

Adverse Childhood Experiences Lead to Depression

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Abstract

This study focuses on Adverse Childhood Experiences (ACE) and the link between adulthood depression in the Hispanic culture. The two variables, ACE scores and depression, will be evaluated and examine how they correlate with one another. This study hypothesizes how the higher the ACE score an individual has, the more likely they are to experience depression as an adult. The target population will be hispanic individuals above the age of 25. The reason behind wanting to focus on the Hispanic culture is because past studies have mainly focused on predominantly white cultures and because individuals need to understand the full impact of their experiences and how better approaches can be created to help them address their potential trauma and mental illness. This study further investigates how impactful childhood experiences have on an individual's adulthood and how it can be helpful for practitioners to better understand their clients in a way that can be beneficial for both client and practitioner. It is important to study all populations, not just the majority group, in the United States so that research will not be overgeneralized.

Introduction

In past studies involving adverse childhood experiences many researchers have used variations of the Adverse Childhood Experiences (ACE) Questionnaire as a tool to measure the amount of trauma an individual has experienced (Chapman et al., 2004; Felitti et al., 1998; Merrick et al., 2017). Chapman's study (2004) was done on individuals with an average age of 57 that focused on ACE scores and depression. What they found was that the negative effects of ACEs persisted for decades after the occurrence of the ACEs. This provides support for and understanding of how impactful ACEs can be on individuals' mental health. The original ACE Questionnaire (Felitti et al., 1998) was originally designed to explain how the trauma an

individual experiences can put them at risk for chronic health issues. The researchers found that there is a positive correlation between an individual's ACE score and their risk for physical, social, or mental problems.

According to the Centers for Disease Control (CDC), from 2013-2016, 8.1% of American adults experienced depression in a two week span (Brody, Pratt, & Hughes, 2018). There is such a high frequency of depression in the United States that it is even one of the top 10 causes of disease according to the findings of the World Health Organization's Global Burden of Disease Study (Murray et al., 2013). These show how prevalent mental disease, especially depression, is in the United States. Since mental issues are common, social workers will most likely have many clients that live with depression. One social work goal is to understand those experiencing mental health issues; therefore, seeing how past experiences can affect mental health is very important in understanding how to take steps to further help our clients gain tools in order to be more resilient.

This research study has a few factors that are unique and different to studies done in the past relating to adverse childhood experiences and depression. In past ACE studies have had predominantly white target populations. As stated above researches have found that the higher an individual scores on the ACE Questionnaire the more predisposed individuals are to having mental or physical health risks. Since different cultures and populations experience trauma differently, this study will expand to multiple cultures and groups of adults at the age of 25 and up in order to gain a broader understanding of the effects ACE has on adults with fully developed brains.

Literature Review

Understanding Adverse Childhood Experiences & Depression

In this study the independent variable is the adverse childhood experience (ACE) score. An adverse childhood experience score is the sum of experiences before 18 years of age that hinder an individual's ability to develop. These experiences include things like physical abuse, emotional abuse, neglect, etc. that are categorized in order to better evaluate the effect of an ACE. The original intention of the ACE study was to assess whether there is a correlation between childhood experiences and multiple physical and mental health outcomes (Felitti et al., 1998). This study will focus on the correlation between adverse childhood experiences and adulthood depression.

The dependent variable is the presence of depression in adulthood. Several studies have used questions as an instrument to evaluate how often and the severity of an individual's depression (Chapman et al., 2004; Mersky, Topitzes, & Reynolds, 2013; Nurius, Green, Logan-Greene, & Borja, 2015). The studies all highlighted key emotions like sadness, hopelessness, restlessness, etc.

The Effect of Adverse Childhood Experiences on Depression

While examining the relationship between ACE scores and adulthood depression, it is important to keep in mind the different effects ACEs can have on different populations. While examining the relationship between ACE scores and adulthood depression, it is important to keep in mind the different effects ACEs can have on different populations. The amygdala is associated with the experiencing of emotions and the recollection of emotionally charged experiences. It is important to consider this factor when working with trauma survivors, because it can help explain the possible disparities between men and women's results (Goldman, 2017). Past studies

have indicated that emotional abuse has the strongest connection to depression in adulthood (Chapman et al., 2004). Researchers have identified this form of abuse as the largest risk factor out of all the ACEs tested due to the fact that individuals who reported experiencing emotional abuse had a 5.59 times increased chance of reporting attempted suicide (Merrick et al., 2017). This shows that a change in the independent variable, such as a different form a trauma, can cause a change in the other variable. Social support also influences the effect childhood experiences has on an individual (Horner, 2010). Two individuals with the same ACE score could experience different life outcomes due to the differences in their environments and personal support systems.

