

Original Article:

**EXAMINING THE RELATIONSHIP BETWEEN
PARENTAL PSYCHOLOGICAL AGGRESSION,
PARENTAL NEGLECT, AND SUBSTANCE ABUSE IN
YOUNG ADULTS**

Natalie C. Kaiser, M.A.
Loma Linda University

Cindy L. Miller-Perrin, Ph.D.
Pepperdine University

Abstract

The purpose of the present study was to evaluate the relationship between various forms of parental psychological aggression and neglect experienced in childhood and substance abuse problems as reported by college students. Participants included 227 college students (46% male; 54% female) enrolled in a private, liberal arts college (M age = 20.29). Participants completed the Parent-Child Conflict Tactics Scale (CTSPC), the Psychological Maltreatment Experience Scale (PMES), and the Substance Abuse Subtle Screening Inventory (SASSI-3). Results indicated significant positive correlations between several measures of parental psychological and physical aggression and subscales of the SASSI-3, although specific patterns varied for males and females. Results also indicated that measures of neglectful parenting behaviors were significantly positively correlated with SASSI-3 scores, for males but not females. Multiple regression analyses indicated that after controlling for parental physical aggression, parental psychological aggression emerged as the only variable uniquely predictive of substance abuse. The findings of the current study suggest that for females, exploitive parental behaviors predicted self-identified alcoholism and substance abuse problems while for males, various forms of psychological aggression such as verbal abuse, attacks on self-worth, and minimization/isolation predicted self-identified substance abuse problems as well as symptoms and obvious attributes of substance abuse users.

Keywords: psychological maltreatment, abuse, substance abuse,
neglect, gender differences

AUTHOR NOTE: Please address all correspondence to: Natalie Kaiser, M.A., Pepperdine University Social Science Division, 24255 Pacific Coast Highway, Malibu, CA 90263. Email nkaiser@llu.edu

INTRODUCTION

It is estimated that more than 3 million American children are reported to protective services for child abuse and neglect annually. Nearly two-thirds (59%) of all victims suffer neglect, almost 11% suffer physical abuse, approximately 8% are victims of sexual abuse, approximately 4% suffer from psychological maltreatment, and 13% experience multiple forms of child maltreatment (U.S. DHHS, 2009). Although various research efforts have attempted to determine the possible long-term mental and physical effects associated with each of these categories of abuse, we do not have a clear understanding of what predicts later pathologies versus resiliency in the face of child maltreatment.

The paucity of research on the potential negative impact of child neglect and psychological maltreatment has resulted for several reasons. First, it wasn't until the early 20th century that the neglect of children's basic needs (i.e., food, shelter, clothing, affection) was even acknowledged as a problem (Wolock & Horowitz, 1984). Similarly, various forms of parental psychological aggression (i.e., shouting or screaming at a child at, putting down or belittling a child) have only recently been recognized as an increasingly common form of maltreatment. Of note, child neglect is now the most commonly reported form of child maltreatment and reports of psychological maltreatment have dramatically increased in recent years (Sedlack & Broadhurst, 1996; U.S. DHHS, 2009). Second, the limited amount of research on the impact of psychological maltreatment and child neglect stems from the difficulty inherent in operationally defining these constructs. Wang and Daro (1998) have termed psychological maltreatment, for example, the most ambiguous form of maltreatment. Furthermore, the terms "child neglect" and "psychological maltreatment" are considered to be quite broad, including many different forms of parental behavior. Further complicating matters are the cultural influences that shape individual perceptions and definitions of abuse, which can lead to concerns about misdiagnosis and persecution of minority community members (Malley-Morrison & Hines, 2004). As a result, there is a continuing gap in the available knowledge due to a lack of a coherent operational definitions and reporting limitations.

Research is beginning to appear that investigates the negative psychological outcomes associated with child neglect and psychological maltreatment. Most studies that have examined the effects associated with these forms of child maltreatment have focused primarily on developmental outcomes for infants, children, and adolescents rather than examining the long-term effects associated with such abuse. This body of literature indicates that child neglect is associated with social and attachment difficulties, cognitive and academic deficits, and emotional and behavioral problems (for a review see Miller-Perrin & Perrin, 2007). The initial effects associated with psychological maltreatment include a variety of problems such as interpersonal maladjustment, intellectual deficits, and emotional and behavioral problems (Binggeli, Hart, & Brassard, 2001). The experience of child psychological maltreatment and neglect in childhood not only generates distress and trauma at the time of the abuse, but has also been linked to long-term effects on victims' health and functioning. In terms of long-term effects, studies examining the effects associated with prior psychological maltreatment and neglect have linked these forms

of maltreatment to a variety of problems such as posttraumatic stress disorder, major depressive disorder, personality disorders, and low self-esteem (Cohen, Brown, & Smailes, 2001; Gross & Keller, 1992; Widom, 1999).

Research efforts have also begun to examine the role of resiliency among children in the face of abuse, and how this may complicate the prediction of outcomes of child maltreatment. The literature has examined individual assets and contextual resources that operate to enhance healthy development despite adverse experiences [i.e. school connectedness (Resneck et al., 1997), individual competences (Griffen et al., 2003), and religiosity (Wills, Yaeger, & Sandy, 2003)], suggesting that the course for child maltreatment outcomes involves a complex interaction between an individual's constellation of risks, assets, and resources (Ostaszewski & Zimmerman, 2006). Other factors further complicate our understanding of child maltreatment outcomes such as gender differences in the experience of childhood abuse, which have been well documented (Connel-Carrick, 2003; Gordon, 1990). However, the majority of the extant literature has been limited to the experience and outcomes associated with physical and sexual abuse, failing to account for the unique prevalence of forms on non-physical parental aggression or parental neglect. Specifically, females are thought to be three times more likely than males to experience sexual abuse (Gordon, 1990). However, males are often found to be older than females at first time of abuse, and male sexual abuse has been found to be more severe, yet less frequently reported to protective services (Gordon, 1990). It is unclear whether such gender differences exist for victims of parental psychological aggression and/or parental neglect. Findings have been mixed in the literature examining gender patterns for the experience of neglect. A systematic review by Connel-Carrick (2003), for example, found that two of the five studies included suggested that being female correlated with increased risk of neglect, especially in father-only families. In contrast, three other studies found that boys were at greater risk of neglect, and boys were at greater risk of death as a result of the neglect.

