study became a feasibility study in which clear barriers and recommendations for future research are addressed.

Relationship between self-care inquiry and stress levels of adolescents with substance use disorders

The complex effects of Adverse Childhood Experiences (ACEs) have been extensively researched in adults and adolescents alike. However, research is limited to the impact that simple stress-reducing self-care strategies can have on adolescents as they seek recovery from a substance use disorder (SUD). ACEs were first described by Felitti et al. (1998) as exposure to harmful and potentially traumatic experiences that occurred before the age of 18. Epidemiological research has found that at least one trauma has been experienced by 58% to 90% of youth, while most youth trauma survivors have experienced multiple traumatic events (Gamache Martin, Van Ryzin, & Dishion, 2016). Approximately 1.3 million adolescents suffer from a SUD in the United States annually (Johnson-Kwochka, Aalsma, Monahan, & Slayers, 2021). A clear link has been found between ACEs, traumatic events, and SUDs in adolescents. Research suggests a dose-response relationship between ACEs and substance use disorders in adolescents, denoting that the more adverse experiences a child has, the more likely they will have a substance abuse disorder. In addition, experiencing traumatic events is associated with the prevalence of negative coping behaviors such as binge drinking, earlier age of substance use initiation, and a higher likelihood of SUD development in adolescents (Cole, Sprang, & Silman, 2018; Bryant, Coman, & Damian, 2020).

Corbin, Farmer, & Nolen-Hoekesma (2013) emphasizes that tools to decrease stress are potential moderators between stress and drinking outcomes. A link has been found between stress and craving. It refers to drug use, indicating that lowering stress levels is a target to be addressed in intervention to aid individuals in recovering from SUD (Carreiro et al., 2020). In addition, exposure to chronic stress and maladaptive behaviors in managing stress have

influenced physical dependence upon a substance and SUDS (Amorato et al., 2021). In Carreiro et al. (2020), participants wore a sensor to record and define self-reported stress and craving during treatment for a substance use disorder. This study found that participants felt they were better able to manage stress through mindfulness rather than through the alerts given through the hardware. Mindfulness, in this study, is defined as attentiveness and acceptance of one's current experience (Carreiro et al., 2020). Although the present study does not use a sensor to increase mindfulness, we aim to increase mindful practices in participants through anticipation that they will be asked about what self-care (i.e., stress-reducing or coping) activities they participated in the week prior. Similarly, to receiving an alert on hardware, we hypothesize that the anticipation of being asked about certain activities will increase the frequency of individuals' participation in strategies that lower their stress levels. This study aims to explore the impacts of exposing adolescents in treatment for substance use disorders to healthy coping mechanisms and self-care strategies to redirect harmful coping mechanisms (i.e., substance use) in hopes that it might aid in their recovery.

The following hypotheses were going to describe the relationships we expected to find: Hypothesis 1: Participants who had higher ACE scores would have higher mental and physical symptoms on the Strengths and Difficulties Questionnaire (SDQ). Hypothesis 2: Participants who received trauma education and weekly intervention would decrease their mental and physical symptoms on the Strengths and Difficulties Questionnaire. Hypothesis 3: Participants who received education and weekly intervention would increase the number of self-care activities reported from pre-to post-assessment.

Method

Participants

Participants recruited were adolescents between the ages of 13-and 18 currently enrolled and participating in an intensive outpatient program at a substance use recovery facility for adolescents in the Dallas-Fort Worth Metroplex. Active enrollment and participation in the outpatient program are necessary for participants to remain eligible for the study. Consenting adolescents were two (n =2) male adolescents who were 16 years of age.

The eligibility of participants was a significant issue for the researchers of this study. One week after researchers acquired parental consent and youth assent for participation, one participant became ineligible due to withdrawal from the facility's outpatient program. Two weeks following the first participant's withdrawal, the remaining participant (n=1) also withdrew from the outpatient program, thus making them ineligible for the study.

