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Recommended Citation

Martin, Emma N., "Adverse Childhood Experiences (ACEs) as a Predictor of Adulthood Anxiety States" (2023). *High Impact Practices Student Showcase Fall 2023*. 81.

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Adverse Childhood Experiences (ACEs) as a Predictor of Adulthood Anxiety States

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Psychology, Research Methods

November 17th, 2023

Abstract

Adverse childhood experiences (ACEs) are instances of childhood trauma such as caregiver negligence, domestic abuse, and other dysfunctional relationships that a child may encounter inside or outside of their family. Significant evidence suggests ACEs are a predictor of youth complications, such as attentional, learning, emotional, and behavioral deficits. Anxiety and depressive disorders are two of the most costly childhood health conditions. The more instances of ACE indicated, the “higher [the] odds of anxiety or depression,” with an increased likelihood of internalized comorbidities or engagement with self-sabotaging behaviors (Elmore et al., 2020). This study addresses potential precursors to adulthood anxiety using the ACE scale while cross-referencing current anxiety states using the Hamilton-Anxiety Scale (HAM-A). Our study found that all cases of ACEs produced general anxiety symptomology (irritability and worrisome anticipation), anhedonic qualities (depression onset), concentration/memory deficits, sleep complications, uncontrollable twitching/uptightness, and social anxiety in adulthood across 85 university students. These results coincide with Post-Traumatic Stress Disorder (PTSD) and General Anxiety Disorder (GAD), but could also implicate the causation of other anxiety conditions, like obsessive-compulsive disorder (OCD), social anxiety disorder (SAD), or specialized phobia.

Adverse childhood experiences, adulthood anxiety, PTSD, social anxiety, depression

Introduction

Adverse childhood experiences (ACEs) are becoming a modern indicator and direct cause of childhood psychiatric disorders, such as oppositional defiant disorder (ODD), conduct disorder (CD), and attention-deficit-hyperactivity/attention-deficit disorder (ADHD/ADD). ACEs are events before adulthood that produce life-long trauma, with its diagnosis covering caregiver negligence, domestic abuse, sexual abuse, physical abuse, witnessed or experienced household violence, as well as addiction and dysfunctional relationships. Significant evidence suggests that youth who have undergone ACEs are susceptible to attentional, learning, emotional, and behavioral deficits, with mental disorders being one of the most costly childhood health conditions. The more instances of ACE indicated, the “higher [the] odds of anxiety or depression,” with an increased likelihood of internalized comorbidities or engagement with self-sabotaging behaviors (Elmore et al., 2020). Elmore and Crouch administered a cross-sectional analysis of the 2016-2017 National Survey of Children’s Health (NSCH), with its population ranging from 8-17 years old. While the NSCH does not include data related to neglect, sexual, or physical abuse victims, Elmore’s study did conclude that ACE measures are significantly implicated in depression and anxiety, with ACE scores directly correlated with mental health likelihood (2020). It also implies a differential association, in which children exposed to a negative household environment learn to associate safety and comfort with toxicity, which puts them at risk of experiencing more negative outcomes in adulthood.

Parental/caregiver stress and trauma can severely influence the continuance of ACEs (Crouch et al., 2019), and cross-cultural examination has shown that university students impacted by ACEs are not limited to geography (Kaminer et al., 2022). ACEs are linked with poor mental health in general, however, we want to examine how trauma persists into adulthood

anxiety states and an individual's social relationships. For example, current research does not identify if particular instances/occurrences of ACE create chronic or relapsing behaviors.

Parolin's lab studied the interaction between caregiver addiction and the adoption of obsessive-compulsive disorder (OCD) in adulthood (2016). Keep in mind, however, that their sample size could have been larger. They identified that childhood development is an influential period for adopting high-risk behaviors, with adults raised by substance-abusing parents reporting severe "cognitive deficits and impaired personality functions" (Parolin et al., 2016). This dysfunctional outcome leads to children becoming drug addicts during adolescence or early into adulthood, which is an aspect of the ACE questionnaire.

Hence, childhood adversity is not only linked to childhood behavior and attentional inhibitions, but it can persist into adulthood psychiatric conditions. Individuals who report at least one ACE event *also* report significantly lower overall life satisfaction, as pulled from a sample of university students (Davies et al., 2022). This aligns with Elmore's findings, in which high ACE scores imply more complications with mental health. Davies's lab surveyed disadvantaged populations in particular, which noted that female, LGBTQ+, and financially poor students experience more mental health complications, with 37% of respondents reporting Generalized Anxiety Disorder (GAD) characteristics and meeting its diagnosis criteria (2022). They also note that childhood adversity, racism, and poverty are the highest predictors of neurodivergence and mental health disorders, as implied by the location of its sample. Adverse childhood experiences can also explain some somatization phenomena, which are unexplainable and seemingly spontaneous medical conditions/symptoms that follow their correlation with negative mental health comorbidities. Furthermore, a correlation exists between victims of

maltreatment and somatization, whereas emotional stress and trauma are represented through physical symptomatology (Reiser et al., 2014).