One form of long-term maladjustment potentially associated with child neglect and psychological maltreatment, and the focus of the current study, is substance abuse. Many studies have demonstrated the link between a history of child maltreatment and the development of substance abuse problems later in life. Most studies, however, have focused on the relationship between substance abuse in adolescence or adulthood and either child physical or sexual abuse (i.e., Grella & Joshi, 2003; Heffernan, Cloitre, Tardiff, Marzuk, OPortera, & Leon, 2000; Marcenko, Kemp, & Larson, 2000; Molnar, Buka, & Kessler, 2001). Most of these studies have evaluated adolescents and adults presenting for substance abuse treatment and found disproportionate rates of physical and sexual abuse (e.g., Brems, Johnson, & Freemon, 2004; Grella & Joshi, 2003), although a few studies have examined the occurrence of physical and sexual abuse histories in community samples of individuals who report excessive use of alcohol or other drugs and found rates higher than those reported in the general population (e.g., Mullen, Martin, Anderson, Romans, & Herbison, 1996; Thompson, Kingree, & Desai, 2004). A few studies have also examined the interaction between gender and childhood maltreatment on substance abuse later in life and results have largely indicated that there is a stronger association

for women rather than men. Macmilan and colleagues (2001), for example, found that women with a history of physical abuse had significantly higher lifetime rates of substance abuse and dependence compared to men with similar abuse histories.

Many authors agree that the role of substance abuse in other forms of child maltreatment, such as psychological maltreatment and neglect, has not been sufficiently studied (e.g., Melchert, 2000; Medrano, Zule, Hatch, & Desmond, 1999). This is true, despite the fact that theory suggesting a link between childhood experiences of sexual and physical abuse and later substance abuse apply equally well to childhood experiences of neglect and psychological maltreatment. One common theory of developmental psychopathology used to explain the link between child maltreatment and substance abuse, for example, suggests that the problems that result from child maltreatment during one stage of development can lead to subsequent problems in later stages of development (Cicchetti, 1989; Moran et al., 2004). Similarly, protective and resiliency factors have been found to mediate effects differently depending upon the chronology and age of onset of the abuse (Ostaszewski & Zimmerman, 2006). Once an individual who was maltreated in childhood reaches adulthood, he or she may use alcohol and drugs as a method of coping with the problems that emerge during these later stages of development. There are in fact studies indicating that adolescents with histories of childhood physical and sexual abuse report using alcohol and drugs in order to cope with painful emotions and to escape their problems (Harrison, Fulkerson, & Beebe, 1997). It is possible that adolescents and adults who experience childhood psychological maltreatment and neglect might use the same maladaptive coping mechanisms.

Few studies to-date have investigated the relationship between parental psychological maltreatment and neglect and substance abuse in adulthood and those studies that have been conducted have yielded mixed results. In one study, prevalence of a number of forms of child abuse, including emotional abuse/neglect and physical neglect, was examined in a sample of intravenous drug using women. Results indicated that prevalence for all types of childhood trauma were higher than those reported in the general population (Medrano et al., 1999). In another study that examined the relationship between alcoholism and a number of adverse childhood experiences in a large retrospective cohort of adults who visited a primary care clinic of a large health maintenance organization, the researchers found that verbal abuse (i.e. yelling, shouting, name-calling) was associated with alcoholism even after controlling for parental alcohol abuse (Anda et al., 2002). In contrast, Mullen et al. (1996) examined the long-term impact of childhood physical, emotional, and sexual abuse in a community sample of women and found that although a childhood history of sexual abuse was related to drinking at hazardous levels, a history of emotional abuse and deprivation were not, and no form of child maltreatment was associated with a measure of drug dependence. In addition, Horwitz and colleagues (2001) found evidence for a link between child neglect and alcohol problems in adults, although once the researchers controlled for other stressful life events, they found that childhood maltreatment had little impact on mental health outcome (Horwitz, Widom, McLaughlin, & White, 2001).

The studies that have examined substance abuse in adults with histories of childhood neglect and psychological maltreatment have also been limited methodologically. One problem is that relatively few studies have examined the independent effects of child psychological maltreatment and neglect, in addition to other forms of child maltreatment, on substance abuse (e.g., Bayatpur & Holford, 1992). In addition, the overlap between various forms of child maltreatment is seldom taken into account. Victim samples in most studies have included victims who have suffered not just one form of child maltreatment, but multiple forms (e.g., Medrano et al., 1999; Mullen, Martin, Anderson, Romans, & Herbison, 1996). Another problem is that most studies evaluating individuals with childhood histories of child neglect and psychological maltreatment have limited their focus to alcohol use and abuse and not included a more inclusive standardized measure of other drug use. Research on the unique interaction of psychological maltreatment, neglect, and gender on substance abuse is also largely absent. One final methodological limitation of previous studies is that definitions of psychological maltreatment and neglect have been inconsistent across studies, making findings difficult to interpret. In addition, researchers have often failed to include specific subtypes of psychological maltreatment and neglect (e.g., Moran, Vuchinich, & Hall, 2004; Mullen et al., 1996).

