# Child maltreatment in Kenya, Zambia, and the Netherlands : a cross-cultural comparison of prevalence, psychopathological sequelae, and mediation by PTSS

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# CHAPTER 6

## *Child Maltreatment in Zambia: Prevalence, associated Sequelae, and Mediation by Posttraumatic Stress Symptoms*

## 6.0. Introduction

This chapter presents the results of our Zambian sample. Descriptive statistics and bivariate associations for the variables that we examined are presented. Next, we present findings on the multivariate associations between the child maltreatment and the psychopathological symptoms. Lastly, the results of our tests of mediation models with PTSD mediating the association between childhood maltreatment and psychopathological symptoms are presented.

## 6.1. Descriptives

Table 6.1 presents the means and standard deviations of the childhood maltreatment variables, posttraumatic stress symptoms (PTSS), social desirability, and psychopathology variables. Male and female students did not differ on their experiences of childhood maltreatment. Both genders were also comparable on PTSS and social desirability scores. There were however significant differences between males and females on other psychopathological symptoms. Males reported more antisocial personality symptoms ($M$ = 1.91, $SD$ = 0.42) than did females ($M$ = 1.74, $SD$ = 0.45). These differences were also significant for criminal tendencies; males reported more criminal tendencies ($M$ = 1.79, $SD$ = 0.44) than did females ($M$ = 1.59, $SD$ = 0.56). In addition, males reported significantly more violent behaviour against their dating partners ($M$ = 1.20, $SD$ = 0.21) than did females ($M$ = 1.14, $SD$ = 0.12). Correspondingly, the level of externalizing behaviour was higher for males ($M$ = 0.21, $SD$ = 0.81) than it was for females ($M$ = -0.21, $SD$ = 0.71). In contrast, both genders did not differ significantly on depressive symptoms and borderline personality symptoms. Subsequently, there were no significant differences between males and females on overall internalizing behaviour. The prevalence of CSA in this sample was 37% (Males: 36%; Females: 37%) while that of CPA was 40% (Males: 43%; Females: 36%). Those who reported childhood neglect were 54% of the sample (Males: 54%; Females: 53%) while 29% (Males: 34%; Females: 23%) reported witnessing interparental violence.

Table 6.1.
*Descriptive Data for Childhood Maltreatment Experiences and Personality Variables*

| | Total (*N*=182) | | Male (*n*=96) | | Female (*n*=86) | | *t* (*df*) |
|---|---|---|---|---|---|---|---|
| | *M* | *SD* | *M* | *SD* | *M* | *SD* | |
| Physical abuse | 1.91 | 0.74 | 2.00 | 0.73 | 1.83 | 0.74 | 1.54 (180) |
| Sexual abuse | 1.62 | 0.68 | 1.69 | 0.68 | 1.55 | 0.68 | 1.40 (1.80) |
| Neglect | 1.62 | 0.40 | 1.68 | 0.41 | 1.61 | 0.39 | 1.15 (180) |
| Witnessing violence | 1.78 | 1.00 | 1.82 | 1.00 | 1.72 | 1.00 | 0.65 (180) |
| Social desirability | 2.53 | 0.37 | 2.54 | 0.38 | 2.52 | 0.36 | 0.27 (180) |
| PTSS | 2.54 | 0.46 | 2.54 | 0.42 | 2.55 | 0.50 | -0.11 (180) |
| Antisocial personality | 1.83 | 0.42 | 1.91 | 0.42 | 1.74 | 0.40 | 2.84 (180)** |
| Criminal tendencies | 1.70 | 0.45 | 1.79 | 0.44 | 1.59 | 0.45 | 3.10 (180)** |
| Dating violence | 1.17 | 0.17 | 1.20 | 0.21 | 1.14 | 0.12 | 2.17 (132)* |
| Externalizing problems | 00 | 0.79 | 0.21 | 0.81 | -0.21 | 0.71 | 3.70 (180)** |
| Depressive symptoms | 1.92 | 0.41 | 1.89 | 0.35 | 1.96 | 0.46 | -1.17 (180) |
| Borderline symptoms | 2.04 | 0.41 | 2.04 | 0.38 | 2.04 | 0.43 | 0.07 (180) |
| Internalizing problems | 1.98 | 0.35 | 1.96 | 0.32 | 2.00 | 0.40 | -0.63 (180) |

* $p < .05$ ** $p < .01$

Bivariate associations of childhood maltreatment variables, personality variables, social desirability and PTSS are presented in Table 6.2. Physical abuse was associated with PTSS, social desirability and all psychopathology variables. Sexual abuse showed significant associations with PTSS, social desirability, criminal tendencies, depressive symptoms, borderline personality symptoms and overall internalizing and externalizing behaviour problems. A history of neglect had significant associations with antisocial personality symptoms, criminal tendencies, borderline personality symptoms, depressive symptoms and overall internalizing and externalizing behaviour problems. Witnessing interparental violence had significant associations with criminal tendencies only. Notably, social desirability was negatively related to all the variables assessed except for a history of neglect and witnessing interparental violence. This means that the higher the respondents scored on social desirability, the lower they scored on childhood sexual abuse, childhood physical abuse, PTSS and psychopathological symptomatology. PTSS had significant associations with all the psychopathological symptoms. This implies that the higher the respondents scored on PTSS, the more psychopathological symptoms they reported.