The present study plans to assess the manifestation of anxiety as a result of ACE. We hypothesize that the higher one's ACE score, the higher the likelihood of adulthood anxiety states and diagnosis. Participants will identify the severity of their anxiety states by completing the Hamilton Anxiety Rating Scale (HAM-A) and the ACE questionnaire to assess childhood trauma. We encourage participants to disclose if they have been clinically diagnosed with any type of anxiety disorder, this way we can draw conclusions about possible relationships between an anxiety state and particular ACEs. This study plans to address potential precursors to adulthood anxiety, so that generalized anxiety disorder (GAD), obsessive-compulsive disorder (OCD), social anxiety disorder (SAD), post-traumatic stress disorder (PTSD), or specialized phobias can be addressed with particular goals in mind during therapeutic or behavioral interventions.

Methods

This study is to examine the relationship between childhood trauma and the onset of adulthood anxiety disorders. We will discuss methods applicable only to the presented study.

Participants

88 subjects were recruited from the University of Central Florida and completed a collection of self-assessment survey responses. Their data is anonymous and confidential, and only the responses to the questionnaires are used in our analysis.

Procedure

Participants were to complete a survey with two questionnaires via self-assessment: the Adverse Childhood Experience (ACE) Scale and the Hamilton Anxiety Scale (HAM-A). The ACE scale is designed to measure occurrences of childhood adversity or traumatic experiences before 18 years old. It assesses physical abuse, sexual abuse, neglect, emotional/verbal abuse, violence, and other adverse events. To be clear, disturbances during childhood do not solely stem from the individual's household; sexual abuse, for example, could occur outside the home. This questionnaire employed a closed-ended type response: *yes*, *no*, or *not sure*. We focused solely on those who indicated “yes” on the ACE scale during data analysis. The HAM-A scale measures a subject's anxiety severity, using the Likert scale: *not present*, *mild*, *moderate*, *severe*, and *very severe*. HAM-A assesses current anxiety states utilizing fourteen identifying factors such as tension, insomnia, and cardiovascular symptoms. Data was collected from consenting students enrolled at the University of Central Florida.

Coding

The ACE questionnaire is coded utilizing the total number of recorded ‘yes’ responses from a list of 10 questions. A score of 0 suggests no presence of adverse childhood experiences, but a score of 5 or higher indicates moderate to severe presence of ACE. With a total of fourteen items, the Hamilton Anxiety questionnaire is coded on a scale of 0 (not present) to 4 (very severe), with a total response range of 0–56. A score less than 17 indicates mild severity, 18–24 indicates mild to moderate severity, and 25–30 indicates moderate to severe anxiety. The P-value being <0.05 indicates a significant correlation between ACE and Hamilton Anxiety scores.

Results

Demographic Analysis:

88 online college students completed the ACE and HAM-A questionnaires. Note, however, that some participants did not complete the survey in its entirety: we calculated around 85 total fulfilled participant responses. 86% of the participants were female, 13% were male, and 1% were nonbinary presenting. Of this sample, 59% were between the ages of 18-23, 30% were between 24-29, 9% were between 30-35, and 2% were 36 or older. 43% of the population was white, 17% was black, and 39% was Latinx. The remaining percentages were disbursed between East/South Asians and Middle Eastern ethnicities, and only 16% of the participants held nationality outside of the US. 36% of female participants indicated adulthood anxiety, with most diagnosed participants having GAD, SAD, or PTSD. 30% of males indicated diagnosed adulthood anxiety. Keep in mind that our male population was significantly lower: only 13% of our sample was men. In regards to each person’s income (based on self-assessment), 36% of

middle-class participants are diagnosed with anxiety, and 44% of higher-middle-class are as well. 46% of low-income participants were diagnosed, and 48% of lower-middle-class individuals were diagnosed with anxiety. An optional Myers-Briggs Type Indicator (MBTI) assessment was proposed, and participating students allowed us to identify possible correlations between personality type and adopted anxiety symptoms. All ENFP participants (n = 4) had GAD, and 67% of INTJ participants had SAD, 29% of INFJs had a diagnosed anxiety disorder. All other personality types are omitted due to the small sample size. GPA, race, employment status, age, and nationality did not significantly correlate with current anxiety.

Inferential Statistics:

Regarding significant ACE questionnaire results, 59% had experienced verbal abuse during their childhood and 48% lived with someone who suffered from severe mental health issues (see Figure 1A-B). Of our sample, 30% felt that their caregiver did not love them and/or thought they were special, with 9% experiencing emotional, physical, and childhood neglect. Parental involvement was also seen in the following results: 33% of participants lost a parent through divorce, abandonment, or death, 19% lived with substance abuse victims (drugs and/or alcohol), and 16% lived/knew someone who went to jail. In terms of household violence, 34% of the participants indicated that they had been hit, beaten, kicked, or physically *harmed by their caregiver* and 27% indicated that their caregivers hit, punched, beat, or threatened violence toward another family member (i.e. domestic violence toward mother/father). 23% experienced unwanted sexual contact, but we did not clarify if this experience was within or outside of the household. 38% (33/88) of participants indicated a professional diagnosis of anxiety, most of

which were GAD. Some participants noted that they had not yet consulted their doctor, but they suspect that their anxiety-based behaviors are chronic.

