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CHILDHOOD EMOTIONAL ABUSE IN RELATION TO CERTAIN DSM DISORDERS

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University of Northern Colorado
Greeley, Colorado

CHILDHOOD EMOTIONAL ABUSE IN RELATION TO CERTAIN DSM DISORDERS

A Thesis
Submitted in Partial
Fulfillment for Graduation with Honors Distinction and
the Degree of Bachelor of Arts

Kerigan Flynn

School of Psychological Sciences

MAY   2020

Signature Page

CHILDHOOD EMOTIONAL ABUSE IN RELATION TO
CERTAIN DSM DISORDERS

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*RECEIVED BY THE UNIVERSITY THESIS/CAPSTONE
PROJECT COMMITTEE ON*:

05/01/2020

ABSTRACT

The relationship between Childhood Emotional Abuse (CEA) and certain DSM disorders is under-researched for the potential applications of the relationships that existing research has demonstrated. Correlations have been consistently found between CEA and several DSM disorders, and more longitudinal research on those correlations may aid in the understanding, identification, diagnosis, treatment, and prevention of both CEA and the development of disorders. This study utilized a meta-analysis methodology to consolidate the data from 30 research articles that represent a majority of all current research that has been conducted on this topic thus far. The meta-analysis concluded that correlations are present between CEA and several DSM disorders such as Schizophrenia , Borderline Personality Disorder, and some Mood, Anxiety, and Eating disorders. The results of this study also indicate where future research can be directed to fill in more of the gaps in what is known about this topic. This thesis affirms the importance of further study on the relationship between abuse and DSM disorders, as the information from all the articles combined does not provide sufficient data to determine any confident results beyond the fact that the relationship exists. Further research could assist therapists and other practitioners in effectively treating CEA and the disorders with which it has been found to correlate.

ACKNOWLEDGEMENTS

Many have been involved in making this project as thorough, accurate, and relevant to helping people as it can be. I would like to express immense gratitude to Rosann Ross, who worked the most closely and consistently on these goals with me and without whom this project would not exist. She not only advised me in completing my thesis project, but became my number one source of enthusiasm and curiosity for the subject. I will not forget our excited discussions and brainstorming sessions, nor your consistently effective encouragement. I am resolute that coming to your office was the best decision I made in the entire thesis.

I must also extend my gratitude to the rest of UNC and its staff, namely Loree Crow, Brianne Markowski, and Wendy Highby. These people encouraged and aided me in the wandering that research seems to always start as, preventing me from falling into holes and helping me out of the woods I would sometimes find myself in.

Friends and family also cannot be forgotten, as they were the ones who saw the worst and best of me in this whole affair. To Raina Ramsay, I have so much to thank you for, but this time I will say that your smiles and "hmm"s while looking at my data fed my soul as your analysis advice fed this project. To Pierce Johnson, the gifts of empathy and perspective that you have given me cannot be put into words, but please know that they and you are deserving of acknowledgement.

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INTRODUCTION

The goal of this thesis is to consolidate data from studies measuring the relationship between the history of CEA and the development of psychological disorders, and then perform a meta-analysis to determine what disorder symptomatology and diagnosis has the strongest correlation with an individual's CEA history. In this process, results should also provide information on whether other forms of abuse correlate with DSM disorders, what factors may mediate the relationship between CEA and the development of disorders in adulthood, and the overall state of research into this topic. The potential benefits of this work are many: adding to the under-researched awareness of CEA and adding to the understandings around the specific disorders studied (including Schizophrenia, Borderline Personality Disorder, Mood Disorders, Anxiety Disorders, and Eating Disorders) are merely the start. It is hoped that the results of this thesis help in not only understanding the intricacies of CEA and psychological disorders as separate concepts, but also to inform on how one variable predicts the other. An added benefit of this opportunity to compare different disorders in relation to CEA is that it may indicate where future study may be of best use in the prevention and treatment of mental illness.

LITERATURE REVIEW

One meta-analysis on the prevalence of Childhood Emotional Abuse gave the results that over one in four of study respondents (with variety in age, ethnicity, and gender) had experienced CEA (Stoltenborgh, Bakermans-Kranenburg, Alink, & Ijzendoorn, 2012). Despite this extremely high rate, I have found that CEA has been researched very little; this is one of the most commonly stated facts about it in what

research exists (e.g. Courtney, Kushwaha & Johnson, 2008; Festinger & Baker, 2010; Egeland, 2009; Wright, 2007). The scarce amount known about CEA entails a multitude of opportunities to explore and discover new correlations, which the meta-analysis is intended to take advantage of. It also makes it all the more necessary to review what *has* been established about the little-known subject of CEA, and to lay a foundation for understanding and interpreting the results of the meta-analysis. That is the goal of this literature review, reached first through a conceptualization of how CEA is understood and studied, and then with an introduction to the concepts and disorders that have been studied in association with CEA and which will be compared to each other in the meta-analysis.

Some of the lack of CEA research can be attributed to the definition issue of CEA. Though CEA can be defined as "a form of chronic relational adversity that disrupts development across social, emotional, self, cognitive, and biological domains" (Riggs, 2008, p. 17), this is not the standard definition, as there is no standard definition. Additionally, this definition does not work very well for identifying the parameters of CEA in a courtroom or child protection law. While there exists specific, recognizable physical actions that are involved in childhood sexual and physical abuse, CEA is less concrete; there can be words, attitudes, and threatening displays, among other behaviors (Egeland, B., 2009; Wright, 2007; Riggs & Kaminski, 2019; Thompson & Kaplan, 2018). Particular actions (such as criticism) can be innocuous or abusive, depending on whether they are part of a repeated pattern of parent-child interactions that harm the child psychologically (Wright, 2007; Riggs & Kaminski, 2019), which can be nearly

impossible for outsiders of the interaction (such as social workers and law enforcement) to be aware of.

This still should be no excuse for the lack of research, which is only more necessary because of the lack of an applicable definition. Stoltenborgh et. al.'s (2012) meta-analysis showed that narrow definitions vs broad definitions have no impact on prevalence findings, indicating that the definition issue can and has been bypassed with current research tools. The issue of outsiders not having enough information to recognize CEA can also be circumvented using information provided by the children themselves. In current research, this information is collected using self-reporting questionnaires. Self-reporting questionnaires attempt to strike a balance between definition issues and barriers to identification, acting as a verifiable tool for identifying CEA, as well as other forms of abuse. There are some costs to validity associated with self-reporting (described in the Project Design section), so information may not yet be precise enough for a court to determine abuse, but is still useful for CEA research.

The Childhood Trauma Questionnaire (CTQ) (Pennebaker & Susman, 2013) is the tool of choice in all studies found for this project and will thus be how abuse is measured in this meta-analysis. It is a self-reporting research tool composed of twenty five questions answered using a 5-point Likert scale (ranging from "Never True" to "Often True"). Each question is related to one of five forms of trauma: CEA, Childhood Physical Abuse (CPA), Childhood Sexual Abuse (CSA), Childhood Emotional Neglect (CEN), and Childhood Physical Neglect (CPN). CEA has been defined already, but the rest must also be described here because the results of this thesis may also contribute to their respective fields of research. According to the Child Welfare Information Gateway

(CWIG), CPA is ""any non-accidental physical injury to the child" and CSA is (Pg 2, 2019) and CPA is any form of sexual exploitation, allowing the child to engage in prostitution, human trafficking, sex trafficking, or allowing the child to be involved in child pornography. As for differentiating between abuse and neglect, the key is understanding that abuse is the presence of harmful actions, and neglect is the harmful absence of necessary actions. The CWIG details that neglect is considered "the failure of a parent or other person with responsibility for the child to provide needed food, clothing, shelter, medical care, or supervision to the degree that the child's health, safety, and well-being are threatened with harm" (Pg 2, 2019). The neglect can be physical (such as not feeding the child for extensive periods) and mental (such as never interacting with the child). The CTQ has been well-tested in measuring the severity of these different forms of trauma (by breaking down trauma levels into low, moderate, moderate-severe, and severe using cut off scores) and found to have good validity and reliability (Bernstein et al, 1994; Bernstein et al, 2003; Scher et al, 2001; Wright et al, 2001). The continuity and commonality of this data collection tool has been very useful in bringing together the scraps of research on this subject.