Procedure

The Institutional Review Board at Texas Christian University approved all study procedures. Participating parents and youth were recruited in person prior to weekly treatment in January 2022, and parent consent and youth assent were acquired at the time of recruitment. At the time of consent, youth (n = 2) filled out the pre-intervention surveys, which consisted of demographic information, the ACEs questionnaire, Strengths and Difficulties Questionnaire (SDQ), and the weekly questionnaire about stress level and self-care activities. Surveys were completed through a QR code distributed by the researcher. This code was connected to surveys on the survey platform Qualtrics. Following these surveys, participating youth and parents attended a presentation on trauma symptoms and healthy coping strategies. The presentation was

25 minutes long and contained information regarding ACEs, trauma, stress, self-regulation, and self-care strategies. This presentation was presented in both English and Spanish, with translation assistance from a certified interpreter at the presentation. For four weeks following the pre-intervention surveys, youth were to complete the weekly survey at the outpatient meeting. After the study, youth were to complete the post-study questionnaire consisting of the SDQ.

Following data collection, all information obtained during the study was downloaded from Qualtrics into an Excel spreadsheet. Collected data was de-identified to ensure confidentiality and analyzed on password-protected computers in the Karyn Purvis Institute of Child Development research suite at Texas Christian University.

Measures

Adverse Childhood Experiences (ACEs)

The ACEs is a 9-item questionnaire used to evaluate the history of childhood trauma through questions concerning abuse (physical, sexual, verbal), neglect (emotional and physical), and household dysfunction (caregiver substance abuse, mental illness, violence towards caregiver, criminal behavior in household; Filetti et al., 1998). A score of > 1 is considered a positive result. In addition, a higher score on the ACE questionnaire has been linked to increased substance use in adolescents (Duke, 2018).

Strengths and Difficulties Questionnaire (SDQ)

The Strengths and Difficulties Questionnaire is a short behavioral screening validated for use for individuals between 11-and 16 years old (Goodman, Meltzer, & Bailey, 1998). It contains 25 statements consisting of emotional symptoms, conduct problems, hyperactivity/inattention, peer problems, and pro-social behavior. Adolescents select whether they felt a statement such as

I would rather be alone than with people my own age was “Certainly True,” meaning they believed the statement applied to them, “Somewhat True,” meaning the statement was partially applicable to them, or “Not True,” meaning the adolescent felt that the statement did not apply to them at all.

Weekly Questionnaire

The weekly questionnaire was based on two questions that one of the researchers asked her students at the beginning of each class to assess stress and coping. The online survey including these two questions was designed by the researchers of this study to assess stress levels on a scale from 1-to 10, with 1 being no stress at all and 10 being the highest level of stress one can imagine and self-care or coping strategies. The questions are as follows: 1) What is your stress level on a scale of 1 to 10, with one being low and ten being high? And 2) What are you doing for self-care? These questions were used to see if asking participants about self-care would encourage them to use more strategies. The study went on with the anticipation that they would be asked to elaborate on which strategies they had completed the week prior.

Results

Descriptive statistics were used to summarize data collected throughout the study. Correlational analyses will be used to explore the relationship between the ACEs and SDQ and the relationship between stress level and self-care activities. All data collected throughout the study has been excluded from this paper. Both participants (n=2) who consented became ineligible for participation due to the need for more intense treatment.

Researchers had trouble collecting data from participants through the therapist assigned to distribute the weekly questionnaire throughout data collection. Additionally, due to inclement

weather in the Dallas-Fort Worth Metroplex, there were several weeks when data collection could not occur because participants could not commute to the study site.

Discussion

The purpose of the current study was to examine the impact of a weekly questionnaire about self-care activities on the stress levels of adolescents in outpatient treatment for substance use disorders. Data was collected two times throughout the study, varying significantly from the studies' written procedures. In order to maintain confidence in scientific ethics, researchers chose not to report the data collected, as the study was terminated early and there were no significant findings. Instead, researchers have chosen to focus on the barriers present during this study and recommendations for future research.

