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Childhood trauma affects psychological distress and Alcohol Abstinence Self-efficacy in individuals with Alcohol Use Disorder

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Abstract. Childhood trauma is a problem that can cause suffering and long-term negative consequences for the individual. A secondary analysis of the dataset in the Gothenburg Alcohol Research Project (n = 349) aimed to investigate the effects of childhood trauma, as assessed by the Childhood Trauma Questionnaire (CTQ), on psychological distress, as assessed by the General Severity Index (GSI), and Alcohol Abstinence Self-Efficacy (AASE), in individuals suffering from Alcohol Use Disorder (AUD). A hierarchical regression was conducted to test if higher scores of CTQ were associated with lower scores of AASE. This was confirmed in model 1. However, adding GSI to model 2 meant childhood trauma was no longer a significant predictor of AASE, indicating a possible mediation effect of GSI. A mediation analysis confirmed that GSI was a significant negative mediator in the relationship between CTQ and AASE. Higher scores of CTQ were associated with higher scores of GSI, which in turn were associated with lower scores of AASE. The results show the importance of addressing childhood trauma, psychological distress, and Alcohol Abstinence Self-Efficacy in interventions for individuals with AUD. Future research could explore causal chains through longitudinal studies to investigate the impact of CTQ, GSI, and AASE on treatment outcomes.

Childhood trauma (CT), such as emotional, physical, or sexual abuse, or emotional or physical neglect, is a complex and pervasive problem that affects millions of children worldwide each year (Clemens et al., 2020). Prevalence rates of CT are difficult to estimate and are likely underreported. However, in a German study, one-third of adults report some form of CT, and many reported experiencing multiple types of maltreatment (Witt et al., 2017).

Traumatic experiences in childhood often have far-reaching consequences that can persist into adulthood and cause psychological dysfunction and distress (Dube et al., 2001), such as depression, anxiety, and post-traumatic stress disorder (PTSD) (Green et al., 2010; Kessler et al., 2010; Van der Kolk, 2014). Repeated traumatic events experienced over an extended period of time can result in Complex PTSD (C-PTSD), and the consequences can be more severe than with a single traumatic event (Alborn et al., 2023). Trauma caused by childhood maltreatment (CM) can erode the trust the child has in adults and authority figures, as the child is hurt or neglected by those they depend upon for guidance and protection, not by an impersonal event such as an accident or natural disaster. This can lead to long-lasting attachment issues, as their needs and safety are disregarded or threatened, often by their closest caregivers. It can also produce a feeling of lack of control and lack of personal agency as the child feels it cannot protect itself or be protected by others, creating pervasive feelings of being powerless and helpless (Van der Kolk, 2014).

CT is also associated with an increased risk of Alcohol Use Disorder (AUD) in adulthood (Elliott et al., 2014; Enoch, 2011: Felliti et al., 1998; Pilowski et al., 2009; Van der Kolk, 2014; Witt et al., 2017). As defined by the American Psychiatric Association (2013), AUD is a chronic and relapsing disorder characterized by compulsive alcohol consumption, decreased control over alcohol intake, and negative affective states during times of abstinence. One reason individuals with CT might turn to alcohol use is to regulate negative affect caused by unresolved trauma, and negative affect has been shown to mediate the relationship between childhood abuse and substance use problems (Simpson & Miller, 2002). Comorbidity between CT, AUD, and psychological distress, such as depression, anxiety, PTSD and C-PTSD, is common in patients in treatment for AUD (Alborn et al., 2023).

Alcohol consumption is a major cause of somatic and psychiatric illnesses, injuries, and death among adults around the world, and can also bring social and economic harm to the individual and society. Over 3 million deaths worldwide can be attributed to harmful use of alcohol every year (WHO, 2022). Given the negative effects AUD can have on both individuals and society, it is pertinent to investigate risk factors for AUD, such as CT or psychological distress, or protective factors that can help the individual to abstain from alcohol and prevent relapse. One such protective factor is Self-Efficacy (SE). SE refers to a person's belief in their ability to exert influence over a situation or their own behavior in order to achieve their goals. Higher levels of SE can give the individual a sense of control and personal agency and influences how people take on challenges, set goals, and respond to setbacks. It affects motivation, resilience, persistence, and mental well-being. SE is specific to different tasks and its level can vary across domains (Bandura, 1977, 1997). Several studies have shown a positive association between SE and successful treatment and alcohol abstinence in individuals with AUD (Ilgen et al., 2005; Kadden & Litt, 2011; Litt et al., 2016; Maisto et al., 2000; Moos & Moos, 2006; Project MATCH Research Group, 1998; Witkiewitz & Marlat, 2004).