The purpose of the present study was to examine the link between parental psychological aggression as well as neglect with substance abuse in a sample of college students. Due to the fact that child neglect and psychological maltreatment are relatively newly established forms of child maltreatment, much is unknown concerning the various subtypes of these forms of parental aggression and neglect and their potential relationship to substance abuse. The current study attempted to operationally define these constructs by specifying a number of different subtypes of parental psychological aggression and also include different measures of neglect that focused on specific parental behaviors. Specifically, parental psychological aggression defined here encompassed a variety of parental behaviors, including exploitive parental behaviors (i.e., making a child watch a parent be aggressive towards other family members), minimizing, isolating, and terrorizing acts (i.e. unfairly comparing a child to a sibling), and verbal abuse or attacks on self-worth (i.e., threatening, shouting, yelling, or screaming at a child). Neglectful parental behaviors included withholding supportive behaviors (i.e., giving appropriate physical affection needed), failing to provide proper care such as food, shelter, etc., and leaving a child with family or friends because the parent could not care for the child. In addition, a measure of substance abuse, including both alcohol and other drugs, was used to allow for a range of scores and varying degrees of substance abuse symptoms. Finally, based on previous research suggesting the importance of gender differences in examining the relationship between child maltreatment and substance abuse (e.g., Anda et al., 2002; Brem et al., 2004; Melchert, 2000; Mullen et al., 1996; Thompson et al., 2004), we examined gender differences in the current study. The current study will contribute to the field of social science by providing findings relevant to the variety of professionals, in multidisciplinary settings, who work with maltreatment victims and their families.

We hypothesized that both parental psychological aggression and neglectful parental behaviors would be positively correlated with substance abuse symptoms. It was also predicted that both parental psychological aggression and neglectful behaviors would continue to predict substance abuse symptoms even after controlling for physical aggression experienced during childhood. Finally, it was hypothesized that gender differences would exist in relationship to these variables.

METHOD

Participants

The sample included 227 students from a small, private, liberal arts university in southern California enrolled in a general psychology course. Participants ranged in age from 17-25 years ($M = 20.29$). The gender composition of the sample included 102 males and 123 females. The participants were primarily Euro-American (72.2% Euro-American, 2.6% African American, 11% Asian, 10.1% Latino, and 3.5% considered themselves “other”), and the majority reported a parental annual income of greater than \$100,000.00 (40.2%). These demographic characteristics are similar to the university population from which the subjects were drawn. No subjects who initially volunteered to participate in the study later refused to participate or withdrew from the study. A convenience sample of college students was desirable for the current study for several reasons. First, given the retrospective nature of the survey method, college age individuals are more likely to accurately recall childhood experiences than a sample of older adults due to the temporal proximity to their childhood. In addition, college students attending a residential college are no longer living at home with their parents, providing greater objectivity in accurately reporting about their parents’ behaviors. Finally, the alarmingly high prevalence rates of substance abuse, particularly alcohol abuse, among college students is well-documented (Melliman, Stone, Gaylor, & Turco, 1990; Wechsler & Isaac, 1992; Wiggins & Wiggins, 1987), and therefore correlates of substance use and abuse are of particular interest to those developing interventions to address these problems in this population.

Measures

The following survey instruments were administered to participants. A survey methodology was employed for the current study because of the efficiency and widely recognized validity of the approach. Descriptive statistics are provided in Table 1 for each measure.

Parent-Child Conflict Tactics Scale (CTSPC). The CTSPC is a 62-item self-report measure used to assess the frequency of specific parenting strategies experienced by the respondent during childhood. The inventory was designed for use with children 10-18 years old. The items assess the following constructs: four items assess the frequency of non-violent discipline (e.g., “Put in time-out”); five items assess the frequency of psychological aggression

(e.g., “Shouted, yelled, or screamed at”); six items assess the frequency of corporal punishment (e.g., “Spanked on bottom with bare hand”); seven items assess the frequency of physical assault (e.g., “Hit with a fist or kicked hard”); and five items assess the frequency of neglect (e.g. “Were not able to make sure you got the food you need”). The respondent reports separate frequencies for CTSPC items to indicate how often their mother and father engaged in each strategy during a specific time frame of the respondent’s childhood. For the current study, respondents were asked to report about the year in which they were 10 years of age.

Participants responded using the following frequency scale: once; twice; 3 to 5 times; 6 to 10 times; 11 to 20 times; more than 20 times; never (0); not at age 10, but happened before (0). Frequency scores for each CTSPC item were obtained by adding the midpoints for the response categories chosen by respondents (0=0, 1=1, 2=2, 3 to 5=4, 6 to 10=8, 11-20=15, and more than 20=25: Straus et al., 1998). For the purposes of the current study, variables for psychological aggression, corporal punishment, and severe physical assault were established and defined by specific CTSPC items designated to measure the various physical and psychological aggression strategies. The three parental aggression variables were created by summing the frequency scores of subscale items corresponding to each type of aggression as recommended by Straus et al., 1998.

The test-retest reliability is good for the CTSPC, but the internal consistency is variable across subscales. The reliability for the corporal punishment and nonviolent scales is adequate, but low for the severe physical assault scale, probably because parents who engage in one resolution strategy do not necessarily engage in others (Straus & Hamby, 1997; Straus et al., 1998). For the current sample, internal consistency reliabilities for the CTSPC subscales were as follows: Corporal Punishment $\alpha = .89$, Psychological Aggression $\alpha = .76$, and Severe Physical Assault $\alpha = .84$, and Neglect $\alpha = .68$, and are shown in Table 1.

Controlling for Previous Experiences of Parental Physical Aggression and Sexual Abuse. Participants responded “yes” or “no” to the following two questions regarding a history of sexual abuse: 1) “Before the age of 18, were you ever touched in a sexual way by an adult or older child, when you did not want to be touched that way, or were you ever forced to touch an adult or older child in a sexual way- including anyone who was a member of your family, or anyone outside your family,” and 2) “Before the age of 18, were you ever forced to have sex by an adult or older child- including anyone who was a member of your family, or anyone outside your family?” A total of 19 participants indicated that they had experienced sexual abuse during childhood based on these screening questions and due to the small number of individuals who endorsed these items, they were subsequently excluded from the sample. Parental physical aggression was assessed using the CTSPC (as described below) and due to the high number of individuals who endorsed these experiences, rather than excluding these individuals, physical aggression was controlled for in subsequent analyses. This procedure allowed for the examination of the unique contributions of parental psychological aggression and neglect.