Table 6.2.
*Bivariate Correlations of Child Maltreatment Variables and Personality Variables*

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 Physical abuse | | | | | | | | | | | | |
| 2 Sexual abuse | .27** | | | | | | | | | | | |
| 3 Neglect history | .26** | .31** | | | | | | | | | | |
| 4 Witnessing violence | .31** | .12 | .15* | | | | | | | | | |
| 5 Social desirability | -.26** | -.19* | -.02 | -.04 | | | | | | | | |
| 6 PTSS | .17* | .30** | -.07 | .08 | -.29** | | | | | | | |
| 7 Antisocial personality | .20** | .14 | .20** | -.03 | -.30** | .16* | | | | | | |
| 8 Criminal tendencies | .39** | .27** | .15* | .24** | -.40** | .34** | .47** | | | | | |
| 9 Dating violence | .22* | .07 | -.03 | -.02 | -.21** | .28** | .30** | .21* | | | | |
| 10 Externalizing problems | .36** | .22** | .16* | .12 | -.42** | .33** | .82** | .78** | .69** | | | |
| 11 Depressive symptoms | .21** | .26** | .24** | .08 | -.33** | .38** | .23** | .29** | .09 | .28** | | |
| 12 Borderline symptoms | .22** | .26** | .19* | .13 | -.38** | .50** | .38** | .40** | .24** | .44** | .49** | |
| 13 Internalizing problems | .25** | .30** | .24* | .13 | -.41** | .51** | .35** | .39** | .19* | .42** | .86** | .87** |

* $p < .05$ ** $p < .01$

## 6.2. Multivariate relations between child maltreatment variables and psychopathological symptoms

Hierarchical regression analyses were used to test whether childhood maltreatment experiences predicted psychopathological outcomes. In all analyses, social desirability was entered at step 1. At step 2, background variables (income, gender and age) were entered. At step 3, PTSS was entered and finally at step 4, all the childhood maltreatment experiences (physical abuse, sexual abuse, neglect and witnessing interparental violence) were added.

In the prediction of antisocial personality symptoms, social desirability was a negative and significant predictor, $\beta$ = -.27 ($p$ < .01). This means that the higher the respondents scored on social desirability the lower they scored on antisocial personality symptoms. Of the three background variables, gender was significantly related to antisocial behaviour, with males reporting more antisocial personality symptoms than females, $\beta$ = -.20 ($p$ <.01). PTSS was not significantly related to antisocial personality symptoms. After controlling for social desirability, background variables and PTSS, having a history of neglect was significantly associated with antisocial personality symptoms, $\beta$ = .20, $p$ < .01 (see Table 6.3). Thus, the higher the respondents scored on neglectful experiences during childhood, the more antisocial personality symptoms they reported. The predictors and covariates together accounted for 19% of the variance in antisocial personality symptoms scores.

Table 6.3.
*Regression Analysis Predicting Antisocial Personality Symptoms from Childhood Maltreatment Experiences with Social Desirability, Income Gender, Age and PTSS as Covariates*

| | $R$ | $R^2$ | $R^2Ch$ | $F_{change}$ | $df$ | $Beta^1$ | $p$ |
|---|---|---|---|---|---|---|---|
| *Step 1* | .30 | .09 | .09 | 18.37 | (1, 180) | | <.01 |
| Social desirability | | | | | | -.27 | <.01 |
| *Step 2* | .37 | .14 | .05 | 3.15 | (3, 177) | | .03 |
| Income | | | | | | -.01 | .93 |
| Gender | | | | | | -.20 | <.01 |
| Age | | | | | | .01 | .95 |
| *Step 3* | .38 | .15 | .01 | 1.44 | (1, 176) | | <.01 |
| PTSS | | | | | | .10 | .20 |
| *Step 4* | .44 | .19 | .05 | 2.60 | (4, 172) | | .04 |
| Physical abuse | | | | | | .07 | .36 |
| Sexual abuse | | | | | | -.01 | .91 |
| Neglect | | | | | | .20 | <.01 |
| Witnessing violence | | | | | | .11 | .15 |