One domain-specific form of SE, Alcohol Abstinence Self-Efficacy (AASE), refers to the individual's belief in their ability to abstain from alcohol use across various conditions and situations (DiClemente et al., 1994). Earlier research shows AASE to be a significant predictor of treatment outcomes and relapse in individuals suffering from AUD (Kadden & Litt, 2011; Litt et al., 2016; Project MATCH Research Group, 1998; Witkiewitz & Marlat, 2004).

The relationships between CT, psychological distress and AUD are well established, but the relationship between CT and AASE has received limited attention. Searching the databases PubMed and PsycInfo, the author of this thesis found one article that addresses the associations between adverse childhood experience (ACE) (Felliti et al., 1998) and AASE. The article showed that higher number of ACEs predicts worse symptoms of depression, anxiety and PTSD, and lower degree of AASE (Borgert, et al., 2022). However, in the study by Borgert and colleagues (2022), the AASE survey was modified to assess substance use disorders (SUDs), not AUD.

Since SE is domain-specific (Bandura, 1997) it makes sense to use AASE as an indicator of a person's belief in their ability to abstain from alcohol, while other types of SE could make less sense in this context. However, there are some studies on other domains of SE that could be of interest for the present study. For example, Walter and colleagues (2010) showed that PTSD mediates the relationship between childhood abuse and SE. Weindl and colleagues (2018) found a negative association between CT and SE, with Emotional Regulation

(ER) functioning as a mediator between the two. A review of 20 studies found a negative association between childhood sexual abuse (CSA) and SE in women and recommend that treatment interventions target the loss of SE to instill a sense of personal agency and control in the victims of CSA (Ebrahim et al., 2022). The sense of a loss of personal agency can be one reason CT could be associated with SE. A child being maltreated by an adult or adults whom they depend upon for its survival and well-being could feel it is trapped in a hopeless situation from which he or she cannot escape (Ebrahim et al., 2022; Van der Kolk, 2014) thus feeling a low sense of efficacy and a loss of personal agency (Bandura, 1997; Ebrahim et al., 2022). People who believe they can exercise some form of control over their situation generally exhibit a lower degree of arousal when facing distressing and threatening events, while psychological distress can also have a debilitating effect on SE, showing a bi-directional causality (Bandura, 1997). Traumatic experiences are characterized by a sense of danger, unpredictability, and loss of control, thereby undermining the individual's sense of efficacy and personal agency (Benight & Bandura, 2004).

The aim of the present study is to investigate the association between CT and AASE, and to explore whether psychological distress mediates the relationship between CT and AASE. This could potentially contribute to a deeper understanding about factors influencing the outcome of interventions for AUD, and the importance of using targeted interventions to enhance AASE or treat the negative consequences of CT.

To the best of the author's knowledge, the present study will be the first to address the relationship between CT as measured by Childhood Trauma Questionnaire (CTQ) (Bernstein et al., 2003) and AASE, as well as psychological distress as indexed by the General Severity Inventory (GSI) (Derogatis & Unger, 2010) as a potential mediator between CTQ and AASE.

Based on previous research, the author will evaluate two hypotheses:

1. *CTQ will be negatively associated with AASE, such that higher CTQ scores will be associated with lower AASE scores.*

2. *GSI will negatively mediate the relationship between CTQ and AASE, such that higher CTQ scores will be associated with higher GSI scores, which in turn will be associated with lower AASE scores.*

Method

Participants and procedure

The present study used data collected at baseline in the longitudinal project Gothenburg Alcohol Research Project (GARP); a project aimed at identifying factors affecting the outcome of treatments for AUD (Fahlke et al., 2012; Berglund et al., 2013; Rauwolf et al., 2017).