Psychological Maltreatment Experience Scale (PMES). To measure parental psychological maltreatment behaviors experienced by participants we administered a modified

version of the Psychological Maltreatment Experience Scale (PMES: Petretic-Jackson, Betz, & Pitman, 1995). The modified scale was comprised of 48 statements of psychologically maltreating behaviors. The PMES was modified to eliminate questions that included drug use and sexual behavior and would have introduced a potential confound with other variables either measured or controlled for in the current study. The modified scale was comprised of 48 statements of psychologically aggressive parental behaviors and retained adequate to excellent internal consistency reliabilities for each subscale for the current sample, ranging from .53 to .90 (see Table 1). Participants indicated the frequency with which they had experienced each parental behavior using a Likert scale ranging from 1 (“Never”) to 4 (“Very Often”). The PMES consists of five subscales, including: 1) Verbal abuse and attacks on self-worth (e.g. “threatened or scared you”), 2) Neglectful and rejecting parental behaviors (e.g. “left you with friends or family members because they were too busy to take care of you”), 3) Withholding supportive behaviors (e.g. “given you appropriate physical affection that you needed, such as hugging”), 4) Minimizing, isolating, and terrorizing acts (e.g. “compared you to a brother or sister who did better than you in some area or way”), and 5) Exploitive parental behaviors (e.g. “made you watch them be aggressive towards other family members”). Scores for each subscale were obtained by summing the frequencies for each item included in each subscale.

Substance Abuse Subtle Screening Inventory (SASSI-3). Substance abuse was assessed using the SASSI-3, developed by Miller in 1997 in response to the need for a screening measure that could identify people with a high risk of having a substance dependence disorder, regardless of whether or not the individual admits to substance misuse or its symptoms. The 93-item inventory has been found to identify substance dependence disorder with an empirically tested accuracy of 94% and the test-retest stability coefficients range from .92-1.00 (Miller, 1999). The SASSI-3 has also been validated with college students (Myerholtz & Rosenberg, 1998).

One section of the SASSI-3 questionnaire contains 26 items that have face validity related to substance abuse, such as the number of times over the past 6 months the respondent “had more to drink than you intended to.” These items assess the frequency of substance misuse, including alcohol and other drugs, and are scored on a Likert scale ranging from 0 (“Never”) to 3 (“Repeatedly”). Another section of the instrument contains 67 true/false questions that more subtly assess substance misuse (e.g. “I have neglected obligations to family or work because of drinking or using drugs”).

The SASSI-3 has ten subscales: two face-valid scales and eight true/false scales. For the purpose of this study, the SASSI-3 subscales examined included Face-Valid Alcohol (FVA) which measures how frequently the respondents have had certain experiences directly related to alcohol; Face-Valid Other Drugs (FVOD) which measures how frequently the respondents have had certain experiences directly related to other drugs; Symptoms (SYM) which measures symptoms of substance abuse that are directly related to substance abuse; Obvious Attributes (OAT) which measures obvious attributes of alcoholics among the respondents and indicates one’s tendency to acknowledge characteristics commonly associated with substance abuse (e.g., patterns similar to people in treatment for substance dependence disorders); and finally, Subtle

Attributes (SAT) which measures subtle attributes of substance abusers and indicates characteristics of substance dependent people that are less apparent than those measured by the OAT subscale. In terms of the clinical relevance of the value of SASSI-3 scores, or clinical cutoffs, this scale uses a combination of scores from different subscales to classify the subject as having chemical dependence issues. For instance, if a T score of 80 or greater is obtained on either the FVA or FVOD scale, then the person is automatically classified as having chemical dependence (Myerholtz & Rosenberg, 1998). However, obtaining a T score lower than 80 does not exclude one from having chemical dependence issues, as subsequent scores on the remaining OAT, SAT, and DEF scales are examined according to a decision tree. Hence, the SASSI-3 does not utilize a single cutoff score to classify a person's substance use (Myerholtz & Rosenberg, 1998).

Procedure

After receiving full approval for the study from the university's Institutional Review Board, undergraduate participants were recruited from foundational psychology courses and received credit towards fulfilling a research participation requirement. Data collection sessions were held in classrooms and the procedure was explained to each participant by an undergraduate research assistant. After signing informed consent forms, participants were given an envelope with a numerical code containing the questionnaires and were asked to complete and return the questionnaires in the envelope to ensure the confidentiality of their responses. Participants were seated within an adequate distance from one another to ensure privacy while completing the questionnaires. Participants completed the questionnaires in small groups of approximately 30 during a one-hour period in the following order: the SASSI-3, the PMES, and the CTSPC.

Data Analysis

Results were analyzed in SPSS to examine the relationship between substance abuse and the various measures of parental aggression and neglect along with potential gender differences. Independent samples t-tests were conducted in order to evaluate gender differences for all of the dependent measures. In addition, Pearson Product Moment correlations were conducted separately for males and females to examine the bivariate relationships between the substance abuse and parental aggression and neglect measures. Significant findings from the correlation analyses helped to identify variables to enter as predictors of substance abuse in subsequent simultaneous multiple regression analyses conducted separately for males and females. Notably, although the measures used yielded ordinal level variables, all analyzed values were aggregate scores and thus the use of parametric statistics on aggregated scores was deemed appropriate. In addition, post-hoc power estimates and effect sizes for the multiple regression models were calculated with the use of g-power and are provided in Table 3.

RESULTS

Preliminary Gender Analyses

Independent samples t-tests were conducted to examine potential gender differences on the dependent measures and the results are displayed in Table 1. Findings indicated significant gender differences on subscales for the SASSI-3, but not for the PMES or CTSPC. Significant gender differences were observed on three SASSI-3 subscales including the FVA ($t(1, 217) = 2.213, p = .028$), FVOD ($t(1,217) = 4.06, p < .001$), and SAT ($t(1,193) = 2.84, p = .005$) with males consistently reporting higher levels of substance use when compared to females. In terms of meeting the cutoff established exclusively by the FVA and FVOD criteria for chemical dependence, 1.4% ($N = 3$) of the male and female combined sample met criteria for face-validly determined alcohol dependence (e.g., $T > 80$). Similarly, 1.8% ($N = 3$) of the male and female combined sample met criteria for face-validly determined dependence on substances other than alcohol. Note that the ranges of scores presented in Table 1 are averages of raw scores, and not T scores. No significant gender differences were indicated for subscales measuring psychological or physical abuse.