Many studies (Chapman et al., 2007; Heim et al., 2004; Wise et al. 2001) agree that there is a direct relationship between ACE scores and depression. According to Heim (2008), the clinical studies have shown that childhood trauma is associated with neurological signs common with depression. Neurologically speaking, there are physical signs and proof that trauma and adverse childhood experiences affect the brain in many ways including altering brain chemistry that can result in depression. During childhood development there are critical periods where the brain is more susceptible to neurological damage. Past researches have found that “stress or emotional trauma during development permanently shapes the brain regions that mediate stress and emotion, leading to altered emotional processing and heightened responsiveness to stress, which in the genetically vulnerable individual may then evolve into psychiatric disorders, such as depression” (Heim et al., 2004, p. 642). This shows how someone’s early life experiences can have long lasting effects that reach into adulthood.

Research Question & Hypothesis

This study will further explore the research question: Is there a direct relationship between individuals' ACE scores and their predisposition to adulthood depression? The target population will include individuals that are Hispanic in the United States and that are twenty five years of age and up.

Supported by previous studies involving these two variables (Heim et al., 2008; Heim et al., 2004; Chapman et al., 2007; Wise et al. 2001;), there is a direct and positive relationship between individuals' ACE scores and adulthood depression in the Hispanic culture in the United States. Therefore, this study hypothesizes that if an individual has experienced or been exposed to more adverse childhood experiences (the higher their ACE score), then the more likely they are to experience depression in their adulthood and vice versa.

Research Methods

Research Design

For this study, the method that will be used is the Quantitative Method design that will involve gathering data only one time through online surveys (one to measure each variable). The study will begin by focusing on the independent variable (ACE score) which will be gathered using a survey. This will be followed up by another survey that will collect data by asking questions about the individual's depression, the dependent variable. After collecting all of the data it will be interpreted to see if there is a correlation between the variables.

The data will be analyzed to see if there is a pattern or correlation, for example, whether or not there is a general pattern of high ACE scores and a high presence of depression in individuals as adults and vice versa. In order to analyze the data, the scores of each survey will

be compiled into graphs that allow clear and easy comparisons of the results. This will help to better see the trends, if there are any, and to make better comparisons of the results.

Participants

For this study, data will be collected from individuals who are at the age of 25 years old and above in and around Manhattan, Kansas. Individuals must also identify as a Hispanic American who were born and raised in the United States, in order to avoid having inconclusive results due to immigration factors. When looking for participants, the goal is to obtain a large group of about 100 participants in order to gain more accurate results that better reflect the demographic that we are studying.

Measurements

This study will use the ACE questionnaire sponsored by the CDC and Kaiser Permanente (Felitti et al., 1998). The ACE Questionnaire is a set of questions that addresses ten different types of trauma. Five types of trauma are personal: physical abuse, verbal abuse, sexual abuse, physical neglect, and emotional neglect. The other five types are relating to family members and how their abuse or neglect affects the individual. Past researchers have tested the validity of this measuring tool by comparing responder and non-responder demographics and health history. The reliability of the ACE questionnaire was tested by applying Cronbach's alpha and resulted in a score of 0.78. Since this score is greater 0.6 it proves to be an acceptable reliability (Ford et al., 2014). The responses to the questionnaire were changed from yes and no answers to a scale that allows the responder to report the frequency of the event (Never = 0, almost never = 1, sometimes = 2, often = 3, always = 4). This change was made because the frequency of the traumatic event could affect the person's risk of developing a mental disorder. The formatting of

the questions also had to be changed in order to better fit the revisions that were made. In a previous study (Bethell et al., 2017), *adverse childhood experience (ACE) score* is collected by calculating the sum of affirmative responses to the questions on a self-administered survey that has questions pertaining to the ten ACE categories in a childhood household before 18 years of age. In this study the total score is calculated by adding up the sum. Once an individual's ACE score reaches 12, their chances of developing physical health problems are increased (Felitti et al., 1998).

Depression was measured by using Patient Health Questionnaire-9: Screening Instrument for Depression (Nease & Maloin, 2003). This survey asks the responder to self-evaluate their current mental state through nine questions that help assess the degree of depression severity. Each question also evaluates the frequency of the depressive tendencies (not at all = 0, several days = 1, more than half the days = 2, nearly every day = 3) (Nease & Maloin, 2003). In this study the total score is calculated by adding up the sum. The survey will take anywhere from five to ten minutes to complete. The type of questions that will be addressed in the survey will be related, but not limited to, how they were treated by household members, and if they (or anyone in the home) were ever physically/sexually harmed etc. After participants complete the survey, the overall score will be added up by the participant at the end of the survey.