Participants who met the criteria for alcohol dependence according to DSM-IV (American Psychiatric Association, 1994) were recruited from three treatment facilities in Gothenburg, Sweden, between 2004 and 2010. Patients arriving at any of the three treatment centers were invited to participate in GARP. Those who agreed to be part of the study were

then interviewed in the first week of arrival and filled out several questionnaires over the following week. Participants were followed up 2.5 years after entering treatment, but those data were not included in the present study. Patients suffering from psychiatric or somatic comorbidity or dependent on substances other than alcohol or nicotine were excluded from the study (Rauwolf et al., 2017). The total number of participants in GARP was 349 patients (263 men and 86 women) with a mean age of 47.9 years.

Not all participants completed all surveys and interviews which led to an attrition rate of between 17 % to 19 % in the present study. The number of participants who completed the questionnaires or surveys for each variable is presented in Table 1, along with mean values, lowest and highest values, standard deviations, and median values.

Table 1.
Descriptive statistics for variables included in the study

Variable	*Mean*	*Min-Max*	*SD*	*Median*	*N*
AASE	14.49	5-25	4.76	14.00	314
CTQ	37.91	25-88	11.76	35.00	321
GSI	69.99	40-168.4	23.35	64.44	306
DSM	5.30	2-7	1.57	6.00	349
Gender	0.25	0-1	0.43	0.00	349
Age	47.86	21-71	10.34	49.00	348
Married	0.56	0-1	0.50	1.00	348
Education	11.45	6-22	2.15	12.00	346
Hi-Ed	1.58	0-11	2.29	0.00	341

Note: Hi-Ed = Higher education. Min-Max signifies the lowest and highest recorded value in the sample.

Materials

Four self-assessment surveys used in GARP were deemed relevant for the present study: Childhood Trauma Questionnaire - Short Form (CTQ-SF), the Alcohol Abstinence Self-Efficacy Scale (AASE), Symptoms Checklist-90 (SCL-90), and alcohol dependence as defined in DSM-IV (American Psychiatric Association, 1994). All instruments were validated in Swedish versions.

The CTQ-SF is a retrospective survey used to assess the severity and frequency of interpersonal traumatic experiences in one's childhood. The 28 items are divided into five subscales: emotional abuse, physical abuse, sexual abuse, emotional neglect, and physical neglect. The scoring ranged from: 1 = "never true" to 5 = "very often true". The sum of the five subscales can be used to create one index variable, and the present study uses the index variable. The psychometric evaluations were acceptable (Bernstein et al., 2003; Gerdner and Allgulander, 2009). Cronbach´s alpha for the total sum has been measured to 0.92 (Nilsson and Svedin, 2017).

AASE is a validated scale that consists of 40 items, where the first 20 items assess the individual's temptation to use alcohol in 20 different situations in the past week and the second 20 items measure the individual's perceived confidence in abstaining from alcohol use in the same 20 situations (DiClemente et al., 1994). The latter 20 items were used in the present study. The scoring ranges from 1 = "not at all confident" to 5 = "extremely confident". Cronbach's alpha = 0.91.

SCL-90 assesses perceived mental and somatic well-being using 90 items and nine subscales: somatization, obsessive-compulsive, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychoticism. The nine subscales can be

divided into three global index assessments and the one used in the present study is Global Severity Index (GSI) that measures aspects of mental health issues (Lundin et al., 2015). The items estimate how much an individual is bothered by poor mental or somatic health in the past week and are scored on a scale from 0 = "not at all" to 4 = "extremely". Cronbach´s alpha has been calculated to between 0.77–0.90 (Fridell et al., 2002).

Alcohol dependence as defined by DSM IV (American Psychiatric Association, 1994) means the individual reports three or more of the seven criteria at any time over the past year. The individual answers yes or no to seven statements regarding alcohol dependence, for instance "drinking in larger amounts or over a longer period than intended" or "important social, occupational, or recreational activities given up or reduced because of drinking" (American Psychiatric Association, 1994). The variable generated from this survey (DSM) was included in the present study's analyses to provide information on the level of alcohol consumption among the participants. Cronbach's alpha = 0.64.

Data Analysis

Statistical Package for the Social Sciences (SPSS), version 29.0.0.0, was used to evaluate the first hypothesis. Alpha level was set to 0.05. To assess the first hypothesis, a hierarchical regression was performed, testing whether CTQ will predict the value of AASE when controlling for background variables in model 1, and then adding GSI in model 2 to see if the relationship between CTQ and AASE changed when GSI was included. The background variables were DSM, gender (male/female), age (in years), married (yes/no), education (in years), and higher education (in years).