A different notable wrench that has been thrown into the gears of CEA research is the general lack of awareness or respect towards this as a form of abuse. Despite how common it is and that the severity of CEA's impact may be greater (Stoltenborgh et. al., 2012), it has been recognized as a legitimate form of abuse for much less time than sexual and physical abuse (Egeland, 2009; E; Stoltenborgh et. al., 2012). Still, with increased awareness, respect, and dedication to finding solutions to CEA research's challenges, there is much hope to be found in the future of CEA research. In that spirit,

the remainder of this literature review focuses on describing the disorders and psychological effects that have been studied in association with CEA.

It is well agreed by those who have conducted research that the effects of CEA negatively impact adulthood psychology (e.g. Stoltenborgh et. al., 2012; Courtney et. al, 2008; Festinger & Baker, 2010; Egeland, B., 2009; Riggs & Kaminski, 2019), impairing important skills such as emotion regulation (Christ, 2019; Fernando, 2013; Huh, 2017; O'Mahan, 2015; Soenke, 2009) and instilling remnants of trauma that continue to negatively impact life, such as ineffective attachment styles (Festinger & Baker, 2010; Riggs & Kaminski, 2019; Wright, 2007).

Emotion regulation has been mostly brought up in regard to Major Depressive Disorder (eg. Christ, 2019; Fernando, 2013; Huh, 2017; O'Mahan, 2015; Soenke, 2009) as a mediating factor. In this thesis, mediating factors will be any factors of psychology or abuse that are being looked at in addition to CEA and DSM Disorders. Emotion regulation is a complicated skill involving, "(a) awareness and understanding of emotions, (b) acceptance of emotions, (c) the ability to control impulsive behaviors and to behave in accordance with desired goals when experiencing negative emotions, and (d) the ability to use situationally appropriate emotion regulation strategies flexibly to modulate emotional responses as desired to meet individual goals and situational demands" (Fernando, 2013, p. 386). The implications of these three concepts in combination with CEA and Major Depressive Disorder (MDD) can be interpreted in many ways. For the purpose of this thesis, the assumed position of all mediating factors is between CEA and the expression of a disorder. So in this case, it is interpreted that CEA is associated with inhibition of emotion regulation (or emotional dysregulation), which is

associated with an increase in the likelihood of developing MDD. Other potential mediating factors will be described in the Measuring Mediating Factors section.

Treatment can help children to work around trauma remnants like emotion dysregulation toward a healthier way of being. Left untreated, these effects can become mediating factors in the core relationships studied in the meta-analysis; by the time of adulthood, people who experienced CEA are significantly more likely to show signs of certain psychological disorders (Elizabeth et. al, 2008).

One of the larger sections of DSM disorders looked at in this study are Mood Disorders. The Mood Disorders section of the DSM includes Depressive Disorders, Bipolar Disorders (BD), and Cyclothymic Disorder (5th ed.; DSM-5). The disorders that have been researched in correlation with CEA enough to be considered in this meta-analysis were Major Depressive Disorder (MDD) and Bipolar Disorders I & II. Let us delve more into the characteristics of these disorders before discussing the findings on their relationships to CEA.

CEA's relationship to MDD is one of the more researched phenomena among Mood Disorders (Elizabeth et. al, 2008; Egeland, 2009; Riggs & Kaminski, 2019; Wright, 2007). The American Psychiatric Association's (2013) Diagnostic and Statistical Manual of Mental Disorders (5th ed.; DSM-5) criteria for the diagnosis of MDD notably includes depressed mood and/or loss of interest or pleasure in daily activities lasting over two weeks. There are several other criteria involved and there must be at least five of nine additional symptoms listed (5th ed.; DSM-5). According to the DSM-5, someone with MDD typically has multiple major depressive episodes where these symptoms fit,

with the average duration of a depressive episode lasting nine months (Tomitaka & Furukawa, 2014).

MDD has wide variation in prevalence between countries, largely due to differing cultures and risk factors associated with its expression (Weissman, 1996). The prevalence found for MDD within the United States has been measured at about 6.6% for one-year duration and 16.2% for lifetime duration (Kessler et. al, 2003). The demographics for those with MDD are mostly female (Weissman, 1996). CEA research subjects tend to also be female. The demographic details of this thesis's discussed disorders are continually detailed, because demographics such as sex and race will be under review in the meta-analysis wherever such data is available. This will be done both to isolate variables for validity and to allow the meta-analysis to provide more detailed information regarding the strongest relationships between CEA and disorders.

In measuring these relationships, I have already established the importance of self-reporting questionnaires in the identification of CEA and mediating factors. On the other side of this relationship, MDD is typically studied using groups of diagnosed MDD patients or measured in levels using self-reporting questionnaires, like the Beck Depression Inventory (BDI) and Quick Inventory of Depressive Symptoms (QIDS) (APA, 2019; Christ et al, 2019). The BDI is based on the symptoms and features of depression listed from the DSM and found to have validity and reliability (Storch, Roberti, & Roth, 2004), making it a decent approximation for situations where diagnosis is not available. The QIDS is also DSM-based and found valid and reliable (Christ et al, 2019). Despite the inclusion of this information, sources were prioritized with diagnosis

in mind and these questionnaire results were included in addition to (not replacement of) the more verified option.

The other Mood Disorder with enough research to include in this thesis is Bipolar Disorder (BD). There are two types of Bipolar Disorder, differentiated by the severity of symptoms (5th ed.; DSM-5). Bipolar I is the more severe, requiring at least one each of a manic episode and the major depressive episode (both have their own criteria in the DSM) that characterizes MDD. The presence of the manic episode is what distinguishes BD from MDD, as people with BD are not just susceptible to extreme depression but also extreme mania that can manifest in a number of ways (extreme joy or high amounts of productive energy, for example) (5th ed.; DSM-5). The mania and depression are thus still a part of BD II, though the DSM clarifies that the mania can never be severe enough to qualify as a "manic episode," manifesting rather as the less intense hypomanic episode. The two forms of BD often are lumped together due to having more similarities than differences. This use of BD has a term that includes both BD I and II will be mirrored in the remainder of this study in circumstances where the study cited did not distinguish between the two, or the information being relayed has been confirmed as true for both.

BD affects more than one percent of the world's population and tends to be a chronic disorder (Grande et al, 2016). Differences in geography and culture do not appear to affect the prevalence of BD, with onset of symptoms typically occurring in childhood or adolescence (Grande et al, 2016; Mcclellan, Kowatch, & Findling, 2007). BD II is more common in women than in men, though both genders are equally likely to qualify for BD I (Grande et al, 2016). No self-report questionnaire based around BD symptoms was used in this meta-analysis, allowing us to move onto the next set of DSM disorders.

Anxiety Disorders are a set of DSM disorders characterized by pervasive and persistent anxiety or fear, leading to overly escapist/avoidant behavior as the person with the disorder tries to prevent feeling the symptoms (5th ed.; DSM-5). Many studies were found relating CEA to anxiety, though few followed the same form of Anxiety Disorder and some did not distinguish between the different subtypes at all. As a result, this meta-analysis will use the term "Anxiety Disorders" when more specific information is unavailable. The one subtype with enough clear data to include is Social Anxiety Disorder (SAD), wherein the anxiety/fear is excessively present in social and performance situations. The higher amount of studies looking at SAD and CEA may be due to both being oriented around the actions and presence of other people.

Anxiety Disorders, including SAD, are more prevalent in women than in men, and a majority of people with Anxiety Disorders start experiencing symptoms during adolescence (Mclean et al, 2011; Baxter, 2012). Global prevalence information is difficult to obtain for Anxiety Disorders due to the variety in expressions and cultural concepts of it (Baxter, 2012). I did not find further consistent demographic information for the disorder, although I did find studies that used self-reporting questionnaires to measure Anxiety Disorder symptoms in relation to CEA.