Barriers and Recommendations for Future Research

Several barriers arose throughout the attempted execution of this study. A primary barrier to research is the COVID-19 pandemic, which resurged in early 2022 during the anticipated data collection period of the study. In addition to the omicron variant, which re-instated COVID protocols throughout the country, research has found that attrition rates for adolescent substance use outpatient groups have increased significantly since the onset of the pandemic (Marotta et al., 2022). This research aligns directly with the experience of the researchers of this study, who anticipated ten to fifteen participants during the recruitment and consent process. Unfortunately, only two adolescents were eligible for consent and participation at the time of recruitment. In addition, as discussed previously, this study was terminated early due to participant withdrawal from the outpatient program.

The participant population chosen for the study presented challenges and barriers within itself. Most notably, outpatient populations are responsible for attendance and transportation to group therapy sessions. Conversely, a residential population lives on-site at the treatment center; thus, barriers such as traffic, illness, and weather do not impact researchers' ability to collect data. With participants in a lower socioeconomic population, there can be additional barriers for the eligible participants to attend the group, thus preventing researchers from collecting data during weeks participants could not attend sessions. Reasons for absence included: the inability to find transportation to the study site because parents/caregivers were at work, adolescents disinterested in attending the group, and lack of support from parents/caregivers for the adolescent to attend the group.

Although it can be challenging to conduct a study because of these barriers, it is vitally important that researchers continue to attempt to aid this population as they are heavily impacted by substance use. Thus, as recommended before, it may be best to conduct preliminary research on this topic with a residential population, allowing for the same socioeconomic population to be reached without the impact of unpredictability that plagues those who may struggle economically. For research aimed at recruiting participants engaged in intensive outpatient programs, it is suggested that researchers select study sites that are easily accessible to them. A significant barrier to data collection was communication between the researchers and the therapist assigned to distribute the weekly-questionnaire survey. Researchers believe that if they had been present each week to distribute the weekly questionnaire, more data would have been collected despite the other barriers and limitations discussed above.

Conclusion

Research has shown a prominent link between stress and substance use in adolescents. While this study aimed to address stress to help adolescents recover from substance use disorders, unforeseen factors prevented researchers from obtaining the necessary data to conclude the efficacy of self-care interventions in reducing stress levels for this population. Recommendations for future research primarily focus on using a residential population of the same socioeconomic status, which researchers of this study believe will remove several uncontrollable factors that led to the challenge of data collection. Additionally, researchers believe that this avenue will allow for more participant eligibility and consistency of data collection for better results.