Relationship Between Substance Abuse Subscales and Measures of Psychological Maltreatment

Pearson Product Moment correlations were conducted separately for males and females in order to assess the relationship between substance abuse, parental physical and psychological aggression, psychological maltreatment, and child neglect and are shown in Table 2. Results for males indicated that most subscales of the PMES and CTSPC were significantly associated with obvious attributes of substance abuse and symptoms of abuse as well as the face valid other drug use subscale as measured by the SASSI-3. In contrast, results for females indicated far fewer significant relationships. Neglecting/rejecting behaviors and exploitive behaviors (as measured by the PMES) and psychological aggression (as measured by the CTSPC) significantly correlated with obvious attributes of substance abuse. Furthermore, exploitive parental behaviors and psychological aggression were also significantly correlated with both the face valid alcohol and other drug subscale in addition to the severe physical assault subscale of the CTSPC.

Table 1. Mean Differences for Males and Females on the SASI-3, PMES, and CTSPC

	Males		Females		P LEVEL	RANGE	
	M	SD	M	SD			
ALPHA							
SASSI-3 SUBSCALE							
Face-valid alcohol (FVA)*	5.84	5.03	4.24	5.6	.028*	0-36	---
Face-valid other drugs (FVOD)*	4.32	6.31	1.47	3.97	.000***	0-42	---
Symptoms of substance abuse (SYM)	2.94	2.29	2.54	7.25	.612	0-11	---
Obvious attributes (OAT)	3.97	2.13	3.21	6.7	.291	0-12	---
Subtle attributes (SAT)	2.61	1.19	2.18	0.9	.43	0-8	---
PMES SUBSCALE							
Verbal abuse/ attack on self-worth	22.44	7.9	21.45	5.38	.289	0-56	.891
Neglectful/rejecting behaviors	16.82	4.83	16.05	3.07	.169	0-48	.756
Withholding supportive behavior	19.32	7.05	18.33	6.32	.268	0-48	.897
Minimizing/ isolating and terrorizing acts	12.21	3.7	2.93	1.29	.256	0-32	.637
Exploitive parental behaviors	3.04	1.27	12.68	3.22	.513	0-8	.534
CTSPC SUBSCALE							
Psychological aggression	23.69	31.40	18.75	19.93	.228	0-76	.762
Neglect	6.76	16.84	4.95	13.46	.406	0-35	.680
Corporal punishment	12.61	31.93	5.33	13.73	.069	0-35	.890
Severe physical assault	4.12	17.27	3.07	13.05	.652	0-56	.839

* $p < .05$, ** $p < .01$, *** $p < .001$

Table 2. Pearson Correlations for SASSI-3, PMES, and CTSPC Subscales

SASSI-3 Subscales	MALES					FEMALES				
	FVA	FVOD	SYM	OAT	SAT	FVA	FVOD	SYM	OAT	SAT
PMES Subscale										
Verbal abuse/ attack on on self-worth	.058	.258*	.357**	.457**	.114	.045	.150	.025	.109	-.170
Neglectful/rejecting behaviors	.128	.311**	.395**	.514**	.167	.029	-.019	.168	.217*	-.128
Withholding supportive behaviors	-.065	.076	.165	.403**	.090	.093	.114	-.019	.023	-.208*
Minimizing, isolating, and terrorizing acts	-.008	.124	.336**	.425**	.116	.169	.194*	.089	.161	-.147
Exploitive parental behaviors	.054	.163	.292**	.353**	.075	.420**	.447**	.194	.227*	-.117
CTSPC Subscale										
Psychological aggression	.168	.364**	.370**	.493**	.199	.294**	.314**	.192	.268*	-.088
Neglect	.095	.273*	.351*	.451**	.216	-.148	-.057	-.048	-.001	-.112
Corporal punishment	.269*	.551**	.300*	.426**	.240*	.159	.165	-.056	.015	-.057
Severe physical assault	.049	.362**	.285*	.442**	.185	.220*	.266**	-.053	-.003	-.027

****Correlation is significant at the 0.01 level (2-tailed); *Correlation is significant at the 0.05 level (2-tailed)**
 Note. FVA = face valid alcohol use; FVOD = face valid other drug use; SYM = symptoms of substance abuse; OAT = obvious attributes of substance abuse; SAT = subtle attributes of substance abuse

Table 3. Multiple Regression Analyses: Predictors of Alcohol and Substance Abuse by Gender