The two questionnaires that remained relevant throughout this meta-analysis were the Child Anxiety Sensitivity Index (CASI) and the Revised Child Anxiety and Depression Scale (RCADS) (Silverman et al., 1991; Chorpita et al. 2000). The CASI consists of 18 items with a 1-5 (none-a lot) scale for the participant's response to each item. The main focus of this questionnaire is identifying how much participants believe that anxious experiences will result negatively, and it has been found to have good

validity and reliability (Silverman et al., 1991; Bounoua et al, 2015). The RCADS is more thorough and applicable in this meta-analysis. It consists of five subscales (separation anxiety, social phobia, generalized anxiety, panic, and obsessive-compulsive tendencies), each consisting of 6-9 questions on a 0-3 (never-always) scale (Chorpita et al. 2000). Validity and reliability have also been found for this questionnaire (Chorpita et al. 2000; Banducci et al, 2016). The use of these questionnaires in this meta-analysis is clarified in the Results section, as they are not used to diagnose or identify Anxiety Disorders but rather to identify the level that Anxiety symptoms (specifically SAD) correlate with CEA.

Another type of disorder correlated with CEA is Borderline Personality Disorder (BPD) (Frias, Palma, Farriols, Gonzalez, & Horta, 2016; Kuo, Khoury, Metcalfe, Fitzpatrick, & Goodwill, 2015; Bounoua, Felton, Long, Stadnik, Loya, Macpherson, & Lejuez, 2015) from the DSM's category of Personality Disorders. BPD is defined as a "pervasive pattern of instability of interpersonal relationships, self-image, and affects, and marked impulsivity, beginning by early adulthood and present in a variety of contexts" (5th ed.; DSM-5). The prevalence has been estimated to be about 6%, with the most at-risk demographics being Native American men, younger adults, and people with lower income/education (Grant et. al, 2008). Like CEA, BPD can be highly varied from case to case, with an array of manifestations along a continuum of mild to severe expression of the disorder.

The assessment tool that has been used for identifying BPD traits in this study (other than diagnosis) is the PAI-BOR (Kuo et. al, 2015; Bounoua et. al, 2015). PAI-BOR stands for *Personality Assessment Inventory-Borderline Features*, and has twenty-

four items on a scale of 0-3 (representing false-very true) that have been shown to be valid and reliable in indicating the presence of BPD symptoms (Morey, 2015; Trull, 1995).

The Eating Disorders in the DSM have also been studied in correlation with CEA, notably Anorexia Nervosa and Binge Eating Disorder (BED) (Feinson & Hornik-Lurie, 2016; Amianto et. al, 2018). Anorexia is characterized by significantly lowered body weight due to restriction of energy intake, which is itself a result of intense fear of gaining or having weight (5th ed.; DSM-5). This disorder is found in about 8 per 100,000 people per year, affects white females significantly more than black females, affects females significantly more than males, is most common among teenagers & young adults, and has a high mortality rate (Hoek, 2006; Umarani & Annamalai, 2016). Its relation to CEA has been studied by only a few sources, but combining those sources with the other Eating Disorder studies in this meta-analysis may show more information about how Anorexia and other Eating Disorders are correlated with CEA.

Binge Eating Disorder is a newer disorder in the DSM-5, differing from the more familiar Bulimia Nervosa Disorder in a lack of compensatory behavior (such as induced vomiting) (5th ed.; DSM-5). The DSM-5 characterizes it as a pattern of binge eating episodes (which are sessions of eating more than is normal for the social situation) that occur at a minimum of once per week for three or more months. They must cause distress and can't be attributable to other biological causes or eating disorders.

Unfortunately, further information on the nature of Binge Eating Disorder (prevalence, demographics, etc.) does not appear to be reliably available yet. Standardized tools geared towards identifying Binge Eating Disorder are also lacking. In

spite of the "newness" of this diagnosis, the existing research has already linked it to CEA, with moderating factors (such as anger and self-criticism) and has collected enough data for the link to be investigated in this meta-analysis (Feinson & Hornik-Lurie, 2016; Amianto et. al, 2018) alongside other Eating Disorders.

There is one self-reporting questionnaire relevant to this thesis that is used in studying the correlations between the Eating Disorders described above and CEA. It is called the Eating Disorder Examination Questionnaire (EDE-Q) (Fairburn & Beglin, 1994), and it assesses the frequency of the following eating disorder symptoms: binge eating, purging, restraint over eating, and distorted cognitions around eating, weight, and shape (Fairburn & Beglin, 1994). This measure has been found valid and reliable (Berg et al, 2011; Burns et al, 2012; Gideon et al, 2016), and allows Anorexia and BED symptoms to both be considered in relationship to CEA using the same questionnaire results.

The final disorder included in this Meta-Analysis is Schizophrenia. Diagnosis of Schizophrenia requires at least one of three characterizing symptoms (delusions, hallucinations, or disorganized speech) in addition to potential negative symptoms (termed "negative" due to the diminishing of things like emotional expression) fairly consistently over the course of a month (5th ed.; DSM-5). Measuring prevalence of Schizophrenia is often done with duration of disorder in mind, because some people experience Schizophrenia for less than 12 months (about 0.31% of global population) while others live the rest of their lives with it (about 0.48% of global population) (Simeone et al, 2015). Onset is usually in the late teens/early 20s of life, and changes in demographics do not seem to affect the likelihood of developing the disorder (Simeone et al, 2015). Additionally, no self-reporting questionnaires were used in studying

correlations between Schizophrenia and CEA, so the data on that relationship will be based only on the responses of people diagnosed with Schizophrenia. This completes the summary of DSM disorders under review.

The unknown variables seem to outnumber the known in this review of literature, showing a need and an opportunity. The need is for more research to be conducted in general around CEA by itself, as well as in combination with the many disorders that have reported correlations with it. The opportunity is to collect all that has been done already and see what can be gleaned from the individual ideas, tests, factors, and relationships when looked at as a whole.

METHODS

This meta-analysis was conducted with the use of data from 30 articles relating to CEA and various disorders. Studies were found through the UNC library database and reputable Google Scholar sources. The selection of these studies was based on whether sufficient data was available for the study to be used, the study was peer-reviewed and reputable, and the disorders studied had at least three other articles of sufficient quality studying them. Data collected include questionnaire results, categorical factors within those results, correlation coefficients found, demographic information, and details about each study, such as sourcing, methods, and limitations. Raw data was not found to be sufficiently available on this topic despite thorough searching by UNC library staff, and I'd like to note that this is another display on how little attention this topic has gotten. These make up the data collection procedures.

SUMMARY OF STUDIES

As raw data was not sufficiently available, I used the sumative data from articles selected with the three criteria that each article must contain usable data, be peer reviewed and reputable, and study a disorder that had at least three other articles of sufficient quality covering it so that I could compare multiple sources. This left me with 30 articles fitting the criteria, showing again how little research there is in this subject. It also resulted in a huge variety of data and environment, as I had too few options to be picky about placement or the way the results are reported. Variety may also be due to a lack of standardization in a subject that gets so little attention, allowing some researchers to report averages while others reported correlation coefficients. I managed data in a strict organization (which can be found at the links above the Reference section) and avoided manipulation of any numbers. Consistent demographic information was unavailable in most cases, but I was able to determine that a great majority of study participants were female, as the pie graph to the right shows. The number of

participants for each study group ranged from 16 to 1301, with the total number of people involved in this meta-analysis being 6837. The diversity of studies within this meta-analysis also extends to the locations that studies took place in. The following are all of the countries where data was collected: Italy, South Korea, Germany, Belgium, the Netherlands, the UK, New

Zealand, Norway, Brazil, Switzerland, Canada, Singapore, Turkey, Spain, Ireland, China, Iran, Togo, and all over the United States.
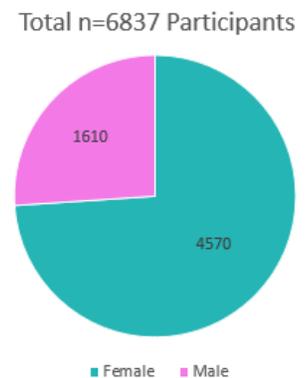
One thing that was the same in all the studies was the CTQ. The CTQ will be how CEA is measured throughout this thesis, as it is one of the few reliable and valid self-reporting questionnaires on the topic. It also has the added benefit of reporting not just CEA data, but also data for other forms of abuse, such as sexual and physical abuse. This allows me to not only observe CEA's relationship to DSM disorders, but the relationships other forms of abuse have with these disorders as well.