Data Collection Procedures

To gain participants for this study, we will start by reaching out to the Hispanic community through churches and community centers throughout Manhattan, Kansas and the surrounding areas until the goal of 100 participants is reached. We will inform them about our study and explain how this online survey will help researchers find the link between Adverse

Childhood Experiences (ACE) and adulthood depression. For participants who are interested in doing the survey, we will collect their email information and send them a link of the Consent Form and an English and Spanish version of the ACE questionnaire. If participants do not have access to technology required to complete the survey, they will complete the survey over the phone and be asked the same questions from the online survey. When looking for participants, we hope to obtain a large group of participants in order to gain more accurate results that better reflect the demographic that we are studying.

Expected Results

The expected result from this study is that there will be a strong positive relationship between individual's ACE scores and their probability of having a depressive disorder. It is expected that the higher the ACE score the individual has will result in a higher score on the depression survey.

According to Chapman et al's study (2004), researchers found that specifically childhood emotional abuse increased the risk for lifetime depressive disorders. This current study hypothesizes that childhood experiences will affect the mental state of individuals which is expected to produce results of having a positive correlation between the two variables. Not only does the age at which abuse happens affect the risk of depressive disorders but the amount of the stress and/or abuse. Negative experiences and stress can affect the brain in ways that can result in symptoms of depression and/or other mental disorders (Heim et al., 2004). These findings further support the current study's hypothesis that adverse childhood experiences affect the mental state of individuals when they are adults even neurobiologically.

Conclusion & Limitations

This study proposes to investigate Adverse Childhood Experiences (ACE) and adulthood depression within the Hispanic community. The purpose of this study was to see how these two variables correlate with each other. The hypothesis explains that the higher the ACE score an individual has the more likely they are to have depression in adulthood. An ACE questionnaire (Felitti et al., 1998) is adopted and the measurement tool changed to see how often they experienced the 10 types of Adverse Childhood Experiences instead of yes/no answers. A Patient Health Questionnaire-9: Screening Instrument for Depression (Nease & Maloin, 2003) is also used to measure depression. The way this current study is unique and different from past studies is that other studies have mainly looked at predominantly white populations, but this study focuses mainly on the Hispanic population and how it compares to other populations that have been more studied. The expected finding is that there will be a positive relationship between the two variables which is further supported by previous studies (Chapman et al., 2004; Heim et al., 2004). The potential impact of this study is that it can help Hispanic Americans understand the full impact of their past experiences and how better approaches can be created to help people address their personal trauma and mental illness.

One major limitation in this study is that it does not include how acculturations affects the participants of the study. This factor could have an effect on our results since negative acculturative experiences can also contribute to negative mental health outcomes (Kaplan & Marks, 1990). Another limitation is that the instrument (Bethell et al., 2017; Nease & Maloin, 2003) has no way of measuring community violence. The ACE questionnaire used only asks about childhood experiences in the participants' households, but it did not look at other aspects of the environment they were raised in that could provide additional stressors in their life. Future

studies on this subject could adapt an instrument to also measure the community violence participants may have experienced in their childhood.

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Appendix A: Survey Questionnaire

Difficult Experiences Childhood Lead to Depression

The following questions below are asking you about events while you were growing up (during your first 18 years of life). These experiences involve things that might make you feel uncomfortable but try to answer them honestly and as best as you can. If you feel uncomfortable answering any of the questions, feel free to skip them or take a short break.

1. Did a parent or other adult in the household ever 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?

Never Almost Never Sometimes Often Always

2. Did a parent or other adult in the household ever push, grab, slap, or throw something at you or hit you so hard that you had marks or were injured?

Never Almost Never Sometimes Often Always

3. 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 try to or actually have oral, anal, or vaginal sex with you?

Never Almost Never Sometimes Often Always

4. Did you ever 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?

Never Almost Never Sometimes Often Always

5. Did you ever 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?

Never Almost Never Sometimes Often Always

6. Were your parents ever separated or divorced?

Never Almost Never Sometimes Often Always

7. Has your mother or stepmother ever been pushed, grabbed, slapped, or had something thrown at her or has ever been kicked, bitten, hit with a fist, or hit with something hard or has ever been repeatedly hit over at least a few minutes or threatened with a gun or knife?

Never Almost Never Sometimes Often Always

8. Did you live with anyone who was a problem drinker or alcoholic or who used street drugs?

Never Almost Never Sometimes Often Always

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

Never Almost Never Sometimes Often Always

10. Did a household member go to prison?

Never Almost Never Sometimes Often Always

The next set of questions below are asking you about feelings or experiences you are experiencing now or have experienced lately. These experiences involve things that might make you feel uncomfortable but try to answer them honestly and as best as you can. If you feel uncomfortable answering any of the questions, feel free to skip them or take a short break.