	Face valid alcohol (FVA) F(9, 65)=1.13, p = .36 R= .39, Adj R ² =.02 Power = .12, ES = .02		Face valid other drug (FVOD) F(9, 65) = 4.02** R=.63, Adj R ² =.30 Power = .99, ES = .43		Symptoms of substance abuse (SYM) F(9, 63) = 2.84** R=.57, Adj R ² =.21 Power = .96, ES = .27		Obvious attributes of substance abuse (OAT) F(9, 63) = 5.78*** R=.70, Adj R ² =.49 Power = 1.0, ES = .96	
MALES								
<u>PMES Subscale</u>	<u>Beta</u>	<u>P</u>	<u>Beta</u>	<u>P</u>	<u>Beta</u>	<u>P</u>	<u>Beta</u>	<u>P</u>
Verbal abuse	.082	NS	.263	NS	.249	*	.000	NS
Neglect/rejecting behaviors	.212	NS	-.101	NS	-.069	NS	-.02	NS
Withholding supportive behaviors	-.278	NS	-.235	NS	-.027	NS	.003	NS
Minimizing/ isolating, and terrorizing acts	-.248	NS	-.056	NS	.041	NS	.332	**
Exploitive parental behaviors	.63	NS	.673	NS	-.387	NS	.198	NS
<u>CTSPC Subscales</u>								
Psychological aggression	.01	NS	-.014	NS	.001	NS	.010	NS
Neglect	.02	NS	-.052	NS	.016	NS	-.003	NS
Corporal punishment	.03	NS	.062	NS	.009	NS	-.01	NS
Severe physical assault	-.02	NS	.128	NS	-.028	NS	.07	NS
	Face valid alcohol (FVA) F(4, 87)=6.98*** R=.49, Adj R ² =.21 Power = .997, ES = .27		Face valid other drug (FVOD) F(4, 87) = 8.77*** R=.54, Adj R ² =.26 Power = .999, ES = .35		Symptoms of substance abuse (SYM) F(4, 74)=1.88, p = .12 R=.31, Adj R ² =.05 Power = .49, ES = .05		Obvious attributes of substance abuse (OAT) F(4, 74) = 2.493, p = .051 R=.35, Adj R ² =.08 Power = .73, ES = .087	
FEMALES								
<u>PMES Subscale</u>	<u>Beta</u>	<u>P</u>	<u>Beta</u>	<u>P</u>	<u>Beta</u>	<u>P</u>	<u>Beta</u>	<u>P</u>
Exploitive parental behaviors	1.70	***	1.247	***	1.217	NS	1.250	NS
<u>CTSPC Subscales</u>								
Psychological aggression	.05	NS	.043	NS	.110	NS	.119	*
Corporal punishment	-.107	NS	-.122	NS	-.152	NS	-.091	NS
Severe physical assault	.115	NS	.136	NS	.043	NS	.008	NS

* $p < .05$, ** $p < .01$, *** $p < .001$

Multiple Regression Analysis: Predicting Substance Abuse

In order to determine which form of parental aggression explained most of the variance in substance abuse, multiple regression analyses were conducted separately for males and females and the results are depicted in Table 3. To avoid multicollinearity, PMES and CTSPC subscales were regressed onto the SASSI-3 subscales separately and each model controlled for corporal punishment and severe physical assault as measured by the CTSPC. The predictor variables were selected based on significance in the bivariate analyses and included different subscales of the PMES and CTSPC for males and females. An alpha level of .05 was used for all statistical tests. Because each dependent measure was entered into a separate regression model, the threat of inflated alpha levels was reduced and thus no correction procedures were employed.

For males, three models predicting substance abuse were statistically significant. The model predicting symptoms of substance abuse was significant ($F(9, 63) = 2.84, p = .001$) and verbal abuse was found to be the strongest predictor of substance abuse symptoms after controlling for physical aggression ($\beta = .249, p = .018$). The model predicting obvious attributes of substance abuse was also significant ($F(9, 63) = 5.78, p < .001$) with minimizing and terrorizing parental behaviors serving as the only significant predictor of other attributes of substance abuse after controlling for physical aggression ($\beta = .332, p = .005$). The model predicting use of drugs other than alcohol was also significant ($F(9, 65) = 4.02, p < .001$), but no single independent variable significantly predicted drug use.

Results from the regression analyses for females indicated that the model predicting face valid use of other drugs was significant ($F(4, 87) = 8.77, p < .001$) with exploitive parental behaviors the only significant predictor of drug use after controlling for physical aggression ($\beta = 1.25, p < .001$). Furthermore, the model predicting face valid use of alcohol was significant ($F(4, 87) = 6.98, p < .001$), again, with exploitive parental behaviors as the only significant predictor of alcohol use ($\beta = 1.70, p < .001$).

DISCUSSION

Extensive research has been conducted examining the effects of various forms of child maltreatment and its outcomes. Previous research, however, has focused specifically on physical and sexual abuse and the various cognitive, emotional, and behavioral outcomes. Research in the area of child maltreatment has focused less attention on two less studied but equally important forms of maltreatment: parental psychological aggression and neglect. The present study operationalized these two forms of child maltreatment and examined various subtypes and their relationship to substance abuse along with potential gender differences. In addition, because child maltreatment victims often experience more than one type of abuse, the present study controlled for various types of parental physical and sexual aggression. The findings are relevant to understanding the potential long-term effects of child parental psychological aggression and

neglect while perhaps providing further insight into the elusive yet crucial precursors to alcoholism.

The hypothesis that parental psychological aggression during childhood would be associated with substance abuse later in life was supported, although the relationship patterns varied for males and females. Correlational analyses for females indicated that experiencing exploitive parental behaviors such as making the child watch them be aggressive towards other family members or invading the child's privacy, were associated with higher scores on three of the five subscales of the SASSI-3. Correlational analyses for males indicated that the psychologically aggressive parental behavior that was most consistently associated with three of the five subscales of the SASSI-3 was parental verbal abuse and attacks on self-worth such as making a child feel significantly ashamed or guilty of something. In addition, nearly all of the PMES subscales were associated with both alcohol symptoms and obvious attributes of substance abuse for males. Psychological aggression, as measured by the CTSPC, was significantly associated with three of the five substance abuse problems identified by the SASSI-3 for males as well as females indicating that high scores on psychological aggression were associated with self-reported abuse of other drugs and obvious attributes of abuse for both males and females and with symptoms of substance abuse for males and self-reported abuse of alcohol for females. As measured by the CTSPC, psychological aggression includes instances such as shouting, yelling, or screaming, threats to spank without actually spanking the child, swearing or cursing, calling the child 'dumb,' 'lazy,' or other names of this nature, or threatening to kick the child out of the house or send them away. These findings are consistent with previous research which suggests that childhood maltreatment in various forms, including physical and emotional forms, is a significant risk factor for substance among not only individuals in drug and alcohol treatment programs but also various community and student samples (i.e., Anda et al., 2002; Medrano et al., 1999; Moran et al., 2004).