MEASURING MEDIATING FACTORS

DES- Dissociative Experience Scale & WDS- Wessex Dissociation Scale

These self-report questionnaires were used in Schizophrenia and BPD studies to measure the potential mediating factor of Dissociation, specifically the dissociative amnesia, imaginative experiences, and depersonalization/derealization that are associated with Dissociation (Bernstein & Putnam, 1985; Holowka et al, 3003; Vogel et al, 2009). Dissociation is defined by Holowka et al as "apparent disruption in the normally integrated functions of perception, memory, identity or consciousness" (Pg 87, 2003). An example may be beginning your drive home and then finding yourself home in your car, having Dissociative amnesia of the driving experience. Another way it manifests may be the sensation that the world around you is not reality, or that you are not in your own body but rather detached from and observing it. The concept is an interesting one to bring into this topic. CEA increasing chances of Dissociation, and Dissociation increasing chances of Schizophrenia/BPD is a story that made some sense to me in the theory that one might respond to CEA with Dissociation to avoid feeling the psychological harm, and Dissociation's characteristics may lend themselves especially to

the negative symptoms of Schizophrenia and identity issues of BPD. For testing such a hypothesis, I can state with confidence that the DES has become a valid and reliable standard of measuring Dissociation on a scale from 1 to 100 (Vogel et al, 2009; Holowka et al, 2003) and the WDS is a valid and reliable way to sensitively measure Dissociation on a 0-5 (never-always) frequency scale (Johnston et al, 2009; Kennedy et al, 2004).

DAS- Dysfunctional Attitudes Scale

The Dysfunctional Attitudes measured in this self-reported questionnaire are associated with the cognitive symptoms of depression symptoms (Ebrahimi et al, 2012), leading the DAS to be used in MDD studies. Whereas Dissociation is not specific to the experience of Schizophrenia, this mediating variable is more concerned with whether Dysfunctional Attitudes (already known to be connected to MDD) are more likely to be learned from CEA and thus play a larger role in later development of MDD. The questionnaire itself consists of 40 items along the familiar 1-7 scale, with lower numerical results indicating an increase in the Dysfunctional Attitudes of the answerer. The DAS has been found valid and reliable (Ebrahimi et al, 2012; Turkoglu et al, 2015).

RRS- Ruminative Response Scale

Also used in MDD studies, the RRS measures Rumination in relation to depression on a 4-point scale. The construct of Rumination is a style of Emotion Regulation that is understood to lead to negative outcomes as the individual repetitively thinks about depressive symptoms and their distress without involving goals or solutions (Arana & Rice, 2017). Rumination has also been associated with Anxiety Disorders (Arana & Rice, 2017, though no qualified study was found testing it as a mediating variable there. In regards to Rumination's potential mediation of the relationship between

CEA and MDD, the concept of CEA increasing frequency of Rumination (which makes sense to me as learned helplessness has ties to trauma and may work similarly) certainly makes sense as something that may aggravate an MDD diagnosis, if not predict it. For investigating such an idea, the RRS makes for a valid and reliable start (Arana & Rice, 2017; Raes & Hermans, 2008).

IIP- Inventory of Interpersonal Problems

The last mediating variable that can be included solely in the relationship between CEA and MDD is Interpersonal Problems. The variable is understood within the IIP to indicate personality and pathology information in eight categories: domineering/controlling, vindictive/self-centered, cold/distant, socially inhibited, overly accommodating, self-sacrificing, and intrusive/needy. Relation of this information is not limited to disorders, making its potential role of mediation in this study less intuitive than other discussed concepts. Should Interpersonal Problems be found correlated with CEA and MDD, more applications of this nature may be encouraged. As for the first study on this idea, the IIP is a valid and reliable starting point (Christ et al, 2019; Hopwood et al, 2008).

DERS- Difficulties in Emotional Regulation

This last mediating variable has already been explained in the Literature Review, though some additional things about Emotional Regulation should be noted in the context of this thesis. Here, Emotion Regulation is to be measured using the valid and reliable DERS self-reporting questionnaire (Burns et al, 2012; Christ et al, 2019) with 36 questions on a 1-5 (Almost Never-Almost Always) scale. This mediating variable and questionnaire were used in two studies for three disorders: Anorexia, BED, and MDD.

DATA ANALYSIS

Due to the limitations on data information and context, options for analysis are significantly more limited than if raw data was available. Data collected was largely summarial in nature, with a variety of different ways of presenting that information. CTQ results were given using averages, proportions, and correlation coefficients. Demographic groups were rarely given much detail, let alone their own categories of results for comparison. With every change and translation to data made, context from original researchers may be lost and results become more contaminated with assumptions. As a result, most analysis work was in formatting collected data so that Microsoft Excel (2018) graphing tools could be used to show different findings in a format where they could be compared. In an effort to promote more transparency of raw data and analysis in this field, I have provided links to my work just above the reference section (Pg XX).

RESULTS

Mood Disorders:
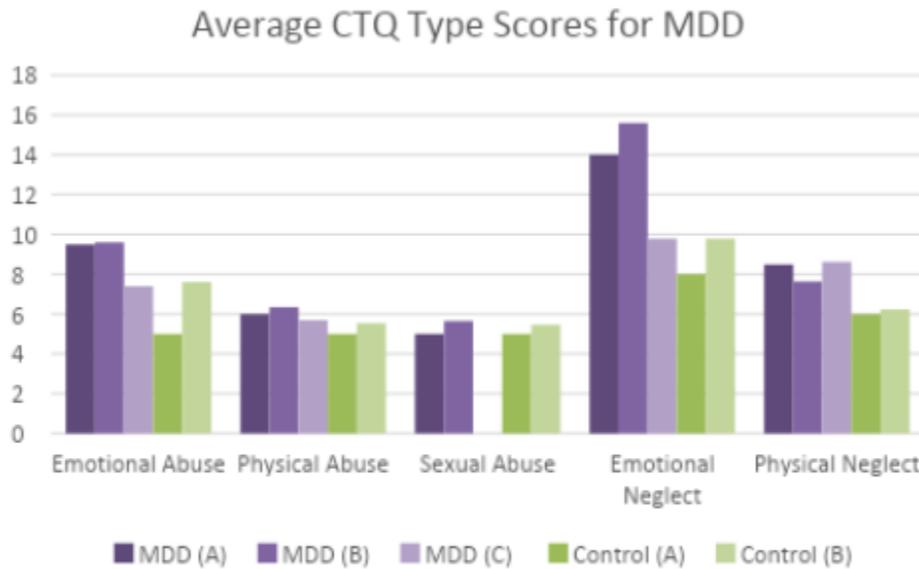
Average scores in different subsections of the Childhood Trauma Questionnaire (CTQ)
for people with Major Depressive Disorder (MDD)
A= Turkoglu, Essizoglu, Kosger, & Aksaray, 2015
B= Dannehl, Rief, & Euteneuer, 2017
C= Rezaei, Ghazanfari, & Rezaee, 2016

Figure 1

Figure 1 to the left shows the average scores for each MDD study group in each section of the CTQ. Shades of the same color indicate different studies' results for the same variable. In this case, purple represents people with diagnosed MDD and green represents healthy control groups. Three different studies were used to create this visual summary, with one missing an average for the Sexual Abuse measure. Gaps in data were unavoidable for this meta-analysis, as the research is limited and some studies focused primarily on certain forms of abuse. To combat this issue, this thesis prioritized CEA results to provide as few gaps in that area as possible, even when missing data in other areas was present.