[1] Betas are derived from the final block of the regression model

Childhood maltreatment experiences, social desirability, PTSS, income, gender and age together accounted for 35% of the variance in criminal tendencies (see Table 6.4). Social desirability was significantly related to criminal tendencies, $\beta$ = -.29 ($p$ < .01). This implies that respondents who had higher scores on social desirability reported less criminal tendencies. The prediction of criminal tendencies by gender was significant. Male respondents reported more criminal tendencies than did female respondents, $\beta$ = -.20 ($p$ < .01). In step 3, PTSS was significantly associated with criminal tendencies, $\beta$ = .25 ($p$ < .01). This means that higher scores on PTSS were associated with higher scores on criminal tendencies. After controlling for the effect of social desirability, background variables and PTSS, only physical abuse remained a significant predictor of criminal tendencies, $\beta$ = .19 ($p$ = .01). This means that those who reported having experienced more physical abuse in childhood were likely to report also more criminal behaviour.

Table 6.4.
*Regression Analysis Predicting Criminal Tendencies from Childhood Maltreatment Experiences with Social Desirability, Income, Gender, Age and PTSS as Covariates*

| | *R* | $R^2$ | $R^2Ch$ | $F_{change}$ | *df* | *Beta*[1] | *p* |
|---|---|---|---|---|---|---|---|
| *Step 1* | .40 | .16 | .16 | 33.53 | (1, 180) | | <.01 |
| Social desirability | | | | | | -.29 | <.01 |
| *Step 2* | .47 | .22 | .06 | 4.68 | (3, 177) | | <.01 |
| Income | | | | | | .08 | .24 |
| Gender | | | | | | -.20 | <.01 |
| Age | | | | | | .04 | .53 |
| *Step 3* | .53 | .28 | .06 | 13.90 | (1, 176) | | <.01 |
| PTSS | | | | | | .21 | <.01 |
| *Step 4* | .59 | .35 | .07 | 5.12 | (4, 172) | | <.01 |
| Physical abuse | | | | | | .19 | .01 |
| Sexual abuse | | | | | | .05 | .48 |
| Neglect | | | | | | .07 | .30 |
| Witnessing violence | | | | | | .12 | .06 |

[1] Betas are derived from the final block of the regression model

Hierarchical regression analysis was also conducted for the prediction of dating violence from childhood maltreatment experiences and covariates (see Table 6.5). Social desirability was not a significant predictor of dating violence. Gender was significantly related to dating violence, $\beta$ = -.20 ($p$ =.02) with males more likely to report being aggressive towards their dating partners than females. Higher scores on PTSS were also associated with more dating violence, $\beta$ = .26 ($p$ < .01). The fourth step in the regression was not significant. None of the childhood maltreatment variables was significantly related to dating violence when PTSS, social desirability and the background variables were taken into account.

Table 6.5.
*Regression Analysis Predicting Dating Violence from Childhood Maltreatment Experiences with Social Desirability, Income Gender, Age and PTSS as Covariates*

| | *R* | $R^2$ | $R^2Ch$ | $F_{change}$ | *df* | *Beta*[1] | *p* |
|---|---|---|---|---|---|---|---|
| *Step 1* | .21 | .04 | .04 | 6.00 | (1, 132) | | .02 |
| Social desirability | | | | | | -.14 | .02 |
| *Step 2* | .30 | .09 | .05 | 2.12 | (3, 129) | | .10 |
| Income | | | | | | .15 | .10 |
| Gender | | | | | | -.20 | .02 |
| Age | | | | | | .12 | .20 |
| *Step 3* | .39 | .15 | .06 | 9.48 | (1, 128) | | <.01 |
| PTSS | | | | | | .26 | <.01 |
| *Step 4* | .43 | .18 | .03 | 1.20 | (4, 124) | | .31 |
| Physical abuse | | | | | | .18 | .07 |
| Sexual abuse | | | | | | -.11 | .23 |
| Neglect | | | | | | -.04 | .65 |
| Witnessing violence | | | | | | -.09 | .32 |

[1] Betas are derived from the final block of the regression model

Table 6.6 presents the results of the hierarchical regression predicting depressive symptoms from the childhood maltreatment experiences and covariates. Together, the predictors and covariates accounted for 28% of the variance in depressive symptoms. Social desirability was significantly related to depressive symptoms, $\beta$=-.20, ($p$<.01). The higher the respondents scored on social desirability the lower they scored on depressive symptoms. Age was significantly related to depressive symptoms, $\beta$ = -.20 ($p$ < .01). Younger respondents reported more depressive symptoms than did older respondents. Similarly, income was related to depressive symptoms, $\beta$ = -.15 ($p$ = .03). This means that respondents who scored highly on family income scored lower on depressive symptoms. In the third step, PTSS was significantly related to depressive symptoms, $\beta$ = .26 ($p$ < .01). Higher scores on PTSS were associated with higher scores on depressive symptoms. After controlling for social desirability, background variables and PTSS, only a history of neglect remained a significant predictor of depressive symptoms, $\beta$ = .23 ($p$ < .01). Thus, higher scores on neglect during childhood were associated with higher scores on depressive symptoms.