The data met the required assumptions for regression analysis. Multicollinearity, using VIF and tolerance values, was within acceptable limits. The independence of residuals was confirmed with the Durbin-Watson test, and scatterplots showed linear relationships, homoscedasticity, and normally distributed residuals. An outlier affecting the results was identified in the variable Education, where an individual reported zero years of education. This seemed highly unlikely for someone capable of reading and responding to surveys. As the outlier was found to have an impact on the results, it was removed from the dataset.

Borg and Westerlund (2012) recommends a sample size of at least $n = N \geq 50+8m$ where m represents the number of predictors. In the present study, 7 predictors were used in model 1 and 8 in model 2, meaning the sample of this study should at least consist of $n = 106$ participants in model 1 and $n = 114$ participants in model 2. The condition was met as the sample size of the regression analysis was $n = 284$ participants.

To evaluate the second hypothesis, a mediation analysis was performed using Andrew Hayes Process Macro for SPSS version 4.2 beta release (Hayes, 2017). The independent variable was CTQ (X), the mediator (M) was GSI, and AASE was the dependent variable (Y). The Process Macro is a tool designed for analyzing moderation, mediation, and conditional process models (Hayes, 2017). In this study, model 4 was used, which is designed for simple mediation analysis. The alpha level was set to 0.05. The number of bootstrap samples for percentile bootstrap confidence interval was 5000. The number of participants in this analysis was $n = 291$.

Ethics

The data used in the present study were collected in the project GARP which was approved by the Central Ethical Review Board in Gothenburg (Dnr: 487-03). It followed ethical principles established by the Swedish Research Council (2017) and relevant laws (SFS 2003:460).

Results

Bivariate correlations between the 9 variables analyzed in the present study are shown in Table 2. Significant correlations of note included a negative correlation between CTQ and AASE (r = -.210, p<0.001), a positive correlation between CTQ and GSI (r = .362, p<0.001), and a negative correlation between GSI and AASE (r = -.374, p<0.001).

Table 2.
Correlations between all variables included in the analysis.

Variable	1	2	3	4	5	6	7	8
1. AASE	-	-	-	-	-	-	-	-
2. CTQ	-.210*	-	-	-	-	-	-	-
3. GSI	-.374*	.362*	-	-	-	-	-	-
4. DSM	-.223*	.196*	.248*	-	-	-	-	-
5. Gender	-.124**	.190*	-.046	-.026	-	-	-	-
6. Age	.041	-.074	-.211*	-.067	-.077	-	-	-
7. Married	.055	-.141**	-.045	-.057	-.064	.100	-	-
8. Ed	.098	-.110	-0.45	-0.78	.085	-.141**	0.26	-
9. Hi-Ed	.217*	-.148**	-.167**	-.227*	-.038	.085	0.88	.492*

Note: Ed = Education. Hi-Ed = Higher Education. *p<0.001 **p<0.05

Hypothesis Testing

Hypothesis 1

A hierarchical regression was performed to answer Hypothesis 1: *CTQ will be negatively associated with AASE, such that higher CTQ scores will be associated with lower AASE scores.* The results are shown in Table 3. Significant results in model 1 are a negative relationship between CTQ and AASE (b=-.054, 95% CI [-0.10, -0.01], p=.024), a significant negative relationship between DSM and AASE (b=-.534, 95% CI [-0.92, -0.15], p=.006), and a positive relationship between higher education (Hi-Ed) and AASE (b=.335, 95% CI [0.05, 0.62], p=.024).

In model 2, when adding GSI to the model, the negative relationship between CTQ and AASE was no longer significant (b=-.009, 95% CI [-0.06, 0.04], p=.706). Hi-Ed no longer had a significant positive relationship with AASE (b=.269, 95% CI [-0.01, 0.55], p=.057). The added variable GSI showed a significant negative relationship with AASE (b=-.069, 95% CI [-0.09, -0.04], p<.001). Gender, previously not significant, now showed a significant negative relationship with AASE (b=1.544, 95% CI [-2.78, -0.31], p=.014). The negative relationship between DSM and AASE remained significant in model 2 (b=-.372, 95% CI [-0.74, -0.001], p=.049).