The HAM-A scale rated *current* anxiety states, and while most participants did not indicate any anxiety symptoms, the severity scale suggests significance. When examining moderate to severe symptomology, the most observed symptom was worrisome anticipation, restlessness, sleep complications, social anxiety, memory/concentration difficulties, and anhedonia/general depression (see Figure 2A-B). Of the larger associations, 52% of participants indicated moderate to very severe insomnia symptoms, 54% indicated moderate restlessness, and 56% of participants indicated moderate fearful anticipation and high irritability. These statistics are not yet analyzed in interaction with their ACE score. Indirect symptoms were not as significant and can be represented by autonomic/peripheral nervous system activity, such as body stiffness, tinnitus, tachycardia, tension headaches, gastrointestinal issues, and dyspnea. However, when cross-referencing how these anxiety symptoms interact, our data suggested that poor memory consolidation, GI complications, muscle stiffness, fidgeting, lightheadedness, tachycardia, tinnitus, phobia, and anxiety states are strongly correlated with *moderate to severe depression symptomatology*. This presents comorbidity with anxiety and overlap of mental states: the more severe your symptomatology, the more likely you are to experience depression symptoms alongside anxiety, which had been referenced in earlier literature.

A Pearson's Bivariate correlational cross-analysis was conducted to investigate if particular ACE events predicted a particular anxiety symptom. When analyzing the data, we filtered out those who responded "no" or "not sure" to investigate only those who have been exposed to childhood adversity, the "yes" condition in the ACE questionnaire. We also analyzed only the participants who indicated moderate, severe, or very severe on the HAM-A

questionnaire (see Figure 3A-C). P-values were calculated to identify strong correlations, and highlighted cells indicate a frequency higher than half the anxious population.

For example, 75% of neglected participants have moderate to very severe irritability/worrisome anticipation (Figure 3A). 38% of participants in the ACE neglect condition indicated significant results related to *very severe* depression (p-value = 0.0019). 38% of this population also had severe concentration difficulties, moderate sleep complications, severe phobias, moderate restlessness, mild tinnitus, severe social anxiety, difficulty concentrating, and severe event anticipation/anxiety, but this data was nonsignificant. 35% of participants with moderate depression in this condition indicated moderate amounts of poor memory/difficulty concentrating. This shows the interaction of depression and anxiety at play. The results also indicated a significant relationship with tension headaches, pallor, and dry mouths (p = 0.0000118), an interesting finding in reference to the low frequency of indirect symptomology. Furthermore, 75% noted moderate to severe headache and hypertension symptoms, and 50% saw moderate issues with impotence/libido *and* stiffness/increased muscular tone, but increased pressure constriction (36%) was not a significant indirect symptom. Overall, this condition had the most instances of moderate to severe anxiety symptoms.

For the abandonment condition (where a parent is lost in divorce, death, or other causes) 32% of these participants reported mild GI issues and 46% reported moderate restlessness and tension. 71.5% presented moderate to severe irritability and 32% reported moderate social anxiety, which contributes to overall GAD and SAD symptomology. On the other hand, sexual assault victims seemed to bear the most trauma-induced anxiety, with 80% indicating *very severe* nightmares, insomnia, and sleep complications (p-value = 0.00602). 70% reported mild to very severe depression (p-value = 0.00205) and poor memory and concentration (p-value = 0.00449).

From the data, it is reasonable to determine that childhood neglect is one of the most serious traumatic events that can cause severe anxiety in adulthood. Imprisoned caregivers, family, or friends can highly impact the onset of anxiety too, as seen in Figure 3A-C. While most of the ACE sample indicated verbal abuse and living with mental health severity, those results implicated little correlation with long-term anxiety. Generally speaking, the more highlighted regions in Figure 3, the more anxiety symptoms across that ACE condition. Overall, direct and emotional-like anxieties were more present. This includes social anxiety, memory/concentration severity, anhedonia, and irritability/worrisome anticipation. However, sleep complications and body stiffness/twitching had the highest occurrences across the peripheral symptoms. These results imply a strong significance in terms of how childhood trauma, especially untreated, persists into adulthood anxiety states.

Discussion

The aim was to examine how childhood adversity and trauma can impact the onset and persistence of anxiety into adulthood. In support of our hypothesis, we found that a high ACE occurrence correlated strongly with anxiety in adulthood. In particular, poor memory, sleep issues, irritability/worrisome anticipation, depression, social anxiety, and body stiffness seemed to be the most observed anxiety symptoms. In regards to depression, it showed the comorbidity feature across different anxiety symptoms, such as memory consolidation, GI complications, muscle stiffness, fidgeting, lightheadedness, tachycardia, tinnitus, phobia, and anxiety states.

Limitations and Future Direction

Upon retrospective consideration, the questionnaire format was simple, but it provided some difficulty with creating data graphs. It would benefit us to know what one's self-report ACE score was for better analysis. While the records make it possible to access the ACE score, it was not organized well and made it difficult to calculate. Perhaps a different approach involving only one questionnaire or one style of analysis would benefit the study to better understand the implications of the data. Furthermore, our data cannot be completely generalized due to a lack of male participation and because the sample was pulled from a psychology class. This may impact our results because psychology students are more knowledgeable about mental states than the average college student.