An important thing to note regarding CTQ average results is that the ranges for none/low/moderate/high levels of abuse are different for each subscale. An example of

how this affects visual representation is that Emotional Neglect results look very high in comparison to other types of abuse, even though it is not. The average score for Emotional Neglect (CEN) is higher due to the design of the CTQ, and thus the benchmark for high levels of CEN is expected to be higher than the benchmark for high levels of CEA. The way to circumvent the illusion of higher-than-average CEN is to compare only control and disorder conditions within the same section. To apply this to the MDD graph above, we can see that one study group of people with MDD scored the same as a control average in CEN, while the other two scored well above the control. Thus, I can conclude that these results indicate an average CEN score for people with MDD is likely somewhat higher than that of people without CEN.

In comparing the control groups and MDD groups in this graph, there does appear to be at least a slight trend toward higher abuse levels across the CTQ for people with MDD. CSA shows this trend the least (with only one slightly higher group average bringing it above the highest control group), while CEN shows it the most (one study group average is a full six points above the highest control group). As previously stated, the use of summative data and low amount of attention to this topic makes it difficult to determine much more. Yet, these results are enough to indicate some relationship between CEA and MDD, as they show a higher level of CEA in people with MDD.

There is an additional piece of supporting evidence for this conclusion, as there was one study with results reported in a different way. The graph in Figure 2 shows, rather than the average results of each study group, the proportion of each study group with CTQ results that indicated moderate/severe levels of abuse. This visual shows more

clearly a tendency for people with MDD to have higher levels of all measured forms of abuse, one of the most drastic of which being CEA.

The other Mood Disorder with results to show is both forms of Bipolar Disorder (BD). Five sources were used for the creation of this visual. BD I (the type with greater severity of manic symptoms) and II results appear not to differ, which allows greater confidence to be placed in the more summative studies where there was no differentiation between the two groups. The trend of the disorder variable scores being higher than the control scores is continuing for BD, with most groups of people with diagnosed BD averaging at
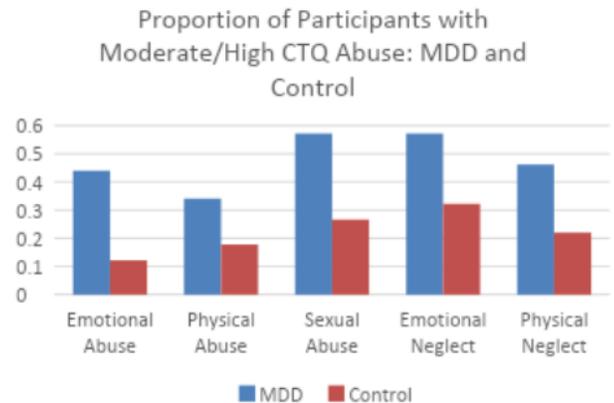
Proportions of study groups - a group of healthy controls (n=90)and a group of people with Major Depressive Disorder (MDD) (n=91) - who's Childhood Trauma Questionnaire (CTQ) responses indicate moderate or high levels of each form of measured abuse
Source for this graph: Kounou et al, 2012

Figure 2

least a few points higher than healthy controls. Thus far, it is indicated that both Mood Disorders included in this study have a positive relationship with a history of not only CEA, but all forms of abuse measured in the CTQ.
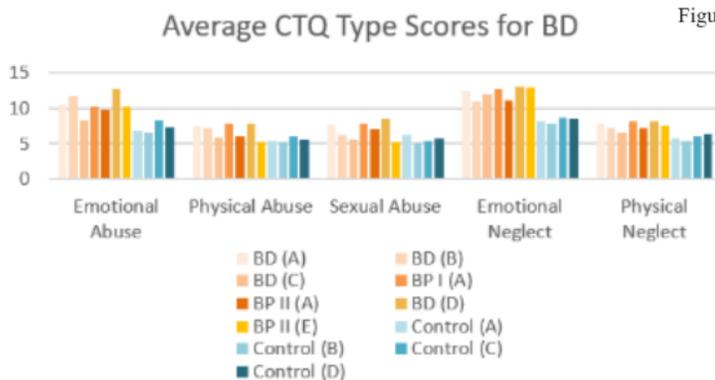

Figure 3

Average Childhood Trauma Questionnaire responses organized by abuse type and study group - groups of healthy control participants and participants with Bipolar Disorder (BD)
A= Watson, Gallagher, Dougall, Porter, Moncrieff, Ferrier, & Young, 2014
B= Mazer, Cleare, Young, & Juruena, 2019
C= Richard-Lepouriel et al, 2019
D= Fowke, Ross, & Ashcroft, 2011
E= Bøen, Hummelen, Elvsåshagen, Boye, Andersson, Karterud, & Malt, 2015

Anxiety Disorders:

Average CTQ CEA Score for Anxiety

Average score found for the Childhood Emotional Abuse (CEA) section of the Childhood Trauma Questionnaire (CTQ) data received from study groups of people with Anxiety Disorder diagnoses, people with Social Anxiety Disorder (SAD), and a healthy control group.
A= Banducci, Lejuez, Dougherty, & Macpherson, 2016
B= Kuo, Goldin, Werner, Heimberg, & Gross, 2011
Figure 7

Results for Anxiety Disorders were often reported collectively, though my graphical summaries show more detail where available. The first image (Figure 7) exemplifies the simple approach. Including average CEA scores (as other CTQ averages were not provided in this study) for a group of people with Anxiety disorders and a healthy control group, there is little to say about this graph other than it supports the results I continue to see of disorder variables showing higher levels of abuse than controls.

The other Anxiety Disorder visual (Figure 8 shown below) is more complex, including groups of people with an unspecified Anxiety Disorder, people with SAD, and two healthy controls. The controls seem to conflict with CEN, making it difficult to compare the Anxiety Disorder results for that section. The other CTQ sections consistently show greater levels of the general group of Anxiety Disorders and the SAD study group

Anxiety: Proportion of People With Moderate/Severe Abuse Types
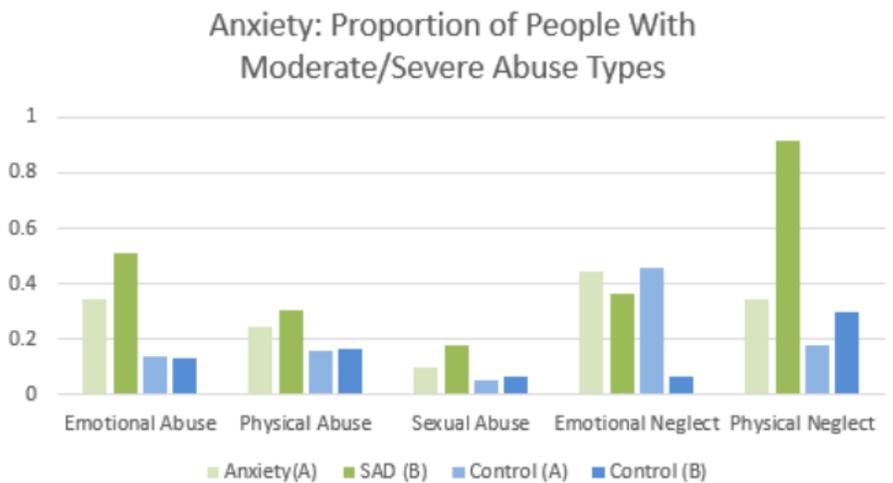
Proportion of people who's Childhood Trauma Questionnaire (CTQ) results indicate moderate or severe levels of different forms of measured abuse among study groups of people with Anxiety Disorders (Anxiety for short), Social Anxiety Disorder (SAD), and good health that allows them to act as a control group.
A= Devi et al, 2019
B= Kuo, Goldin, Werner, Heimberg, & Gross, 2011
Figure 8

when compared to the controls. SAD results are also consistently higher than the other

Anxiety Disorder group, explaining to me why SAD is the Anxiety Disorder given the

most attention.