References

- Bryant, D. J., Coman, E. N., & Damian, A. J. (2020). Association of adverse childhood experiences (ACEs) and substance use disorders (SUDs) in a multi-site safety net healthcare setting. *Addictive Behaviors Reports, 12*, 100293-100293. <https://doi.org/10.1016/j.abrep.2020.100293>
- Carreiro, S., Chintla, K. K., Shrestha, S., Chapman, B., Smelson, D., & Indic, P. (2020). Wearable sensor-based detection of stress and craving in patients during treatment for substance use disorder: A mixed methods pilot study. *Drug and Alcohol Dependence, 209*, 107929-107929. <https://doi.org/10.1016/j.drugalcdep.2020.107929>
- Cole, J., Sprang, G., & Silman, M. (2018). Interpersonal trauma exposure, trauma symptoms, and severity of substance use disorder among youth entering outpatient substance abuse treatment. *Journal of Child & Adolescent Trauma, 12*(3), 341-349. <https://doi.org/10.1007/s40653-018-0239-3>
- Corbin, W. R., Farmer, N. M., & Nolen-Hoekesma, S. (2013). Relations among stress, coping strategies, coping motives, alcohol consumption and related problems: A mediated moderation model. *Addictive Behaviors, 38*(4), 1912-1919. <https://doi.org/10.1016/j.addbeh.2012.12.005>
- Duke, N. N. (2018). Adolescent adversity and concurrent tobacco, alcohol, and marijuana use. *American Journal of Health Behavior, 42*(5), 85-99. <https://doi.org/10.5993/AJHB.42.5.8>
- 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)
- Gamache Martin, C., Van Ryzin, M. J., & Dishion, T. J. (2016). Profiles of childhood trauma: Betrayal, frequency, and psychological distress in late adolescence. *Psychological Trauma*, 8(2), 206-213. <https://doi.org/10.1037/tra0000095>
- Goodman, R., Meltzer, H., & Bailey, V. (1998). The strengths and difficulties questionnaire: A pilot study on the validity of the self-report version. *European Child & Adolescent Psychiatry*, 7(3), 125-130. <https://doi.org/10.1007/s007870050057>
- Johnson-Kwochka, A., Aalsma, M. C., Monahan, P. O., & Salyers, M. P. (2021). Development and examination of the attribution questionnaire-substance use disorder (AQ-SUD) to measure public stigma towards adolescents experiencing substance use disorders. *Drug and Alcohol Dependence*, 221, 108600-108600. <https://doi.org/10.1016/j.drugalcdep.2021.108600>
- Marotta, P. L., Tolou-Shams, M., Cunningham-Williams, R. M., Washington, D. M., & Voisin, D. (2022). Racial and ethnic disparities, referral source and attrition from outpatient substance use disorder treatment among adolescents in the United States. *Youth & Society*, 54(1), 148-173. <https://doi.org/10.1177/0044118X20960635>

Appendix A

ACE Questionnaire

Please answer yes or no. Prior to your 18th birthday...

	Yes	No
Did a parent or other adult in the household often or very often... Swear at you, insult you, put you down, or humiliate you? OR Act in a way that made you afraid that you might be physically hurt?	<input type="checkbox"/>	<input type="checkbox"/>
Did a parent or other adult in the household often or very often... Push, grab, slap, or throw something at you? OR Ever hit you so hard that you had marks or were injured?	<input type="checkbox"/>	<input type="checkbox"/>
Did an adult or person at least 5 years older than you ever... Touch or fondle you or have you touch their body in a sexual way? OR Attempt or actually have oral, anal, or vaginal intercourse with you?	<input type="checkbox"/>	<input type="checkbox"/>

Did you often or very often feel that ... No one in your family loved you or thought you were important or special? OR Your family didn't look out for each other, feel close to each other, or support each other?

Did you often or very often feel that ... You didn't have enough to eat, had to wear dirty clothes, and had no one to protect you? OR Your parents were too drunk or high to take care of you or take you to the doctor if you needed it?

Was a biological parent ever lost to you through divorce, abandonment, or other reason?

Was your mother or stepmother: Often or very often pushed, grabbed, slapped, or had something thrown at her? OR Sometimes, often, or very often kicked, bitten, hit with a fist, or hit with something hard? OR Ever repeatedly hit over at least a few minutes or threatened with a gun or knife?

Was a household member depressed or mentally ill, or did a household member attempt suicide?

Did a household member go to prison?

Appendix B

Strengths and Difficulties Questionnaire (SDQ)

[https://www.sdqinfo.org/py/sdqinfo/b3.py?language=Englishqz\(USA\)](https://www.sdqinfo.org/py/sdqinfo/b3.py?language=Englishqz(USA))

Appendix C

Weekly Questionnaire

On a scale of 1-10 with 1 being low and 10 being high, what is your stress level right now?

0 1 2 3 4 5 6 7 8 9 10

Stress Level



Please select any of following activities you engage in for self-care:

Spending time alone to recharge

Working out/ Spending time outside

Hanging out with friends

Reading

Sleeping

Journaling/ Arts & Crafts/ Drawing/ Painting

Mindfulness/ Meditation

I am not engaging in any self-care activities.

Other (please fill in):