It would benefit future literature to investigate how ACE can impact particular anxiety pathologies, such as PTSD or GAD. This would allow the identification of certain ACE events contributing to the development of long-term trauma and how it impacts the effectiveness of interventions and therapies. However, that is not to say our contribution is of naught. These results highlight the importance of childhood trauma interventions, and how psychology can prevent severe anxiety.

ACE events are still highly observable in the world, and their traumatizing properties have been implicated in the development and persistence of anxiety. We found that ACE occurrences correlate strongly with adulthood anxiety, and that emotional and amygdala-mediated symptoms tended to be more observable. These findings will help the early diagnosis of potential precursors to mental illness, as well as methods for children to feel seen, listened to, and heard. While PTSD, SAD, GAD, and OCD still persist today, implementing the ACE scale with aid with psychiatric diagnosis and methods for effective intervention.

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Appendix

Figure 1A

| Adverse Childhood Experience | Yes | No | Not Sure |
|--|------------|-----------|-----------------|
| <i>Did you feel that you didn't have enough to eat, had to wear dirty clothes, or had no one to protect or take care of you?</i> | 9% | 91% | N/A |
| <i>Did you lose a parent through divorce, abandonment, death, or other reasons?</i> | 33% | 67% | N/A |
| <i>Did you live with anyone who was depressed, mentally ill, or attempted suicide?</i> | 48% | 49% | 3% |
| <i>Did you live with anyone who had a problem with drinking or using drugs, including prescription drugs?</i> | 19% | 80% | 1% |
| <i>Did your parents or adults in your home ever hit, punch, beat, or threaten to harm each other?</i> | 27% | 70% | 3% |
| <i>Did you live with anyone who went to jail or prison?</i> | 16% | 83% | 1% |
| <i>Did a parent or adult in your home ever swear at you, insult you, or put you down?</i> | 59% | 41% | N/A |
| <i>Did a parent or adult in your home ever hit, beat, kick, or physically hurt you in any way?</i> | 34% | 66% | N/A |
| <i>Did you feel that no one in your family loved you or thought you were special?</i> | 30% | 67% | 2% |
| <i>Did you experience unwanted sexual contact (such as fondling or oral/anal/vaginal intercourse/penetration)?</i> | 23% | 74% | 2% |