In Table 3, the key finding is the change in the association between CTQ and AASE when including GSI as a predictor in model 2, indicating the potential influence of GSI on the relationship between CTQ and AASE.

Table 3.
Hierarchical regression

Predictors	*b*	*β*	*SE*	*t*	*p*	*Tolerance*	*VIF*
Model 1							
(Constant)	20.163		2.743	7.351	<.001		
CTQ	-.054	-.136	.024	-2.262	.024	.894	1.118
DSM	-.537	-.163	.195	-.2.750	.006	.913	1.096
Gender	-1.081	-.097	.654	-1.654	.099	.939	1.064
Age	-.001	-.001	.027	-.024	.981	.935	1.070
Married	.064	.007	.555	.115	.908	.967	1.034
Ed	.004	-.002	.148	.024	.981	.709	1.409
Hi-Ed	.335	.155	.147	2.278	.024	.693	1.443
Model 2							
(Constant)	24.725		2.701	8.885	<.001		
CTQ	-.009	-.023	.024	-.378	.706	.791	1.263
DSM	-.372	-.113	.188	-1.975	.049	.889	1.125
Gender	-1.544	-.138	.627	-2.461	.014	.922	1.084
Age	-.028	-.060	.026	-1.053	.293	.902	1.109
Married	.155	.016	.529	.294	.769	.966	1.035
Education	-.029	-.013	.140	.205	.838	.709	1.411
Hi-Ed	.269	.124	.140	1.913	.057	.688	1.454
GSI	-.069	-.334	.013	5.484	<.001	.785	1.274

Note: Dependent variable: AASE. Hi-Ed = Higher education.

Table 4 shows a model summary for the hierarchical regression models for testing hypothesis 1. Model 1 includes the predictor variables CTQ, DSM, Gender, Age, Married, Education, Higher Education, and Work, with an R square of .111. Adding GSI as a predictor in model 2 improves the explanatory power of the model, the R square now being .199, an R square change of .088.

Table 4.
Model summary

Model	*R*	*R Square*	*Adjusted R Square*	*Std. error of the estimate*	*R square change*	*F Change*	*df 1*	*df 2*	*Sig. F change*
Model 1	.333[a]	.111	.089	4.58	.111	4.93	7	276	<.001
Model 2	.446[b]	.199	.176	4.36	.088	30.07	1	275	<.001

a. Predictors: (Constant), CTQ, DSM, Gender, Age, Married, Education, Higher education, Work.
b. Predictors: (Constant), CTQ, DSM, Gender, Age, Married, Education, Higher education, Work, GSI.

In Table 5, the results of the ANOVA for the two hierarchical regression models testing Hypothesis 1 are presented. Both models show a significant relationship with the dependent variable AASE (Model 1: F=4.934, p<.001. Model 2: F=8.531, p<.001).

Table 5.

Anova[a]

Model		*Sum of squares*	*df*	*Mean square*	*F*	*p*
Model 1	Regression	724.26	7	103.47	4.934	<.001[b]
	Residual	5787.91	276	20.97		
	Total	6512.17	283			
Model 2	Regression	1294.78	8	161.85	8.531	<.001[c]
	Residual	5217.39	275	18.97		
	Total	6512.17	283			

a. Dependent variable: AASE

b. Predictors: (Constant), CTQ, DSM, Gender, Age, Married, Education, Higher Education, Work.

c. Predictors: (Constant), CTQ, DSM, Gender, Age, Married, Education, Higher Education, Work, GSI.

Hypothesis 2

A mediation analysis was performed to test Hypothesis 2*: GSI will negatively mediate the relationship between CTQ and AASE, such that higher CTQ scores will be associated with higher GSI scores, which in turn will be associated with lower AASE scores.*

The model summary is shown in Table 6. The results and the pathways of the mediation analysis are shown in figure 1. CTQ showed a significant positive effect on GSI (*a path; β*=.370, *p*<.001), indicating that higher CTQ scores were associated with higher scores on GSI. GSI showed a significant negative effect on AASE (*b path; β*=-.352, *p*<.001), where higher scores of GSI resulted in lower scores of AASE. The total effect of CTQ on AASE was negative and significant (*c path; β*=-.221, *p*<.001). CTQ had a negative direct effect on AASE, but the result was not significant (*c´ path; β*=-.091, *p*=.119).