Eating Disorders:

The next DSM category is Eating Disorders, specifically Anorexia and

BED. The graph (Figure 4) below shows averages for studies on both disorders, in

addition to the results of one study that did not distinguish between different Eating

Disorders. The CTQ scores for people with disorders vary between studies (general group

of Eating Disorders is generally highest, with Anorexia and BED close behind). The

trend of disorder variables averaging higher than control groups is also consistently

occurring in these studies, indicating the presence of a correlation between childhood

abuse and Eating Disorders.

CTQ Averages by Eating Disorder
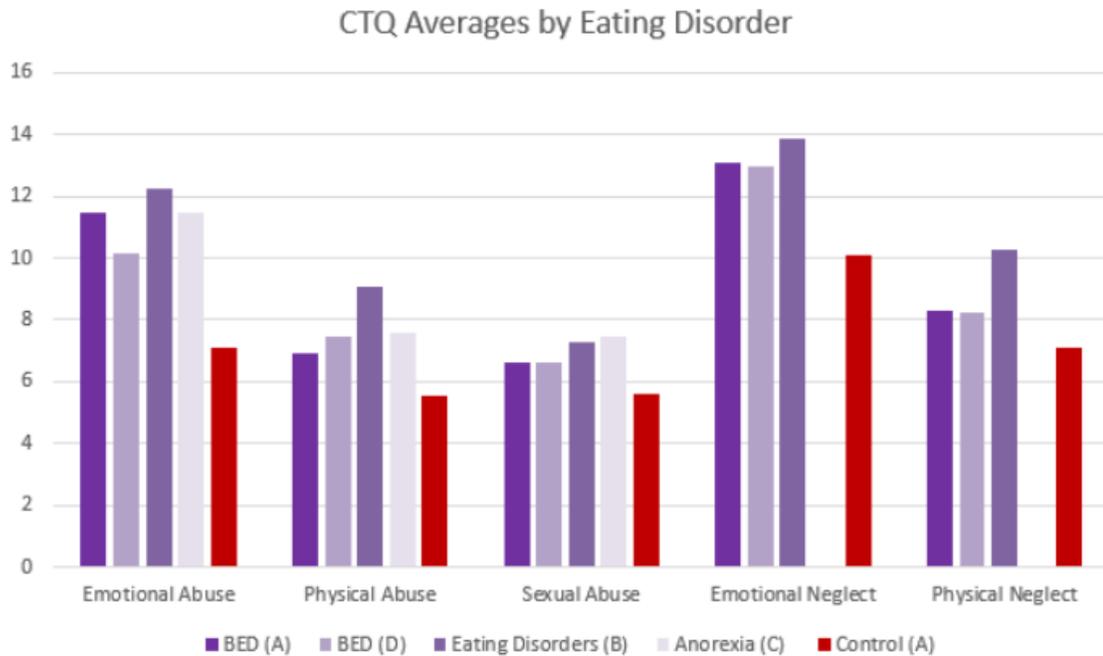
Average scores for each abuse type on the Childhood Trauma Questionnaire when completed by a healthy control group, people with Anorexia Nervosa (Anorexia for short), people with Binge Eating Disorder (BED), and a more general group of people who have been diagnosed with one or more Eating Disorders defined in the DSM
A= Amianto, Spalatro, Rainis, Andriulli, Lavagnino, Abbate-Daga, & Fassino, 2018
B= Kong & Bernstein, 2009
C= Racine & Wildes, 2014
D= Grilo & Masheb, 2001

Figure 4

The other data found for Eating Disorders was in the format of correlation coefficients that are displayed in Figure 5. Correlation coefficients represent the strength of correlation found between data variables, set on a scale of -1 to 1, with stronger relationships positioned further from zero. This data shows an important thing to know about abuse, which is that different forms are rarely isolated from each other. CEA and CPA are highly correlated (0.5 and 0.6 for the correlation coefficients reported) as it is very common for one form of abuse (like physical violence) to also involve another (like blaming a child for the parent's violent actions). Awareness of the correlations between CEA, CPA, and CSA (the main forms of abuse that I could find data reported for) is important in future research for controlling what can be confounding variables. Controlling for these correlations was not possible in this meta-analysis due to the lack of

raw data, but the inclusion of all CTQ information is meant to compensate by visually

showing these relationships.

Figure 5 also shows the correlations of DERS (which, as you may recall,

Correlation Coefficients Chart				
	CEA (A)	CEA (B)	CPA (A)	CPA (B)
CPA	0.5	0.6		
CSA	0.28	0.43	0.27	0.41
DERS	0.37	0.34	0.16	
Binging	0.15			
EDE	0.21	0.26		

A= Burns, Fischer, Jackson, & Harding, 2012
B= Racine & Wildes, 2014   Figure 5

measures difficulties in the mediating factor of Emotion Regulation), frequency of the Binging symptoms of BED, and the EDE-Q (shown as EDE and measuring Eating Disorder symptoms) with CEA/CPA. There are some clear gaps in this information, as some numbers were reported in studies while others

were not. The correlation for DERS and CEA is interestingly greater than that of the

EDE-Q and CEA, indicating that the relationship between CEA and this mediating factor

measure is greater than the relationship between CEA and this Eating Disorder symptoms

measure. This helps me understand why Emotion Regulation has been applied more

commonly in CEA research than any of the other mediating factors found, as well as

indicate that Eating Disorders may not have the strongest relationship with CEA among
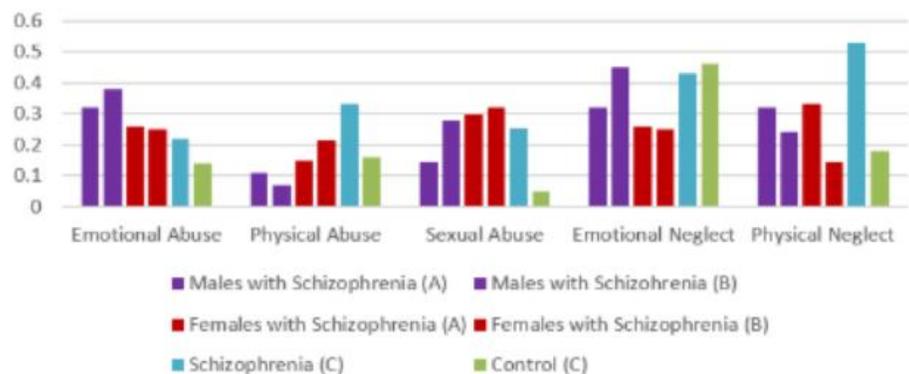
the DSM studies I have studied.

Schizophrenia:

The next display of results informs on the relationship between Schizophrenia and CTQ abuse types; found to the right in Figure 6. Of the results seen thus far, this visual shows the most diversity/self-contradiction. Two of the sources for this

Schizophrenia: Proportion of Sample with Moderate/Severe Abuse

Emotional Abuse   Physical Abuse   Sexual Abuse   Emotional Neglect   Physical Neglect

- Males with Schizophrenia (A) ■ Males with Schizohrenia (B)
- Females with Schizophrenia (A) ■ Females with Schizophrenia (B)
- Schizophrenia (C) ■ Control (C)

The proportion of each study group who's Childhood Trauma Questionnaire (CTQ) results indicate moderate or severe levels of abuse (organized by the types of abuse measured by the CTQ). Study groups include males with Schizophrenia, females with Schizophrenia, a general group of people with Schizophrenia, and a healthy control
A= Haug et al, 2015
B= Üçok & Bıkmaz, 2007
C= Devi et al, 2019