Results addressing the hypothesis that neglect in childhood would be associated with substance abuse later in life were supported for males, but not for females. Correlational analyses indicated that experiencing neglectful and rejecting parental behaviors such as ignoring a child, saying things that hurt the child's feelings, and calling a child names, were associated with higher scores on three of the five subscales of the SASSI-3 for males. These patterns were also observed for the neglect subscale of the CTSPC which includes such events as physically leaving the child alone and unsupervised, not being able to provide the child with sufficient food/ shelter, etc., neglecting the child in any way because the parent was preoccupied with their own substance abuse issues, neglecting to provide the child with proper health care, or emotionally neglecting the child such as not being able to show or tell the child that they love them. These results are inconsistent with the study conducted by Medrano et al. (1999) using a community sample of intravenous drug using women which did find higher rates of both emotional abuse and emotional and physical neglect among these women compared to the general population. This discrepancy may be due to the fact that the current study examined a fairly functional college sample rather than a sample exclusively comprised of intravenous drug users. These

findings suggest that although neglect is the most frequently identified form of child maltreatment, its potential effects may not only vary for males and females but may depend on the sample being studied. This discrepancy may also be accounted for by gender differences in coping styles. Researchers have shown that gender differences in coping styles begin to appear during adolescence (Piko, 2001), which is roughly the developmental period of the current sample. Of note, men are thought to implement distraction techniques to cope (Nolen-Hoeksema, 2004), which may include substance abuse. Further, males are less likely than females to turn problematic feelings inward against themselves (Rosenfeld, 1999), and may use more outward focused coping strategies, such as drinking and drug use. This finding has been contradicted in other studies, however. For instance, research suggests that differential coping styles result from the ways in which men and women are socialized. Specifically, females are socialized to be more expressive than males, which may reflect an underlying biological and psychological process (Nolen-Hoeksema, 2004). This, in turn, suggests greater female perception and articulation of stress (Nolen-Hoeksema, 2004). In a study examining the relationship between gender-specific coping styles and substance abuse among college students, findings indicated that the association between stress and drinking was stronger for females than males, and that coping styles (especially maladaptive coping styles) were significantly associated with polysubstance abuse for both men and women in the college population (Hunter, 1999). These findings have larger implications for university counseling centers, college curriculum, and student outreach efforts. Specifically, understanding the association between coping styles and substance abuse helps to inform the development of interventions, student seminars, and presentations targeting effective coping skills for students.

To identify the unique influence of psychological maltreatment and neglect on substance abuse later in life, we controlled for parental physical aggression in multiple regression analyses. Controlling for experiences of parental physical aggression is important because previous research has already linked various forms of physical aggression to substance abuse. Thompson, Kingree, and Desai (2004), for example, claim that both men and women who had experienced physical abuse in childhood were more likely to have higher lifetime prevalence rates of alcohol abuse and dependence than their non-abused counterparts. The findings of the current study indicate that after controlling for physical abuse, the subscales of the PMES that best predicted forms of alcohol and substance abuse for females was exploitive parental behaviors. Patterns in both the bivariate and multivariate analyses suggest that exploitive parental behaviors are a significant predictor of substance abuse in adulthood for females. For males, the most significant predictor of alcohol and substance abuse after controlling for physical abuse was verbal abuse and minimizing/isolating behaviors depending on whether the model predicted symptoms or obvious attributes of substance abuse. Notably, however, is the finding that after controlling for physical aggression, psychological aggression emerged as the only variable uniquely predictive of substance abuse. These results suggest that various forms of parental psychological aggression differentially impact substance abuse behaviors. Further research is needed to determine why various forms of parental psychological aggression contribute to different aspects of substance

abuse. These findings are consistent with a growing body of research addressing the central role of parental psychological aggression in predicting psychological outcome in both children and adults who experience various emotionally abusive and neglectful parenting behaviors (Claussen & Crittenden, 1991; Crittenden, 1994; Gross & Keller, 1992; Higgins & McCabe, 2000; Melchert, 2000; Spertus et al., 2003). These findings highlight the need to examine forms of parental psychological aggression in conjunction with parental physical aggression when evaluating long-term correlates of psychological adjustment.

The current study represents one of the first efforts to identify substance abuse outcomes associated with unique subtypes of parental psychological aggression while controlling for other forms of parental aggression. These findings are an important step in helping to identify unique aspects of child maltreatment that may contribute to different substance abuse issues later in life. Such information is important for clinicians working with individuals engaging in substance abuse and should contribute to more effective treatment interventions for this population. Understanding what types of abuse individuals may have encountered during childhood and the many ways the individual attempts to cope with such experiences should help to individualize treatment and thus optimize treatment outcome. In addition, the relationship between substance abuse and experiences of parental psychological aggression may be important to address with any client presenting with a history of child maltreatment without substance abuse, in an effort to potentially prevent the development of such behavior. Moreover, identifying gender differences in the experience of childhood abuse and related substance abuse later in life helps inform intervention techniques that are gender-specific in addition to identifying those at higher risk for substance abuse. Understanding such differences can thus inform the allocation of funds and intervention methods.

Due to the multidisciplinary nature of the field of child maltreatment, findings from the current study apply to a number of professionals working in the field of social science including clinicians, social workers, educators in a variety of fields, and policy makers. Specifically, research on this topic informs legal reporting guidelines for child maltreatment as well as social service practices and clinical interventions. Furthermore, the current findings suggest that social science professionals in the field should expand cultural definitions of maltreatment to include non-physical forms of parental aggression and neglect. In addition, social science educators should take an interest in developing curriculum and other educational materials that identify the relationship between child maltreatment and substance abuse in order to equip the next generation with the power to identify risk factors for maladaptive behavior. Finally, findings from the current study can help guide clinicians working in the field of social science in developing interventions that are more individually tailored, targeting those who are at higher risk for substance abuse, and focusing on effective coping skills training.