The indirect effect of CTQ on AASE through GSI was statistically significant (*standardized indirect effect (ab)*=-.130, 95% CI [-.190, -.077]). The results suggest GSI fully mediates the relationship between CTQ and AASE since the direct path between X and Y is non-significant (Baron & Kenny, 1986).

Table 6.

Model summary for the mediation analysis

Model	*R*	*R Square*	*Mean Squared Error*	*F*	*df 1*	*df 2*	*p*
Model 1	.370[a]	.137	473.80	45.74	1	289	<.001
Model 2	.395[b]	.156	18.87	26.59	2	288	<.001
Total effect model	. 221[c]	.049	22.32	14.87	1	289	<.001

a. Predictors: (Constant), CTQ.

b. Predictors: (Constant), CTQ, GSI.

c. Predictors: (Constant), CTQ.

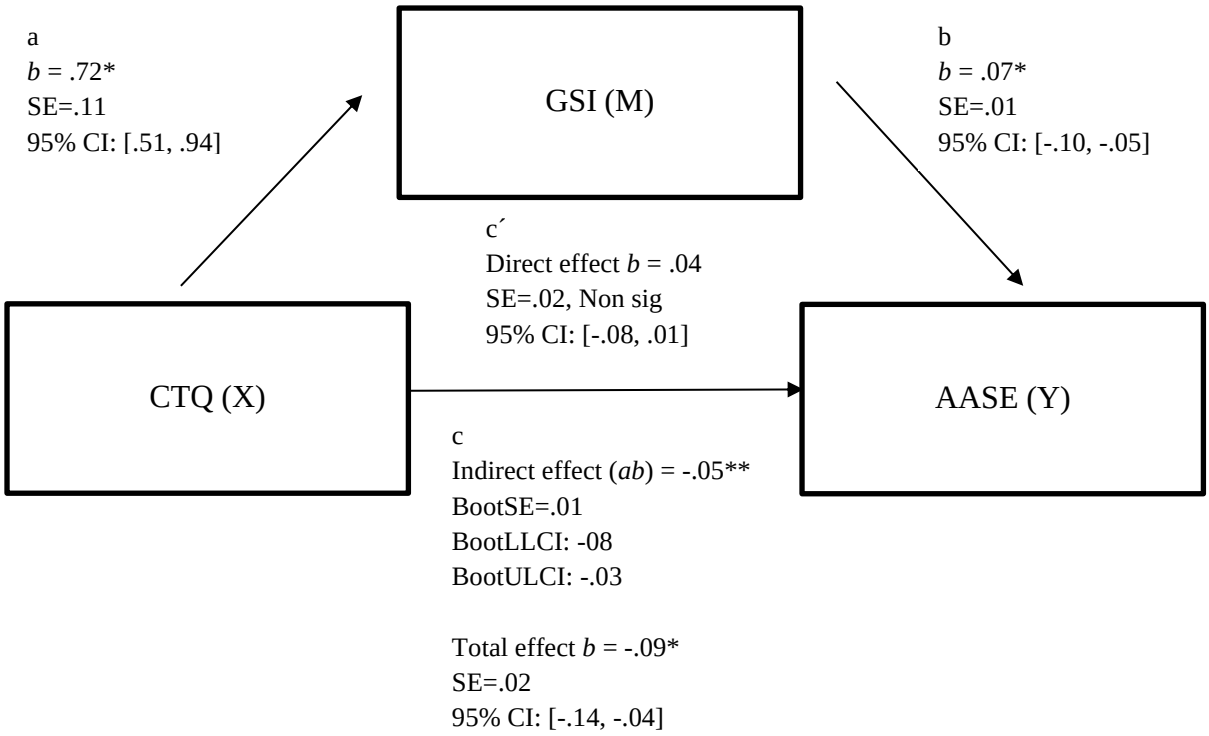

Fig. 1. Mediation model showing how GSI mediates the relation between CTQ and AASE. a show the pathway between X and Y, b shows the pathway between M and Y, c´ show the direct effect of X on Y, and c show the indirect effect of X on Y through M, and the total effect of X on Y. Path coefficients are indicated as unstandardized beta coefficients. *p<0.001 **p<0.05