Figure 1B

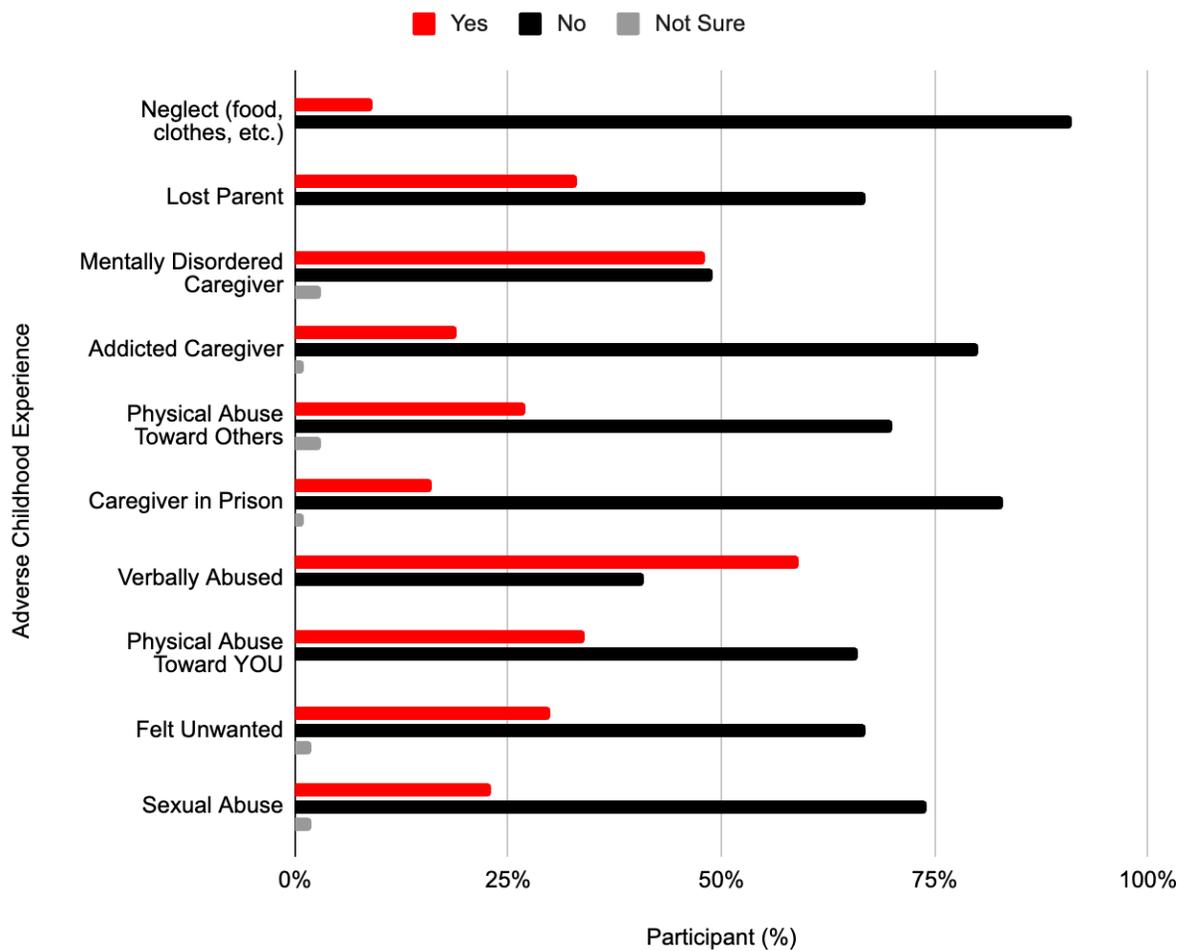


Figure 2A

| Hamilton Anxiety Scale | Not present | Mild | Moderate | Severe | Very severe |
|---|-------------|-----------|-----------|--------|-------------|
| <i>Fearful/worrisome anticipation of events; high irritability.</i> | 21 | 16 | 26 | 15 | 6 |
| <i>Pressure/chest constriction, choking, sighing, and/or dyspnea.</i> | 62 | 14 | 5 | 3 | 1 |
| <i>Difficulty for swallowing, burning sensations, abdomin...</i> | 58 | 16 | 5 | 6 | 0 |

| | | | | | |
|--|----|-----------|-----------|-----------|----|
| <i>Dry mouth, flushing, pallor, tendency to sweat, giddiness, tension headache...</i> | 52 | 16 | 11 | 4 | 2 |
| <i>Frequency of urination, urgency, development of frigidity, premature ejacul...</i> | 58 | 12 | 9 | 5 | 1 |
| <i>Fidgeting, foot bouncing, pacing, hand tremor, furrowed brows, excessive sw...</i> | 37 | 16 | 15 | 11 | 6 |
| <i>Easily startled, easily moved to tears, restless, inability to relax, and/o...</i> | 27 | 13 | 28 | 10 | 7 |
| <i>Fear of dark, strangers, social interaction, being left alone/abandonment,...</i> | 26 | 17 | 21 | 16 | 5 |
| <i>Difficulty to fall asleep, broken sleep, unsatisfying sleep, and/or fatigue...</i> | 28 | 13 | 25 | 9 | 10 |
| <i>Difficulty concentrating and/or poor memory.</i> | 22 | 21 | 17 | 20 | 5 |
| <i>Loss of interest, lack of pleasure in hobbies, early waking, diurnal swinging, and/or lack of motivation.</i> | 32 | 17 | 18 | 13 | 5 |
| <i>Pains, aches, twitching, stiffness, jerking, grinding of teeth, unsteady vo...</i> | 43 | 17 | 14 | 7 | 4 |
| <i>Tinnitus, blurring of vision, hot/cold flashes, and/or feelings of pricklin...</i> | 55 | 18 | 6 | 3 | 2 |
| <i>Tachycardia, palpitations, pain in chest, throbbing of vessels, fainting fe...</i> | 54 | 18 | 7 | 5 | 1 |