There are several limitations to the current study that should be noted. One limitation is the retrospective nature and self-report format of the inventories. It is possible that participants' memories concerning the timing, severity, and occurrences of childhood experiences may have been impaired and lead to false reporting (Anda et al., 2002). It is also possible that participants'

memories concerning the parent-child aggression they experienced are unreliable due to forgetting or cognitive interpretation (Haapasalo & Pokela, 1999). Although these are frequent concerns mentioned in the research literature, it is likely that any reporting bias would be in the direction of underreporting, rather than over reporting. In addition, although the current research utilized a retrospective approach, this approach has certain advantages given that the effects of neglect and psychological maltreatment are often slow and protracted (Miller-Perrin & Perrin, 2007) and may *only* develop later in life. An additional problem lies with the fact that the CTSPC estimates violence frequency specifically at age 10. Thus, the CTSPC is limited in what it can assess given that it does not allow for an evaluation of frequency before or after the age of 10. However, one benefit of such a precise and focused measure is that it concentrates on the respondent's memory of a specific time period. Finally, the static nature of the inventories used in the current study are limited because they examine behavior during one specific time period rather than capture the developmental trajectory of behavior. This static approach, however, is valuable with the age group used in the current study because college students are one of the most at-risk groups for substance abuse. It is therefore critical that we can identify the risk factors that affect this group and intervene during a period in time when they are particularly vulnerable.

Moreover, the results of the current study have limited generalizability as the sample in this study consisted of a convenience sample of individuals from a small, private university. Given the limited ethnic diversity and socioeconomic variability, it is unclear how the current results apply to the general population. In light of the limited ethnic and cultural diversity represented in this sample, the current study does not address possible limitations in the use of culture-specific measures of maltreatment as they relate to culture-bound definitions of abuse. However, because cultural influences shape individual perceptions of abuse, researchers need to be cautious when attempting to apply majority definitions of parent-child interaction styles to members of the non-majority race or culture. Although the current study was limited by its inability to include statistical analysis of the interaction of ethnicity and gender on various forms of abuse due to underrepresentation of ethnically diverse groups, we recognize the significance of doing so as well as the considerable body of existing research on cultural differences in the perception, prevalence, and operationalization of the construct of child maltreatment (Malley-Morrison & Hines, 2004). The present study, however, did have a sufficient sample size and provided significant results consistently, increasing the validity of the results.

Finally, the current study did not consider the role of resiliency among youth who are exposed to adverse life experiences in the later development of pathology. Resilience theory is part of a burgeoning body of literature concerning why some youth exposed to risk factors do not develop the negative behaviors they predict (Ostaszewski & Zimmerman, 2006), and has been the focus of some research in the field of child maltreatment. For example, Carlton and colleagues (2006) examined resiliency indicators among Native Hawaiian and non-native Hawaiian youth, emphasizing the value of family social support in acting as a protective factor for at-risk youth. Although the aim and direction for the current study was not to examine the

contribution of youth resilience in protecting against developing pathology later in life, resilience may have greatly explained why we found such a strong association between childhood maltreatment and substance abuse in an otherwise extremely high functioning sample of college students.

While the current study makes a significant contribution to investigations of parental neglect and psychological aggression and their relationship to substance abuse later in life, within the context of gender differences, additional research is necessary. Further studies should build upon the present study to determine the unique effects that various subtypes of neglect may have on an individual, since substance abuse was not consistently related to childhood neglect in the current study. In addition, although the multiple regression analyses were significant, the majority of the variability in the dependent variable was unexplained by the variables in our model. Future research should examine other factors that might account for variance in substance abuse scores. Future studies, for example, could control for parental history of alcohol and or substance abusers, as there is a hereditary factor which may explain some of the variation in a participant's propensity to abuse substances outside of substance abuse problems that stem from childhood maltreatment (Kelley, 2002). Including a measure of personality as a variable in the analyses may also be of interest, given the fact that Axis II disorders are highly correlated with substance abuse and sometimes parental attachment failures (e.g., borderline personality disorder and narcissistic personality disorder) (Whiteside, 2009). Finally, it would be beneficial to explore the various outcomes of combined forms of abuse to determine the effect of multiple forms of child maltreatment on substance abuse. It would also be interesting to examine the potential influence of various abuse characteristics (e.g. duration) on substance abuse in child maltreatment victims. All of these issues would be beneficial and worthy of further exploration as extensions of the present study.

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AUTHOR INFORMATION:

Natalie Kaiser is a Ph.D. student in Clinical Psychology at Loma Linda University. Her research and academic emphasis is in Clinical Health Psychology. Her research interests include bi-behavioral aspects of psychology, health disparities research, and Psycho-oncology. She has authored a book chapter entitled “Use of Technology to Advance Adolescent Health Promotion” in a book entitled *Adolescent Health: Understanding and Preventing Risk Behaviors and Adverse Health Outcomes* (with J. Owen & A. Winzleberg, 2009). Natalie is also an adjunct professor at Pepperdine University, teaching Abnormal Psychology, Introduction to Psychology, and an Experiential Internship Learning Class for students in the social sciences. Address: Pepperdine University, Social Science Division, 24255 Pacific Coast Hwy, Malibu, CA 90263. Email: nkaiser@llu.edu

Cindy Miller-Perrin is Chair of the Social Science Division, Professor of Psychology, and Frank R. Seaver Endowed Chair of Social Science at Pepperdine. She is also a clinical child psychologist and has worked with developmentally delayed, maltreated, and other troubled children and their families. Her major research interests are in the areas of child maltreatment and family violence. She has coauthored three books including *Child Sexual Abuse: Sharing the Responsibility* (with S. Wurtele, University of Nebraska Press, 1992), *Child Maltreatment: An Introduction* (with R. Perrin, 1999, 2007) and *Family Violence Across the Lifespan* (with O. Barnett and R. Perrin, 1999, 2005). She is also the author or coauthor of a number of articles and book chapters on topics including child sexual abuse prevention, perceptions associated with child maltreatment, family violence, and psychology and religion. Address: Pepperdine University, social Science Division, 24255 Pacific Coast Highway, Malibu, CA 90263. Email: cindy.perrin@pepperdine.edu