Discussion

The aim of the present study was to investigate the association between CT and AASE, and to explore whether psychological distress mediates the relationship between CT and AASE. Based on previous research, the author evaluated two hypotheses:

1. *CTQ will be negatively associated with AASE, such that higher CTQ scores will be associated with lower AASE scores.*

2. *GSI will negatively mediate the relationship between CTQ and AASE, such that higher CTQ scores will be associated with higher GSI scores, which in turn will be associated with lower AASE scores.*

The results confirmed *H1* in a hierarchical regression, showing CTQ to have a significant negative association with AASE. However, when adding GSI in model 2, CTQ was no longer a significant predictor of AASE. Instead, GSI showed a significant negative association with AASE in model 2. This suggests the relationship between CTQ and AASE could be mediated by GSI. This was confirmed by a mediation analysis, whose results supported *H2*. Higher scores of CTQ were associated with higher scores of GSI. Higher scores of GSI were associated with lower scores of AASE. This shows a significant indirect effect of CTQ on AASE. However, there was no significant direct effect of CTQ on AASE, showing that the effect of CTQ on AASE was negatively mediated through GSI.

Whether the results could be considered to show a full of partial mediation is a topic of debate. However, according to criteria established by Baron and Kenny (1986), the result

indicate full mediation, as the direct effect became non-significant after controlling for the mediator.

The correlation between CTQ and AASE was small, while the correlations between GSI and CTQ and AASE respectively were of medium size. Other significant correlations and results from the hierarchical regression are interesting but are beyond the scope of this study to analyze.

Some interesting inferences could be drawn from the present study. According to Miles and Shevlin (2001), assumptions of causality can be drawn from a cross-sectional study if the underlying theories are sound and common sense is used regarding temporal sequences. CTQ is measured retrospectively. Childhood events cannot be caused by GSI or AASE, which are assessments of states experienced at the baseline of the study. According to the theory of SE, SE and negative affective states have a bi-directional causality (Bandura, 1997). It would make sense that childhood trauma causes the level of GSI, which then causes the level of AASE, but also that higher levels of AASE can be protective against low levels of GSI.

There is a possibility of a direct link between CTQ and AASE as SE is partially based on previous experiences and harmful alcohol use could be learned from a negative role-model (Bandura, 1997). It is also possible that other mediators are involved and that there is no direct link between CTQ and AASE. It is beyond the scope of the present study to show if this is so. However, based on earlier literature, it is likely that a common factor between high CTQ, high GSI, and low AASE, could be a perceived lack of control and personal agency, which could lead to feelings of hopelessness and helplessness (Bandura, 1997; Benight & Bandura, 2004; Van der Kolk, 2014).

Van der Kolk (2014) emphasizes the need to address the effects of childhood maltreatment, including loss of control. Individuals can work to rebuild a sense of control and personal agency through therapy and support, such as trauma-informed care, or trauma-focused cognitive-behavioral therapy (TF-CBT) (Van der Kolk, 2014).

Of course, issues regarding CT, psychological distress, AASE, and AUD, could be relevant not just for adults who have experienced CT but also for young teens and children who are living the experience now and not thinking about it retrospectively. CT increases the risk of AUD and other substance use disorders, but there is also a reversed causality where substance use increases the risk for teenagers and children of being maltreated (Capusan et al., 2021). It is an unfortunate trait of humans that some people take advantage of those who are vulnerable.

Strengths, limitations, and Future Directions

The findings of the present study should be considered in light of its strengths and limitations. The use of self-report measures could make the study subject to response bias and social desirability. For example, the validity and reliability of measures of CT have been questioned by some researchers as the respondent's present affective state could influence recollection of prior events (Colman et al., 2016). A study by Capusan and colleagues (2021) shows that retrospective self-reports can be influenced by recall bias and/or not controlling for familial confounding. However, controlling for these factors, their study still proved childhood maltreatment (CM) to be a significant contributor to substance use disorder. Another study by Goltermann and colleagues (2022) shows recall of CT, using CTQ as a measure, to be stable over a 2-year period in a sample of depressed individuals and a control group.

The participants in GARP had a high number of surveys and interviews to respond to, which led to some attrition and most likely some weariness in answering questions.