Figure 6

disorder included information for both males and females with Schizophrenia, allowing data to be compared based on sex as well as disorder/control variables. Males appear to have higher CEA and CEN proportions, whereas females appear to have higher CPA and CSA proportions. Males with Schizophrenia oddly appear to have less proportion of CPA than the healthy control group, and all study groups with Schizophrenia (especially females) appear to have lower proportions of CEN than the healthy control group. CEA and CSA continue the trend of higher presence in the disorder variable, though other results seem too inconsistent for me to clearly determine a trend.
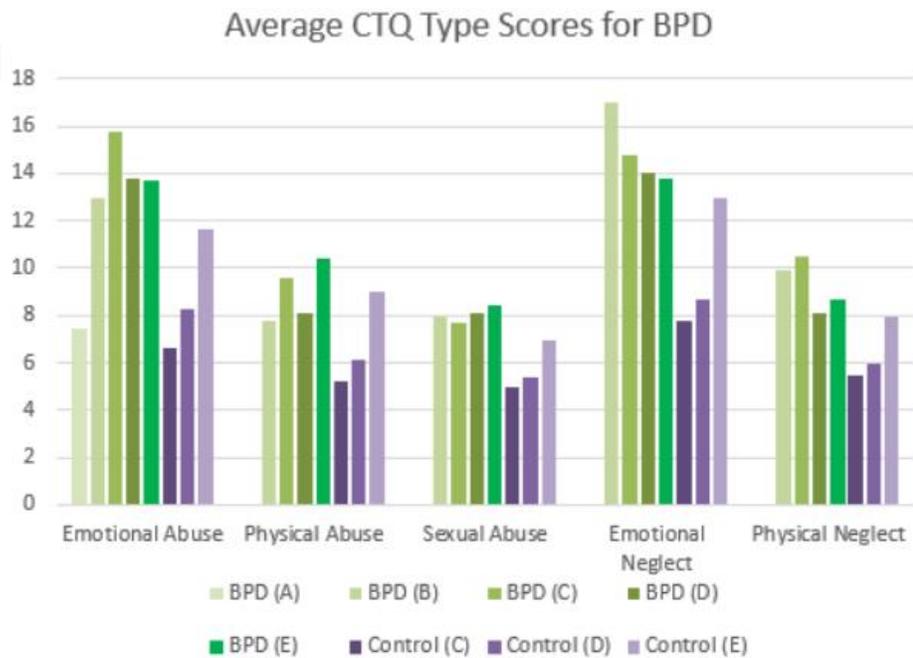
Borderline Personality Disorder:

Average CTQ Type Scores for BPD

The average scores for each type of abuse measured by the Childhood Trauma Questionnaire (CTQ) in groups with and without (meaning healthy control groups) Borderline Personality Disorder (BPD)
A= Bounoua, Felton, Long, Stadnik, Loya, Macpherson, & Lejuez, 2015
B= Bøen, Hummelen, Elvsåshagen, Boye, Andersson, Karterud, & Malt, 2015
C= Mazer, Cleare, Young, & Juruena, 2019
D= Richard-Lepouriel et al, 2019
E= Ferrer, Andión, Calvo, Ramos-Quiroga, Prat, Corrales, & Casas, 2016

Figure 9

The last disorder to report individual results on is BPD. The graph on the left (Figure 9) shows the average CTQ results for five sources on the topic, three of which also included control groups. One of the control groups scores consistently higher than the others, though there are always at least two groups of people with BPD that score higher. The data is not as strong in this conclusion as some other disorder variables, but the trend of higher abuse levels among the disorder variables continues.

Overall:

Now that each disorder has been looked at in regard to CEA individually, I can compare the strength of each relationship to CEA. This, the original goal of this thesis, required finding a consistent statistic format from all disorder variables with which to make this comparison. I found that the format would be correlation coefficients, which

sometimes were found in the same studies with results shown above and sometimes were

found from additional study sources. As a result, Figure 10 may show different

correlation levels than those listed in the individualized results above. Additionally, some

correlation coefficients were given for separate Male and Female groups within disorder

variables. These are included in the visual but will not be included in comparing

disorders due to the issue of consistency that it would cause. With the exception of the

CEN section of the CTQ, all disorder variables correlated more strongly with CTQ abuse

types than the control group. Mood Disorders as a group correlated most strongly with

Correlations Between CEA and DSM Disorders
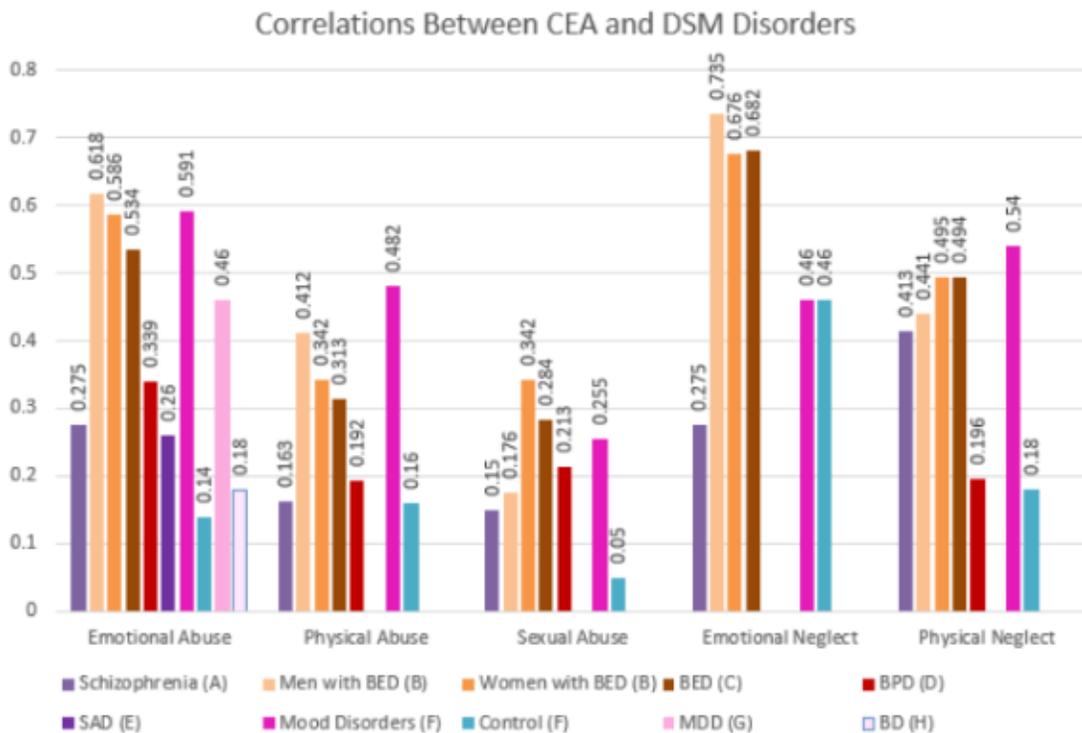
Correlation coefficients (the values for which are labeled on the top of the bars they represent) found for the relationships between results for Childhood Trauma Questionnaire (CTQ) abuse types and each study variable: diagnosis of Schizophrenia, men with diagnosis of Binge Eating Disorder (BED), women with diagnosis of BED, diagnosis of BED without distinguishing between sexes, diagnosis or Borderline Personality Disorder (BPD), diagnosis of Social Anxiety Disorder (SAD), diagnosis of a Mood Disorder, more specific diagnosis of Major Depressive Disorder (MDD) & diagnosis of Bipolar Disorder (BD), and lastly, a healthy control
A= Vogel, Spitzer, Kuwert, Möller, Freyberger, & Grabe, 2009
B= Grilo & Masheb, 2001
C= Allison, Grilo, Masheb, & Stunkard, 2007
D= Zhang, Chow, Wang, Dai, & Xiao, 2012
E= Kuo, Goldin, Werner, Heimberg, & Gross, 2011
F= Devi et al, 2019
G= Rezaei, Ghazanfari, & Rezaee, 2016
H= Fowke, Ross, & Ashcroft, 2011

Figure 10

CEA, but the most correlated individual disorder was BED. Despite these indications, I

cannot conclude that Mood Disorders and BED have the highest correlation with CEA

because of the low amount of data and confidence available for any conclusion in this

area.

