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Effects of multiple forms of childhood abuse and adult sexual assault on current eating disorder symptoms

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ABSTRACT

The objective of this study is to examine the effect of recent adult sexual assault on current eating disorder symptoms when controlling for the effects of multiple forms of childhood abuse. A total of 489 undergraduate women completed the Eating Disorder Examination-Questionnaire, and surveys regarding childhood abuse and sexual assault that had occurred in the previous three months. Approximately 30% of the sample indicated recent unwanted sexual experiences. Childhood emotional abuse contributed unique variance to the prediction of current ED symptoms, but sexual and physical abuse did not. Recent sexual assault contributed additional unique variance to current ED symptoms when controlling for childhood abuse, thus both emotional abuse in childhood and sexual assault in adulthood contributed unique variance to ED symptoms.

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1. Introduction

Sexual abuse in childhood is associated with eating disorder (ED) pathology (Thompson & Wonderlich, 2004). However, there are few studies of the association between sexual trauma that occurs in adulthood and current ED symptoms. Additionally, many studies of child sexual abuse (CSA) and eating pathology have not controlled for the presence of other forms of childhood abuse, such as physical (CPA) and emotional (CEA). The purpose of this study is to examine the effect of adult onset sexual assault on current ED symptoms while controlling for multiple forms of childhood abuse.

A consistent association between CSA and ED has been documented. Women with bulimia nervosa (BN) reported higher rates of CSA than women without BN, and sexually abused individuals report higher rates of BN symptoms than those who are not (Smolak & Murnen, 2002). Few studies have assessed the impact of emotional, physical and sexual forms of childhood abuse on ED, instead focusing exclusively on CSA or a combination of CSA and CPA. However, in families in which children are sexually or physically abused, they are also likely to experience emotional abuse. It is plausible that co-occurring CEA contributes to the development of psychopathology, including BN. Researchers that assessed all three forms of childhood abuse have consistently noted a strong association between CEA and ED. For example, women with BN reported higher rates of CEA than women without BN, and CEA is a significant predictor of ED symptoms when controlling for CPA and CSA (Rorty, Yager & Rossotto, 1994; Kent, Waller & Dagnan, 1999). In a population based study, CEA was associated with BN and the presence of multiple co-morbid diagnoses (Schoemaker, Smit, Bijl & Vollebergh, 2002).

The association between adult sexual trauma and ED symptoms is less consistent. Women with CSA and adult rape had the highest levels of eating pathology in a study of women reporting adult and child trauma (Wonderlich et al., 2001). However, women who had experienced CSA without rape had more ED symptoms than rape victims or controls. Data from the National Women's Study indicate that there is a significantly higher rate of adult sexual assault in women with BN than those without BN (Dansky, Brewerton, Kilpatrick & O'Neill, 1997). However, women with BN also reported higher rates of CSA (Dansky et al., 1997).

Two studies distinguished the effects of peer violence or rape from CSA. In high school students, date rape or violence significantly increased odds of purging behavior, controlling for familial abuse (Ackard & Neumark-Sztainer 2002). One study compared women who were raped in the past year to women who had experienced other life threatening trauma (Faravelli, Guigni, Salvatori & Ricca, 2004). This study included only women who had *not* experienced CSA or prior rape. In this sample, 53% of the rape victims reported current ED symptoms, compared to 6% of controls (Faravelli et al., 2004). While these data do not indicate a specific mechanism by which sexual assault leads to ED, it is consistent with research that suggests there is a broad spectrum of traumatic experiences that may be associated with eating pathology (Smyth, Heron, Wonderlich, Crosby & Thompson, 2008).

1.1. Current study

Thus, CSA has been consistently associated with ED symptoms, but few studies have controlled for the effects of physical and emotional abuse. CEA tends to have the strongest relationship to ED when all

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forms of abuse are assessed. This is not surprising, as CEA has a negative impact on child development and later adult esteem and pathology in general (Wright, 2007). Adult unwanted sexual experiences also appear to be linked to ED symptoms, but less consistently. In some studies, it is difficult to disentangle the effects of previous CSA and adult sexual assault on symptoms.

The goal of this study is to address some of these concerns by examining the relationship of both childhood and adult trauma on ED, in order to determine relative contributions of CPA, CEA, CSA, and assault in adulthood. We hypothesize that CEA will contribute the most variance to current ED symptoms when the relationship between all three forms of abuse is controlled for. We hypothesize that recent sexual assault will contribute unique variance to current ED symptoms when controlling for the effects of childhood abuse.

2. Method

2.1. Participants

Participants were 489 women, with a modal age of 18, enrolled in a large Southeastern University. A total of 75.6% of the sample reported Caucasian ethnicity. The remainder described themselves as Asian (8.1%), African American (9.7%), Hispanic (2.0%), biracial (3.4%), and another ethnic group (1.2%).

2.2. Measures

2.2.1. Childhood Trauma Questionnaire (CTQ) (Bernstein & Fink, 1998)

The CTQ is a 28 item self report measure that assesses childhood traumatic experiences. Scale scores are calculated for sexual abuse, emotional abuse, physical abuse, and emotional and physical neglect and range from 'minimal' to 'moderate to severe.' We asked participants to report on experiences prior to the age of 14. For the purpose of this report, scores on the sexual (Cronbach's alpha = .89), physical (Cronbach's alpha = .67) and emotional (Cronbach's alpha = .83) abuse scales were used as predictor variables.

2.2.2. Sexual Experiences Survey (Koss & Gidycz 1985)

This survey asks participants whether or not they had experienced unwanted sexual contact via a number of means. We asked participants if they had experienced each type of assault during their lifetime after the age of 14, and during the past three months. For the purpose of analysis, we created a dichotomous variable representing whether or not a participant had experienced any form of sexual assault in their lifetime and past three months.

2.2.3. Eating Disorder Examination Questionnaire (EDE-Q) (Fairburn & Beglin, 1994)

The EDE-Q is a self-report version of the Eating Disorder Examination Interview (Fairburn & Wilson, 1993). It yields a Global scale, or Restraint, Eating Concern, Weight Concern, and Shape Concern subscales, and frequency of binge eating and purging. Scores above a '3' on these scales are associated with clinically significant symptoms. The Global scale (Cronbach's alpha = .95) and a frequency total of objective binge episodes and purging episodes that occurred over the past 28 days were used as dependent variables.

2.3. Procedure

Participants completed all questionnaires anonymously in a group setting.

3. Results

3.1. Sample characteristics

A total of 17.9% of the sample scored above a '3' on the Global scale of the EDE-Q. Binge/purge episodes ranged from 0 to 72 in the past 28 days, with 16% of the sample reporting at least one episode. A total of 5.7% of the sample scored in the 'moderate to severe' range on the CTQ CEA scale, 4.5% in this range on the CPA scale, and 6.5% in this range on the CSA scale. A total of 31.7%, reported having been sexually assaulted since the age of 14. A total of 31.3% reported that at least one incidence had occurred in the three months prior to data collection. As reports of past three month assault would be redundant with reports of life time assault, we used a variable representing whether or not a participant had been assaulted in the past three months for analysis.

3.2. Regression of childhood abuse and adult assault on EDE-Q scores

We conducted a hierarchical linear regression analysis, following guidelines established by Cohen and Cohen (1983). Scores on the Global scale of the EDE-Q were regressed onto centered scores on the sexual, physical and emotional abuse scales of the CTQ in the first step of the model. This model predicted 4% of the variance Global EDE-Q scores ($r = .19$, $p < .001$). CEA was the only significant predictor of ED symptoms (beta = 17, $p < .001$). The contributions of CPA (beta = −.04, $p < .50$) and CSA (beta = .08, $p < .09$) were not significant.

We entered the dichotomous past three months sexual assault variable in the second step of the model. This step accounted for an additional 2% of the variance. Sexual assault in the past three months contributed unique, significant variance to EDE-Q scores (beta = .14, $p < .01$). When this variable was included in the model, the effect of CEA remained significant (beta = .14, $p < .01$). The total r for the model was $r = .23$, $p < .01$.

Frequency of binge/purge episodes in the sample was significantly skewed (skew = 8.56, with a standard error of .11). Therefore, we created a dummy coded variable representing whether or not a participant had engaged in an objective binge and/or purging episode in the past 28 days. This was entered as a dependent variable in a logistic regression model, and CTQ scores and recent sexual assault were entered as predictor variables. The odds ratio for binge/purge episodes was elevated for scores on CEA (OR = 1.13, 95% CI = 1.06–1.22, $p < .01$) and recent sexual assault (OR = 1.96, 95% CI = 1.18–3.26, $p < .01$). These results paralleled results for our analysis of Global EDE-Q scores.

4. Discussion

These data indicate that self report of CEA was the only significant predictor of current ED symptoms when controlling for the effects of CPA and CSA. This finding differs from studies that have examined the relationship of CSA only to ED. However, it is consistent with the few studies that have simultaneously examined the effects of multiple forms of abuse and found that CEA has a unique effect on ED symptoms (Kenedy, Ip, Joti & Gorzalka, 2007). These data indicate that recent adult sexual assault is also significantly associated with current ED symptoms, even when controlling for CEA.

One limitation of the study is the use of cross sectional data. This data does not allow us to examine the prospective relationship of abuse and assault to later ED symptoms. Some forms of childhood abuse influence the onset of ED symptoms at an earlier age, while recall of CEA influences maintenance of ED symptoms via a different mechanism. An additional limitation is the use of a nonclinical sample. While the base rate of unwanted sexual experiences in adulthood was high, fewer than 10% of the sample endorsed moderate to severe child abuse of any form. A sample of individuals seeking treatment for ED may experience distress regarding previous abuse differently or report

higher rates of childhood abuse. Finally, the majority of participants were Caucasian. These relationships should be tested on diverse samples in order to examine the generalizability of these results.

This study did not examine specific mechanisms by which unwanted sexual experiences influence the development of ED. One hypothesis is that ED symptoms function to regulate negative affect associated with abuse, or are mediated by symptoms of Post Traumatic Stress Disorder (Myers et al., 2006; Dansky et al., 1997). One possible explanation for our findings is that an emotionally abusive environment does not teach adaptive emotion regulation skills, and that the use of maladaptive emotion regulation skills results in ED symptoms. This is similar to the hypotheses noted above, in that ED symptoms may serve as methods of avoidance or regulation of emotion. Future studies should examine possible mechanisms of action by which recent assault and past abuse influence current ED symptoms.

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Contributors

Sarah Fischer, the corresponding author, designed the study and wrote the protocol. Erin Hartzell conducted literature searches and provided summaries of previous research studies. Monika Stojek collected data and contributed to the statistical analysis. Sarah Fischer wrote the first draft of the manuscript and all authors contributed to and have approved the final manuscript.

Conflict of interest

All authors declare that they have no conflicts of interest.

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