Figure 2B

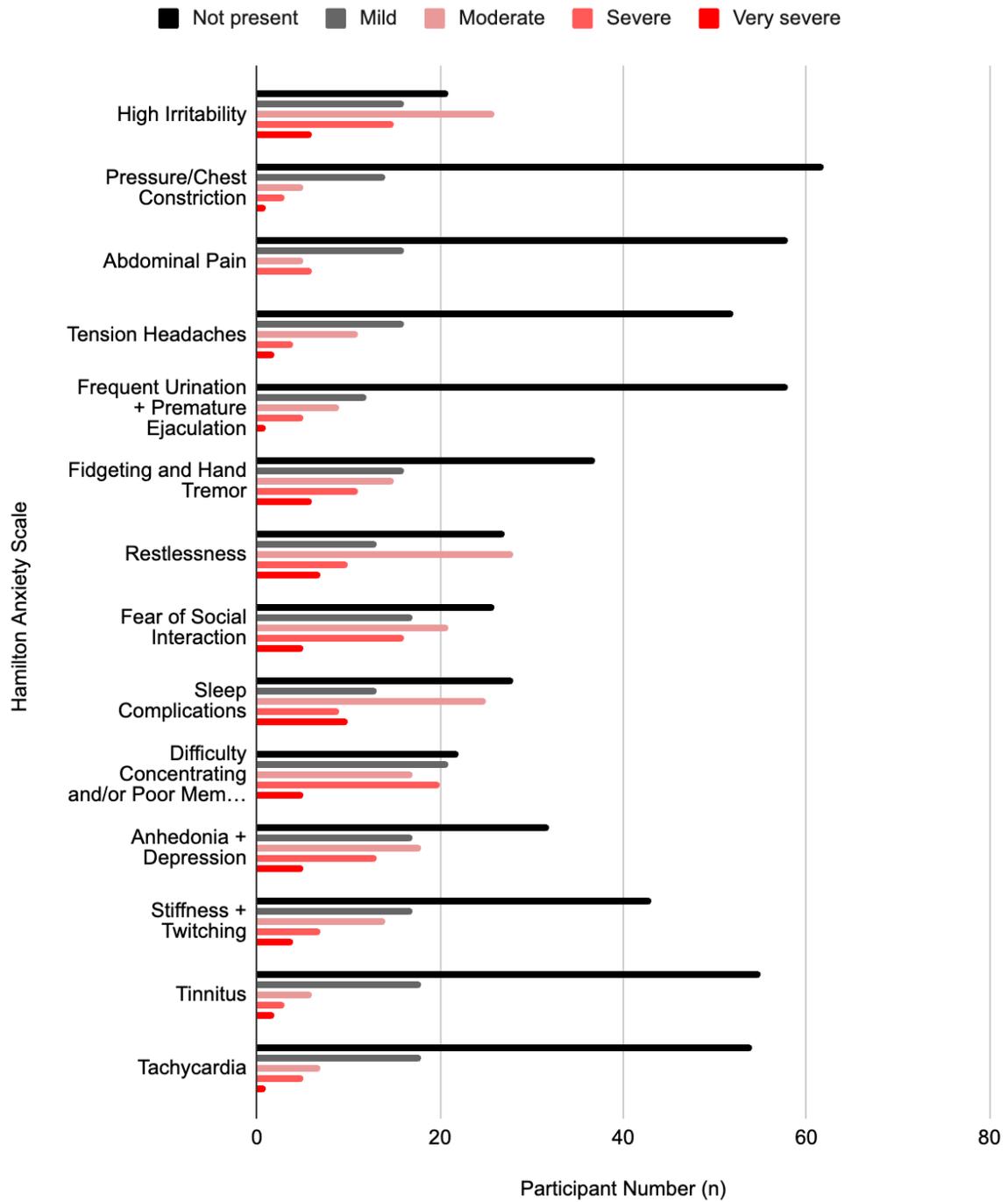


Figure 3A

| Adverse Childhood Experience | <i>High Irritability + Worrisome Anticipation</i> | <i>Pressure/Chest Constriction</i> | <i>Abdominal Pain</i> | <i>Tension Headaches</i> | <i>Frequent Urination + Premature Ejaculation</i> |
|--------------------------------------|---|---|---|---|---|
| <i>Sexual Abuse</i> | Moderate: 30% Severe: 20% Very Severe: 25% | Moderate: 30% Severe: 10% Very Severe: 5% | Moderate: 10% Severe: 10% Very Severe: 0% | Moderate: 15% Severe: 10% Very Severe: 5% | Moderate: 25% Severe: 10% Very Severe: 0% |
| <i>Felt Unwanted</i> | Moderate: 36% Severe: 36% Very Severe: 12% | Moderate: 11.5% Severe: 11.5% Very Severe: 0% | Moderate: 11.5% Severe: 7.7% Very Severe: 0% | Moderate: 15.4% Severe: 15.4% Very Severe: 0% | Moderate: 19.2% Severe: 3.8% Very Severe: 3.8% |
| <i>Physical Abuse Toward YOU</i> | Moderate: 28.6% Severe: 35.7% Very Severe: 7.1% | Moderate: 13.8% Severe: 3.4% Very Severe: 0% | Moderate: 24.1% Severe: 6.9% Very Severe: 17.2% | Moderate: 13.8% Severe: 10.3% Very Severe: 0% | Moderate: 17.2% Severe: 3.4% Very Severe: 3.4% |
| <i>Verbally Abused</i> | Moderate: 28.6% Severe: 20.4% Very Severe: 12.2% | Moderate: 8% Severe: 6% Very Severe: 2% | Moderate: 20% Severe: 6% Very Severe: 10% | Moderate: 14% Severe: 8% Very Severe: 4% | Moderate: 12% Severe: 6% Very Severe: 2% |
| <i>Caregiver in Prison</i> | Moderate: 28.6% Severe: 50% Very Severe: 7.1% | Moderate: 21.4% Severe: 7.1% Very Severe: 0% | Moderate: 50% Severe: 14.3% Very Severe: 7.1% | Moderate: 28.6% Severe: 21.4% Very Severe: 0% | Moderate: 14.3% Severe: 14.3% Very Severe: 7.1% |
| <i>Physical Abuse Toward Others</i> | Moderate: 30.4% Severe: 30.4% Very Severe: 17.4% | Moderate: 4.3% Severe: 4.3% Very Severe: 0% | Moderate: 4.3% Severe: 13% Very Severe: 0% | Moderate: 17.4% Severe: 8.7% Very Severe: 4.3% | Moderate: 8.7% Severe: 8.7% Very Severe: 4.3% |
| <i>Addicted Caregiver</i> | Moderate: 18.8% Severe: 43.8% Very Severe: 6.3% | Moderate: 18.8% Severe: 6.3% Very Severe: 0% | Moderate: 12.5% Severe: 12.5% Very Severe: 0% | Moderate: 31.3% Severe: 18.8% Very Severe: 0% | Moderate: 6.3% Severe: 6.3% Very Severe: 6.3% |
| <i>Mentally Disordered Caregiver</i> | Moderate: 26.8% Severe: 31.7% Very Severe: 14.6% | Moderate: 7.3% Severe: 7.3% Very Severe: 2.4% | Moderate: 26.8% Severe: 7.3% Very Severe: 9.8% | Moderate: 12.2% Severe: 9.8% Very Severe: 4.9% | Moderate: 12.2% Severe: 9.8% Very Severe: 2.4% |
| <i>Lost Parent</i> | Moderate: 28.6% Severe: 28.6% Very Severe: 14.3% | Moderate: 10.7% Severe: 3.6% Very Severe: 0% | Moderate: 10.7% Severe: 10.7% Very Severe: 0% | Moderate: 14.3% Severe: 14.3% Very Severe: 3.6% | Moderate: 17.9% Severe: 7.1% Very Severe: 3.6% |
| <i>Neglect (food, clothes, etc.)</i> | Moderate: 12.5% Severe: 37.5% Very Severe: 25% | Moderate: 25% Severe: 12.5% Very Severe: 0% | Moderate: 25% Severe: 25% Very Severe: 25% | Moderate: 37.5% Severe: 37.5% Very Severe: 0% | Moderate: 50% Severe: 12.5% Very Severe: 0% |