Correlation Coefficients Between CEA and Questionairres
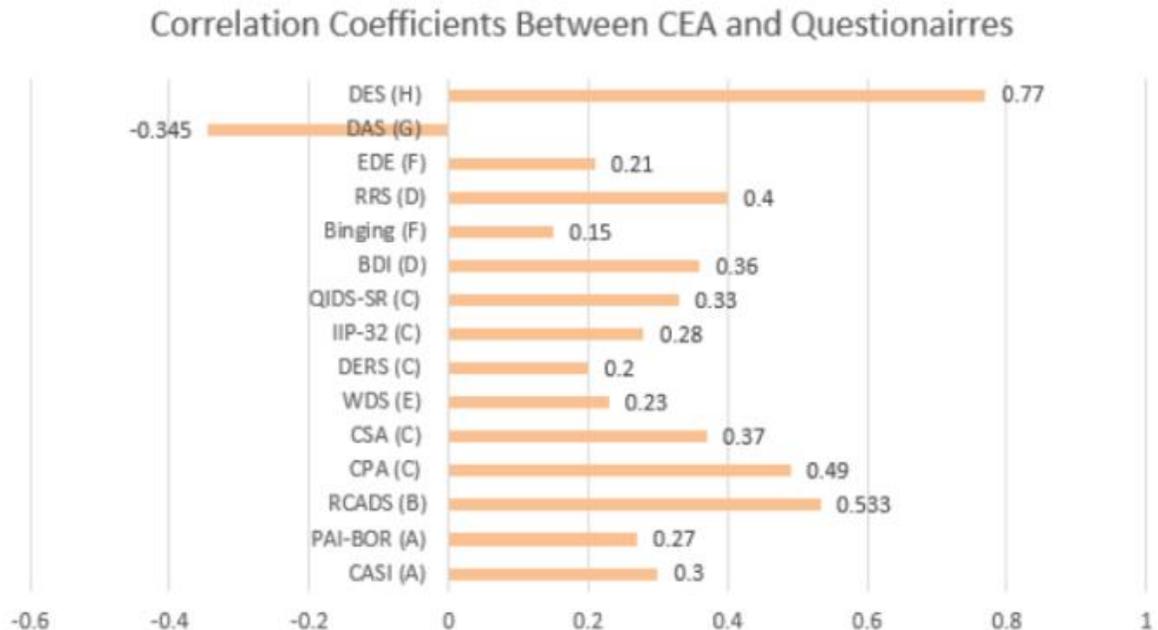
Correlation coefficients (the values for which are labeled beside the bars they represent) for the
relationships between each questionnaire's results and the results of the Childhood Emotional Abuse
(CEA) section of the Childhood Trauma Questionnaire (CTQ)
A= Bounoua, Felton, Long, Stadnik, Loya, Macpherson, & Lejuez, 2015
B= Banducci, Lejuez, Dougherty, & Macpherson, 2016
C= Christ et al, 2019
D= Raes & Hermans, 2008
E= Johnston, Dorahy, Courtney, Bayles, & Okane, 2009
F= Burns, Fischer, Jackson, & Harding, 2012
G= Turkoglu, Essizoglu, Kosger, & Aksaray, 2015
H= Holowka, King, Saheb, Pukall, & Brunet, 2003

Figure 11

The last set of results is regarding the mediating variables and

supplemental questionnaires included in the relationships I am studying. These are also in

correlation coefficient format and can be found in Figure 11. The DES has the strongest

correlation (0.77), indicating that Dissociation is the most correlated with CEA. More

results for the factors' relationship to the disorder factors themselves was not available, but their closeness to CEA is a good start to investigating their role in the greater picture.

DISCUSSION

Ultimately, my experience in this topic has only emphasized how much more attention is necessary. There isn't enough data to see what there is here, only enough to identify that *something* is. There are consistent relationships (visible both through correlation coefficients and through CTQ averages) seen between CEA and DSM disorders. What causes those relationships, which relationships can teach us the most, and what factors may mediate the relationships are not determinable with the low amount of existing research in this topic. I started this thesis seeking a concrete answer, and only found more leads and gaps in awareness.

The positive side to this is that there is so much more to learn. Any one of these disorder's relationship to CEA can inspire a lifetime's worth of work, and that's not even including the other forms of abuse that clearly have relationships of their own to explore. So much is yet to be seen. Are any of these relationships causal? Or is there another factor I have not even considered that ties these factors together? Are the relationships direct between abuse and disorder? Or, is there one or more mediating factors acting as essential steps? What happens to these relationships when any one piece (abuse, mediating factor, or disorder) is changed through identification and treatment? How else can the mental health community use this information to help people?

I have so many more questions than answers, which makes me only more confident in the need for further study on this subject. One more thing that I *can* state confidently are some ideas on how future researchers can improve the quality of CEA

research. The first and easiest is to make raw data accessible. This allows for easier

verification of results, access to information that may be useful in a different context than

the original study, and allow for future meta-analysis to be of much higher quality. The

second change is to strive for more uniformity in procedures and presentation of research.

The number of terms and measures included in this thesis are only a fraction of the many,

many different ways this topic is approached. While creative variations are important,

more consistency among studies will allow for easier comparison and replication in the

future. Lastly, there is a great need for longitudinal studies on this subject. I could not

find one single study of this kind, and it is essential for determining whether these

correlations imply causation. Such information would be incredibly helpful in

determining which direction future research should be taken.

LIMITATIONS

This meta-analysis is only as strong as its weakest links, of which there are some

requiring description. One issue is that all studies found were cross-sectional, meaning

that the correlations found do not entail causation. As stated in the Discussion, this issue

can be resolved in the future with more use of longitudinal study. The information

collected from the CTQ is also self-reported and retrospective. The biases of self-

reporting have already been discussed at length, though it is also important to inform that

in cases of trauma, self-reporting has been found more likely to result in under-stating

abuse level than over-stating (Holowka et al, 2003). Retrospective sampling has the

downside of potential failure to accurately recall events, though many of the disorders

studied can only be diagnosed later in life than CEA takes place, leaving few alternative

options. Additionally, these results may be limited by analysis methods which, despite

my best efforts to reflect the data as accurately as possible, may have involved

misinterpretation of, or alteration to, what was listed in the studies found. Lastly, the

limitations of the studies themselves impact this meta-analysis. Articles listed issues such

as small sample sizes, distributions that were not normal (or reflective of the population),

whether samples of participants were reflective of the population, inclusion of

adolescents (which may create confounding age variables and limit the validity of

measures built for adults), and lack of controlling for different forms of abuse in CEA

correlations. In combination, there may be confounding variables from the variety of

different locations, ages, methods, etc. in which the articles took place. These issues were

weighed individually and taken on as part of the limited availability of quality research

on this subject and are hoped to be less present in future research.

CONCLUSION

Abuse is widespread and harmful, and we need to know more about it. The same

is true for the DSM disorders that have been evaluated in this thesis. By comparing

correlations of the two factors, more can be learned about each individually and together.

Perhaps the relationship between CEA and BED is strong enough that BED can be used

to predict CEA. Perhaps the CEA effects are most closely related to PTSD or some other

disorder that has not been mentioned in these examples. These are uncharted waters, and

the power of collected and consolidated data may just help make the map.

Beyond just research curiosity, the potential implications of this thesis could

fulfill a real and undervalued need. The fact that CEA can act as an independent predictor

for Mood, Anxiety, and Eating disorders is itself enough to merit more attention. More information may help improve the identification, treatment, and prevention of these issues, or be useful in some other yet-to-be-known way. CEA is also treatable, preventable, and harmful. The results of further study may be able to aid in that treatment, provide new methods of that prevention, and/or save people from that harm. That potential is the true resolution of this thesis.

WHERE TO FIND THE DATA AND GRAPHS OF THIS META-ANALYSIS:

Raw Data:

https://docs.google.com/spreadsheets/d/1ykw1OYzT7OtqYA92SYkGblFtYcSq8EA89Hzhx67G9Ts/edit?usp=sharing

Graphs:

https://drive.google.com/file/d/1UHyuCpY3u03iPeYPgwWLaI43xTFkiews/view?usp=sharing

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