1. Little interest or pleasure in doing things?

Not at all=0 Several days=1 More than half the days=2 Nearly everyday=3

2. Feeling down, depressed, or hopeless?

Not at all=0 Several days=1 More than half the days=2 Nearly everyday=3

3. Trouble falling asleep or staying asleep, or sleeping too much?

Not at all=0 Several days=1 More than half the days=2 Nearly everyday=3

4. Feeling tired or having little energy?

Not at all=0 Several days=1 More than half the days=2 Nearly everyday=3

5. Poor appetite or overeating?

Not at all=0 Several days=1 More than half the days=2 Nearly everyday=3

6. Feeling bad about yourself - or that you are a failure or have let yourself or your family down?

Not at all=0 Several days=1 More than half the days=2 Nearly everyday=3

7. Trouble concentrating on things, such as reading or watching television?

Not at all=0 Several days=1 More than half the days=2 Nearly everyday=3

8. Moving or speaking so slowly that other people could have noticed? Or so fidgety or restless that you have been moving a lot more than usual?

Not at all=0 Several days=1 More than half the days=2 Nearly everyday=3

9. Thoughts that you would be better off dead, or thoughts of hurting yourself in some way?

Not at all=0 Several days=1 More than half the days=2 Nearly everyday=3

Appendix B: Consent Form

CONSENT FORM

PROJECT TITLE: Adverse Childhood Experiences Lead to Depression

PROJECT APPROVAL DATE: May 2019

PROJECT EXPIRATION DATE: August 2019 - February 2020

LENGTH OF STUDY: 6 Months

PRINCIPAL INVESTIGATOR: Dr. Sim Jun

CO-INVESTIGATOR(S): Colette Shields, Brooklyn Jesseph, Macy Heinrich

CONTACT DETAILS FOR PROBLEMS/QUESTIONS:

IRB CHAIR CONTACT INFORMATION: *For the subject should he/she have questions or wish to discuss on any aspect of the research with an official of the university or the IRB. These are:* Rick Scheidt, Chair, Committee on Research Involving Human Subjects, 203 Fairchild Hall, Kansas State University, Manhattan, KS 66506, (785) 532-3224; Cheryl Doerr, Associate Vice President for Research Compliance, 203 Fairchild Hall, Kansas State University, Manhattan, KS 66506, (785) 532-3224.

PROJECT SPONSOR: Kansas State University

PURPOSE OF THE RESEARCH: To see if there is a connection between adverse childhood experiences and depression in adulthood. To better understand the risks childhood trauma can pose on individuals' mental health.

PROCEDURES OR METHODS TO BE USED: Self-administered test that asks 10 questions about the participants' experiences before the age of 18. These questions cover the most common forms of trauma.

BIOLOGICAL SAMPLES COLLECTED (describe procedure, storage, etc): Surveys will be collected and results will be compiled in order to clearly compare the data. Surveys will be stored in a non-accessible location where only the researchers will have access.

ALTERNATIVE PROCEDURES OR TREATMENTS, IF ANY, THAT MIGHT BE

ADVANTAGEOUS TO SUBJECT: A formal trauma screening completed by a mental health professional.

RISKS OR DISCOMFORTS ANTICIPATED: Some questions may cause emotional stress by resurfacing past traumatic experiences. To reduce risks, if you are feeling uncomfortable at any time, take a break and come back to the survey when you are ready. We encourage you to complete the survey, but if it becomes too overwhelming, feel free to end the survey at any time.

BENEFITS ANTICIPATED: Become self-aware of past life stressors and how they may continue to affect your mental health in your adult life.

EXTENT OF CONFIDENTIALITY: Results will not be linked to specific names; therefore, only the researchers that collect the data will have this information. Researchers will not have consent to share this information.

IS COMPENSATION OR MEDICAL TREATMENT AVAILABLE Yes No

IF INJURY OCCURS? Emotional Distress and Vulnerability

PARENTAL APPROVAL FOR MINORS:

**PARENT/GUARDIAN
APPROVAL
SIGNATURE:** _____

DATE:

Terms of participation: I understand this project is research, and that my participation is voluntary. I also understand that if I decide to participate in this study, I may withdraw my consent at any time, and stop participating at any time without explanation, penalty, or loss of benefits, or academic standing to which I may otherwise be entitled.

I verify that my signature below indicates that I have read and understand this consent form, and willingly agree to participate in this study under the terms described, and that my signature acknowledges that I have received a signed and dated copy of this consent form.

(Remember that it is a requirement for the P.I. to maintain a signed and dated copy of the same consent form signed and kept by the participant).

PARTICIPANT NAME:

PARTICIPANT SIGNATURE:

DATE:

**WITNESS TO SIGNATURE:
(PROJECT STAFF)**

DATE: