INTRODUCTION

Childhood sexual abuse (CSA) can be difficult to acknowledge for survivors and difficult to identify by caregivers [1] described CSA as "any sexual act perpetrated on a child by someone sufficiently older to exercise, by nature of that age discrepancy, power over the child, or who exercises power by more direct coercion" (p. 68). A range of behaviors can be included in the definition of CSA, such as "forced sex and genital fondling. Noncontact behaviors (e.g., exhibitionism, solicitations, and the like) also have been considered abuse" [2,3] stated that traumas, such as CSA, result in enduring psychobiological deficits in relation to emotion control and bodily shame that may in turn compound the possibility of using apparent coping behaviors such as binge eating, purging, substance use, and other self-destructive behaviors. Those who have survived CSA often struggle with lifelong consequences impacting their mental and physical health not matter their gender or ethnicity [4].

The latitude of potential negative effects is broad for adult survivors. CSA is considered by some to be a risk factor for a litany of somatic, mental, and emotional distress are reviewed. Using archival data, the current study (a) explored prevalence of CSA among adults in addiction treatment, (b) examined if diagnoses and addictive behaviors differ for those who report CSA, and (c) examined potential differences in chemical and process addictions and diagnoses for those who report CSA. Eighty-eight participants reported CSA (25.8%; N = 246). Chi-square analysis found the most significant differences between those who reported CSA and those who did not report CSA was in compulsive behaviors, specifically related to hypersexual behavior, disordered eating, and gambling. Statically significant results were also found in the use of sedative hypnotic drugs χ² [1, N = 246] = 0.046, p < .001. Increasing awareness of the possible addictive behaviors that correlate with CSA could improve assessment of trauma’s impact on addiction and increase an understanding of how interventions can be focused for addiction recovery in populations with CSA. Future research might examine the impact of targeted early interventions around compulsive sexual, food, and gambling behaviors for survivors of CSA.
The presentation of process addictions is diverse and can include while affording a feeling, although misleading, of control [24]. Stimulation sought out through behavior that becomes out of finds stimulating is capable of becoming addictive. The basic human need, such as eating, working, shopping, and sex acceptable, and in some cases are a part of daily living or even many activities and behaviors such as: gambling, Internet use, sex, falling in love, working, shopping, videogames, exercise, and food [16,23]. Process addictions such as gambling, disordered eating, hypersexual disorder, and internet addiction are akin to substance addiction, however, the person is not addicted to a drug or alcohol, but to the behavior or sensation felt by participating in the behavior [21,23,25]. Behaviors such as eating disorders [3,26-30] and maladaptive sexual behavior has been found in those who report childhood abuse [31,32].

**Research questions**

1) What is the prevalence of childhood sexual abuse during a one-year sample of an inpatient adult addiction treatment center?  
2) Do diagnoses and addictions differ between those who report childhood sexual abuse and those who deny childhood sexual abuse?  
3) What differences in drug choice and/or compulsive behavior may exist in an adult population in treatment for addiction?  

**METHOD**

**Participants**

The data were collected from the archives of a single, adult inpatient addiction treatment facility over a period of several months in 2013 and focused on clients from January 1, 2012 to December 31, 2012. Over 435 client records were examined by the first author and were included if they met the following criteria: (a) remained in treatment for three days and completed a detailed structured interview and history, (b) they were diagnosed during intake with an addiction, impulse control, or eating disorder, and (c) they provided their drug of choice and/or maladaptive behavior at some point during their intake process. The client's history including self-report of abuse history, diagnosis, and addictive behaviors were gathered by the researcher using the clinic’s database which electronically stored client’s clinical psychosocial interview and the psychiatric interview which supplied the diagnosis. Compulsive, excessive, or maladaptive sexual behaviors are commonly reported as sex addictions [20,22,23]. Sexual addiction criterion were gathered in the psychosocial by a clinician and included behaviors around high frequency of pornography use, excessive masturbation, sexual offending, having sexual intercourse with numerous (frequently unknown) individuals in a short amount of time, exhibitionism, eschewing relational commitments for sexual pleasure, sexual harassment, voyeurism, paying for sex, cybersex, masochism/sadism, and fetishism [20,23,33]. Additionally, the psychosocial intake also inquired about concerns and behaviors around food. According to [34], the different types of eating disorders comprise: anorexia, bulimia, binge-eating disorder, compulsive overeating, bulimarexia, and insulin-hidden eating disorder. Addictive characteristics, such as the inability to control behaviors regarding food, fixation with food or certain foods, secrecy and falsehoods concerning eating habits or food, and perpetuation of these activities although detrimental effects are observed [15].

Several files met the criteria, (n=246). The average age of participants was 36 years (SD = 13) and ages ranged from 19 to 73. Table 1 shows the demographic characteristics of
the 246 participants. The clinic did not gather information on socioeconomic status. Table 2 shows a breakdown of the diagnostic categories clients were assessed as having when admitted to treatment, note that all were in treatment for substance abuse or dependence and many had more than one or two diagnoses.

**Procedure**

Analyses used were primarily descriptive and Chi-square tests to compare obtained data with expectations in hypotheses.

**RESULTS**

**Research Question (1)**

The first research question asked about the prevalence of CSA among inpatient adults in treatment for addiction. Of the 246 participants, 88 reported CSA (25.8% of the total sample). To further break down who reported CSA, 38 men (27.9% of the male participants) and 50 women (45.5% of all the women in the sample) reported CSA.

**Research Question (2)**

Several statistical significant differences appeared in addictive behaviors between those who reported CSA and those who did not report CSA. These differences are discussed more in depth under Research Question (3). The difference between those who reported CSA and were diagnosed with PTSD and/or impulse control disorders and those who did not report CSA with the same diagnosis were statistically significant, $\chi^2(1, N = 246) = 0.000, p < .001$. Another statistically significant difference was in eating disorder diagnosis with those reporting CSA having a higher rate of diagnoses, $\chi^2(1, N = 246) = 0.037, p < .001$.

Men and women disclosed different rates of CSA as previously mentioned. Diagnoses reflected a gender difference also. Only two diagnosis categories were statistically significant different between men and women. The most significant differences were in PTSD and eating disorders, $\chi^2(1, N = 246) = 0.000, p < .001$. The breakdown of these categories included 45.5% of women were diagnoses with PTSD compared to 12.5% of men. Of the women in the sample, 28.2% had an eating disorder compared to 2.9% of men. The third most significant difference was in higher rates of mood disorders among women 72.7% vs men 55.9%, $\chi^2(1, N = 246) = 0.006, p < .001$.

**Research question (3)**

**Chemical addiction:** Those with CSA that did not endorse substance abuse made up 11% of the sample. Of those who reported substance abuse and CSA, substance of choice was heavily skewed. The only statistical difference between those who reported CSA and those who did not report CSA was in the use of sedative hypnotic drugs, $\chi^2(1, N = 246) = 0.046, p < .001$. Of the 78 CSA participants who reported a substance dependence or addiction upon admission, the drugs of choice are listed as follows (people often reported using more than one drug): Alcohol 64.8%, Stimulants 24%, Stimulant psychedelic 2%, Depressant 59%, Sedative hypnotic 6%, and Hallucinogenic 3%. Depressant and sedative hypnotic use was only 4% higher for those with CSA.

**Process addiction:** Those with CSA that did not report compulsive behaviors made up 30% of the sample. The results of the data showed a number of statistically significant differences
in compulsive behaviors between those who reported CSA and those who did not report CSA: hypersexual behavior $\chi^2(1, N = 246) = 0.000, p < .001$; disordered eating including eating disorders and over eating $\chi^2(1, N = 246) = 0.002, p < .001$; and gambling $\chi^2(1, N = 246) = 0.015, p < .001$. Of those who reported disruptive and compulsive behaviors and CSA are listed as follows (people often reported using more than one drug): 32% reported disordered eating or eating disorders, 49% reported hypersexual behavior, 2% reported exercising, 2% working, 5% gaming, 2% Internet, 3% shopping, 1% gambling, and 2% reported other compulsive behaviors.

**DISCUSSION**

In this study, we found significant rates of CSA among inpatient adults with addiction. While the relationship between substance abuse and CSA has been studied repeatedly over the years and CSA survivors have been found to be more apt to abuse substances [5,7-9,11-13,19] highlighted the fact that corroborating outcomes have not been found in all studies thus the need for further study. Our examination of the prevalence of CSA in this population shows that CSA is associated with various compulsive behaviors and not drug preference. A correlation exploration showed the largest differences between those who reported CSA and those who did not revolved around food, sex, and gambling.

In support of the current findings, multiple previous studies have found maladaptive behaviors are often used as coping strategy for survivors of CSA. Our study found those who reported CSA and had a co morbid eating disorder diagnosis or admitted to disordered eating were double of those without sexual abuse (31.8 to 15.2%). Eating disorders have been observed at rates as high two or more times more frequent with women and who were victims of CSA than those who had not experienced CSA [3]. Similar results were found for men [26,27]. Mental health professionals treating CSA survivors have observed that the frequency of eating disorders appears higher than would be likely by coincidence [24,28]. While eating disorders may have many determinates, the current study does show that eating disorders do exist at high rates with those who have CSA. Other studies support this finding and state CSA is one contributing factor [25,28-30].

The current study also compliments and expands upon existing research in the areas of sexual behavior. Nearly half of the current study reported sexually acting out (only 26% of those w/o CSA also report sexual acting out). Wilson and [35] described hypersexual disorder as “a disproportionate amount of time spent on planning for and participating in sexual activity, participating in sexual activity to alter ones mood or as a way to handle stress, inability to control sexual compulsions and sexual fantasies, and engaging in un safe sexual activity” (p. 18). In line with the current study findings, research has found substantial association between an early history of sexual abuse and hypersexuality [31,33,36,37]. In their study of women sex addicts, [32] found that 76% of their participants had experienced CSA. Further, in their study of women sex and love addicts who use the Internet, [31] found a significant relationship for sex addiction, physical contact CSA (49%) as well as CSA by exposure to pornography (53%).

Those who reported distress about their gambling in our study, which the DSM-V [38] has under substance use disorders, often had a higher rate of reporting CSA than those who did not (8.9 to 1.1%). A reported history of CSA did not appear to impact maladaptive behaviors involving exercise, work, gaming, internet, and shopping for this population. Compared to sex and food addictions, very little research has been done regarding the connection between CSA and other process addictions. Some research can be found to support that CSA is linked to Internet addiction, for both men and women [31,36,39]. However, these authors were unable to find research related to other process addictions (such as gambling, shopping, exercise, and videogames) and their relationship with CSA, which certainly may warrant further study. Other process addictions have many of the same characteristics shared by substance, sex, and food addictions [17,22,23,31].

The clinical implications of our current findings are to increase awareness of the full range of likely addictive behaviors that correlate with CSA. By using a large database of an identified addictive population looking for CSA, the current study sets out to support and expand on previous researches findings in addiction and trauma. Our hope is the current findings will expand therapist conceptualization of trauma’s impact on addiction and lead to a better understanding of how interventions could be focused for addiction recovery in populations with CSA.

We acknowledge a number of limitations in this study. This study draws its sample from a single cohort at a single institution. The sample does not represent the diversity of the general population, especially in race/ethnicity and socioeconomic status. Consequently, its generalizability is extremely limited. However, the model presented here should be easily replicable both across time and across institutions, making confirmation of this study’s findings feasible. Additionally, the data collection method used in this study has limitations. Findings from studies such as this one employing data archival methods rest largely on how closely the self-disclosure within three days of admission into a treatment facility reflect the conceptual relationships of interest, which in this study is chemical addiction and compulsive behaviors. Even in the best of circumstances, self-report in-and-of itself is flawed regarding reporting being influences by social desirability and recall biases.

Future studies are encouraged to explore with more depth if CSA causes vulnerable to specific addictive behaviors. Future research possibilities include some of the areas where research literature contradicts itself are the association between CSA and substance abuse as related by gender, age of initial CSA, and race/ethnicity. According to [8], most studies about CSA have centered on women [2]. Maniglio declared that this one-sided focus does greatly substantiate substance abuse in women CSA survivors. However, this ignores men who have also suffered from CSA, in which, Maniglio maintained, have also shown elevated substance abuse [10]. Agree with Maniglio’s sentiment when they stated that the scarcity of research encompassing men who are CSA survivors impedes any suggestions about a relationship between CSA and substance abuse in men. In a study, looking
at incarcerated men, [35] observed that the majority of the men were victims of CSA. Further, significant associations were revealed between CSA and the male inmates reporting substance abuse.

For early intervention purposes, future studies may also examine the age abuse occurred in correlation to maladaptive behaviors [29]. Found that 92% of their participants who had experienced CSA reported that the sexual abuse was prior to their earliest eating disorder symptoms or actions. The current study was unable to capture the age of abuse as this was not an intake question [7]. asserted that an earlier age for the initial CSA was connected with more intense depression. “Penetrative abuse, younger age at CSA onset, and lack of confidence dealing with CSA were associated with more severe depression in CSA victims” [7]. Other researchers have stated that the younger the age at the initial CSA, the greater the probability of a later diagnosis of a substance abuse disorder [2,8,13,31], specified that the effect of pornography on children has been linked with “early onset of sexual activity, alcohol and drug use, and unsafe sex” (p. 69). The outcome of research only studied women. Additionally research is recommended to further examine how different genders are impacted by sexual abuse since there are many contradictory outcomes in the research literature concerning how gender may influence the relationship between CSA, substance abuse, health, and reports of psychosocial pathology [7,8,11]. Finally, future studies should also continue to try to be as inclusive of diversity such as our study did not have a strong enough representation of transgender identified individuals to interpret and this seems to be similar to the previously mentioned studies.

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