Figure 3B

| Adverse Childhood Experience | Percent of Those Who Indicated "Yes" Participants | | | | |
|--------------------------------------|--|---|---|---|---|
| | <i>Frequent Urination + Premature Ejaculation</i> | <i>Fidgeting and Hand Tremor</i> | <i>Restlessness</i> | <i>Fear of Social Interaction</i> | <i>Sleep Complications</i> |
| <i>Sexual Abuse</i> | Moderate: 25% Severe: 10% Very Severe: 0% | Moderate: 15% Severe: 25% Very Severe: 20% | Moderate: 20% Severe: 25% Very Severe: 20% | Moderate: 20% Severe: 30% Very Severe: 15% | Moderate: 20% Severe: 33% Very Severe: 80%* |
| <i>Felt Unwanted</i> | Moderate: 19.2% Severe: 3.8% Very Severe: 3.8% | Moderate: 19.2% Severe: 19.2% Very Severe: 15.4% | Moderate: 26.9% Severe: 19.2% Very Severe: 11.5% | Moderate: 26.9% Severe: 26.9% Very Severe: 7.7% | Moderate: 30.8% Severe: 15.4% Very Severe: 23.1% |
| <i>Physical Abuse Toward YOU</i> | Moderate: 17.2% Severe: 3.4% Very Severe: 3.4% | Moderate: 20.7% Severe: 17.2% Very Severe: 13.8% | Moderate: 31% Severe: 17.2% Very Severe: 10.3% | Moderate: 17.2% Severe: 13.8% Very Severe: 34.5% | Moderate: 20.7% Severe: 17.2% Very Severe: 27.6% |
| <i>Verbally Abused</i> | Moderate: 12% Severe: 6% Very Severe: 2% | Moderate: 16% Severe: 18% Very Severe: 12% | Moderate: 28% Severe: 16% Very Severe: 14% | Moderate: 24% Severe: 22% Very Severe: 10% | Moderate: 24% Severe: 10% Very Severe: 18% |
| <i>Caregiver in Prison</i> | Moderate: 14.3% Severe: 14.3% Very Severe: 7.1% | Moderate: 35.7% Severe: 28.6% Very Severe: 7.1% | Moderate: 21.4% Severe: 35.7% Very Severe: 21.4% | Moderate: 21.4% Severe: 42.9% Very Severe: 7.1% | Moderate: 28.6% Severe: 21.4% Very Severe: 21.4% |
| <i>Physical Abuse Toward Others</i> | Moderate: 8.7% Severe: 8.7% Very Severe: 4.3% | Moderate: 17.4% Severe: 17.4% Very Severe: 13% | Moderate: 34.8% Severe: 17.4% Very Severe: 13% | Moderate: 34.8% Severe: 21.7% Very Severe: 8.7% | Moderate: 17.4% Severe: 21.7% Very Severe: 17.4% |
| <i>Addicted Caregiver</i> | Moderate: 6.3% Severe: 6.3% Very Severe: 6.3% | Moderate: 18.8% Severe: 25% Very Severe: 0% | Moderate: 25% Severe: 31.3% Very Severe: 6.3% | Moderate: 18.8% Severe: 37.5% Very Severe: 0% | Moderate: 31.3% Severe: 25% Very Severe: 18.8% |
| <i>Mentally Disordered Caregiver</i> | Moderate: 12.2% Severe: 9.8% Very Severe: 2.4% | Moderate: 14.6% Severe: 19.5% Very Severe: 12.2% | Moderate: 29.3% Severe: 19.5% Very Severe: 14.6% | Moderate: 24.4% Severe: 24.4% Very Severe: 7.3% | Moderate: 24.4% Severe: 19.5% Very Severe: 17.1% |
| <i>Lost Parent</i> | Moderate: 17.9% Severe: 7.1% Very Severe: 3.6% | Moderate: 14.3% Severe: 21.4% Very Severe: 10.7% | Moderate: 46.4% Severe: 14.3% Very Severe: 14.3% | Moderate: 32.1% Severe: 21.4% Very Severe: 7.1% | Moderate: 17.9% Severe: 25% Very Severe: 14.3% |
| <i>Neglect (food, clothes, etc.)</i> | Moderate: 50% Severe: 12.5% Very Severe: 0% | Moderate: 12.5% Severe: 37.5% Very Severe: 12.5% | Moderate: 37.5% Severe: 25% Very Severe: 12.5% | Moderate: 25% Severe: 37.5% Very Severe: 12.5% | Moderate: 37.5% Severe: 25% Very Severe: 25% |