One participant responded to the demographic survey and on the question of Education marked it zero. This caused the answer to be an outlier which affected the regression. Since it is unlikely that someone could read and answer surveys with zero years of education, the outlier was removed from the dataset. The author of this thesis cannot know if other participants misinterpreted the instructions for providing data on Education and High Education. For instance, it is possible that some participants recorded their experiences of High Education under Education, potentially skewing the data.

Individuals with a high comorbidity of substance use disorders and psychiatric disorders were excluded from the GARP-study. This means the result of the present study may only be generalized to a quite small population: Relatively well-functioning individuals with AUD who wish to abstain from alcohol consumption.

Much of the earlier research on the relationship between CT and SE has focused on other types of SE than AASE. This research is valuable since SE is domain-specific and diverse types of SE can be relevant to various aspects and activities in life. Even for people suffering from AUD, diverse types of SE can be pertinent for different situations and conditions (Bandura, 1997). It is plausible that diverse types of CT could have varying effects on diverse types of SE. It could also be that certain types of traumas, for example childhood sexual abuse, could have a direct effect on a construct such as Interpersonal Self-Efficacy (Ebrahim et al., 2022; Benight & Bandura, 2004), but an indirect effect on AASE, the effect being mediated through psychological distress caused by sexual abuse (Benight & Bandura, 2004).

The AASE survey (DiClemente et al., 1994) appears to the author to be a well-constructed instrument as it captures many of the situations and conditions that could threaten the goal of the individual to remain abstinent from alcohol use. AASE is a key factor when the target behavior, abstaining from alcohol, needs to be performed. Possessing the abilities needed to abstain from alcohol use, and having confidence that one can use them, is crucial in demanding situations; for instance, when an individual is beset by cravings or being peer pressured at a party (DiClemente et al., 1994). A relapse could have dire consequences and could even be a matter of life and death for a person with AUD.

However, as Witkiewitz and colleagues (2004) point out, there is a possible weakness in AASE and other instruments like it. They often assess the individual's perceived ability to abstain from alcohol use at a time when the individual is in a relatively safe environment. In the case of the present study, the assessment was done at the beginning of treatment in a treatment facility, not in a high-risk situation, such as being peer pressured at a party (Witkiewitz et al., 2004). Also, AASE and other types of SE assess the individual's confidence in their abilities; however, their actual abilities may be higher or lower than they perceive them to be. Additionally, circumstances could change between the time AASE or SE is assessed and the time when the target behavior need to be performed, which could significantly alter the level of AASE or SE (Bandura, 1997). The measurement of SE is challenging as it is specific to domains and situations (Witkiewitz et al., 2004). Researchers should keep this in mind when assessing AASE and other types of SE in longitudinal studies, for instance when investigating the association between AASE and the outcomes of treatments for AUD.

Investigating many types of variables that can influence AUD and abstinence is important. Identifying factors that can influence AUD is like solving a huge and complex puzzle, and all the pieces matter. To the best of the author's knowledge, the present study is the first to investigate CTQ as a predictor for AASE, and GSI as a mediator between CTQ and AASE. This makes this study a valuable addition to the literature on factors that can potentially influence AUD.

The issue of inferring causality from a cross-sectional study could be addressed by conducting a future longitudinal study, using the same variables as this study to assess the long-

term consequences of CT on psychological distress and AASE. This could also include investigating how these variables affect the outcome of a treatment for AUD.

Conclusion

The present study provides evidence that higher CTQ scores predict lower scores on AASE, but also that the relationship is negatively mediated through GSI. The findings have implications for the understanding of the long-term effects of childhood trauma on psychological distress and the individual's confidence in their ability to abstain from alcohol. The results highlight the need for interventions targeting childhood trauma, psychological distress, and Alcohol Abstinence Self-Efficacy among individuals suffering from Alcohol Use Disorder. Interventions could aim to strengthen a sense of control and personal agency, to improve Alcohol Abstinence Self-Efficacy and reduce the negative consequences of childhood trauma.

Regardless of whether or not childhood trauma, psychological distress, and Alcohol Abstinence Self-Efficacy predict the outcome of treatments for AUD, addressing these issues could help individuals live a better and more fulfilling life, and that is in itself a worthy cause.

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