Figure 3C

| Adverse Childhood Experience | <i>Difficulty Concentrating and/or Poor Memory.</i> | <i>*Anhedonia + Depression</i> | <i>Stiffness + Twitching</i> | <i>Tinnitus</i> | <i>Tachycardia</i> |
|--------------------------------------|---|---|---|---|--|
| <i>Sexual Abuse</i> | Moderate: 25% Severe: 25% Very Severe: 25% | Moderate: 15% Severe: 15% Very Severe: 25% | Moderate: 20% Severe: 25% Very Severe: 10% | Moderate: 10% Severe: 10% Very Severe: 10% | Moderate: 15% Severe: 15% Very Severe: 5% |
| <i>Felt Unwanted</i> | Moderate: 26.7% Severe: 42.3% Very Severe: 11.5% | Moderate: 26.9% Severe: 23.1% Very Severe: 15.4% | Moderate: 34.6% Severe: 11.5% Very Severe: 7.7% | Moderate: 11.5% Severe: 11.5% Very Severe: 0% | Moderate: 11.5% Severe: 11.5% Very Severe: 0% |
| <i>Physical Abuse Toward YOU</i> | Moderate: 31.0% Severe: 34.5% Very Severe: 10.3% | Moderate: 24.1% Severe: 20.7% Very Severe: 13.8% | Moderate: 24.1% Severe: 13.8% Very Severe: 6.9% | Moderate: 13.8% Severe: 10.3% Very Severe: 3.4% | Moderate: 13.8% Severe: 13.8% Very Severe: 0% |
| <i>Verbally Abused</i> | Moderate: 26% Severe: 28% Very Severe: 8% | Moderate: 22% Severe: 14% Very Severe: 10% | Moderate: 18% Severe: 10% Very Severe: 8% | Moderate: 10% Severe: 6% Very Severe: 4% | Moderate: 10% Severe: 8% Very Severe: 2% |
| <i>Caregiver in Prison</i> | Moderate: 28.6% Severe: 42.9% Very Severe: 7.1% | Moderate: 21.4% Severe: 21.4% Very Severe: 14.3% | Moderate: 21.4% Severe: 35.7% Very Severe: 21.4% | Moderate: 21.4% Severe: 14.3% Very Severe: 0% | Moderate: 7.1% Severe: 14.3% Very Severe: 0% |
| <i>Physical Abuse Toward Others</i> | Moderate: 34.8% Severe: 34.8% Very Severe: 0% | Moderate: 17.4% Severe: 26.1% Very Severe: 8.7% | Moderate: 21.7% Severe: 13% Very Severe: 4.3% | Moderate: 13% Severe: 8.7% Very Severe: 0% | Moderate: 0% Severe: 8.7% Very Severe: 0% |
| <i>Addicted Caregiver</i> | Moderate: 25% Severe: 37.5% Very Severe: 6.3% | Moderate: 25% Severe: 12.5% Very Severe: 18.8% | Moderate: 31.3% Severe: 12.5% Very Severe: 21.5% | Moderate: 6.3% Severe: 12.5% Very Severe: 0% | Moderate: 6.3% Severe: 6.3% Very Severe: 0% |
| <i>Mentally Disordered Caregiver</i> | Moderate: 26.8% Severe: 34.1% Very Severe: 7.3% | Moderate: 22% Severe: 22% Very Severe: 12.2% | Moderate: 24.4% Severe: 14.6% Very Severe: 9.8% | Moderate: 7.3% Severe: 7.3% Very Severe: 2.4% | Moderate: 9.8% Severe: 7.3% Very Severe: 2.4% |
| <i>Lost Parent</i> | Moderate: 25% Severe: 39.3% Very Severe: 3.6% | Moderate: 25% Severe: 21.4% Very Severe: 10.7% | Moderate: 21.4% Severe: 17.9% Very Severe: 10.7% | Moderate: 10.7% Severe: 7.1% Very Severe: 0% | Moderate: 3.6% Severe: 10.7% Very Severe: 0% |
| <i>Neglect (food, clothes, etc.)</i> | Moderate: 25% Severe: 37.5% Very Severe: 12.5% | Moderate: 25% Severe: 0% Very Severe: 37.5% | Moderate: 50% Severe: 12.5% Very Severe: 12.5% | Moderate: 12.5% Severe: 12.5% Very Severe: 12.5% | Moderate: 12.5% Severe: 25% Very Severe: 0% |