Table 6.6.
*Regression Analysis Predicting Depressive Symptoms from Childhood Maltreatment Experiences with Social Desirability, Income Gender, Age and PTSS as Covariates*

| | *R* | $R^2$ | $R^2Ch$ | $F_{change}$ | *Df* | *Beta*[1] | *p* |
|---|---|---|---|---|---|---|---|
| *Step 1* | .33 | .11 | .11 | 22.58 | (1, 180) | | <.01 |
| Social desirability | | | | | | -.20 | <.01 |
| *Step 2* | .39 | .15 | .04 | 2.77 | (3, 177) | | .04 |
| Income | | | | | | -.15 | .03 |
| Gender | | | | | | .12 | .08 |
| Age | | | | | | -.20 | <.01 |
| *Step 3* | .48 | .23 | .08 | 17.68 | (1, 176) | | <.01 |
| PTSS | | | | | | .26 | <.01 |
| *Step 4* | .56 | .28 | .09 | 5.61 | (4, 172) | | <.01 |
| Physical abuse | | | | | | .05 | .53 |
| Sexual abuse | | | | | | .13 | .06 |
| Neglect | | | | | | .23 | <.01 |
| Witnessing violence | | | | | | .01 | .83 |

[1] Betas are derived from the final block of the regression model

The results of the hierarchical regression analysis conducted to predict borderline personality symptoms from childhood maltreatment experiences and covariates are presented in Table 6.7. The predictors and covariates together accounted for 38% of the variance in borderline personality symptoms. Social desirability was significantly related to borderline personality symptoms, $\beta$ = -.24 ($p$ <.01). This means that the higher the respondents scored on social desirability, the lower they scored on borderline personality symptoms. Income was also associated with borderline personality symptoms $\beta$ -.13 ($p$ = .04) with respondents who reported higher income levels scoring lower on borderline personality symptoms. After controlling for social desirability and background variables, PTSS was significantly associated with borderline personality, $\beta$ = .42 ($p$ < .01). Thus, higher scores on PTSS were associated with higher scores on borderline personality symptoms. After taking into account PTSS, social desirability and background variables, having a history of neglect in childhood was significantly related to borderline personality symptoms, $\beta$ = .21 ($p$ < .01). None of the other childhood maltreatment variables were significantly related to borderline personality symptoms.

Table 6.7.
*Regression Analysis Predicting Borderline Personality Symptoms from Childhood Maltreatment Experiences with Social Desirability, Income Gender, Age and PTSS as Covariates*

| | *R* | $R^2$ | $R^2Ch$ | $F_{change}$ | *Df* | *Beta*[1] | *p* |
|---|---|---|---|---|---|---|---|
| *Step 1* | .38 | .14 | .14 | 29.84 | (1, 180) | | <.01 |
| Social desirability | | | | | | -.24 | <.01 |
| *Step 2* | .40 | .16 | .02 | 1.40 | (3, 177) | | .24 |
| Income | | | | | | -.13 | .04 |
| Gender | | | | | | -.02 | .72 |
| Age | | | | | | -.09 | .18 |
| *Step 3* | .57 | .32 | .16 | 41.84 | (1, 176) | | <.01 |
| PTSS | | | | | | .41 | <.01 |
| *Step 4* | .62 | .38 | .06 | 4.97 | (4, 172) | | <.01 |
| Physical abuse | | | | | | -.06 | .95 |
| Sexual abuse | | | | | | .08 | .39 |
| Neglect | | | | | | .21 | <.01 |
| Witnessing violence | | | | | | .07 | .30 |

[1] Betas are derived from the final block of the regression model

## 6.3. Mediation of the association between child maltreatment and psychopathological symptomatology by PTSS

Hierarchical regression analyses showed that PTSS significantly contributed to the variance in all psychopathology outcomes except for antisocial personality symptoms. In order to examine whether the association between the various childhood maltreatment variables could in part be explained through PTSS, mediation analyses were done for all the maltreatment variables and psychopathology variables examined in this study. We used the same mediation analysis procedure in our Zambian sample as we did in the Kenyan sample (Baron & Kenny, 1986). Accordingly, we followed four steps in order to test for mediation by PTSS. First, the childhood maltreatment variable should significantly predict PTSS; second, PTSS should also significantly predict the psychopathology outcome; third, there should be a significant association between the child maltreatment variable and psychopathology outcome (total effect); and lastly, the association between the maltreatment variable and the psychopathology outcome ought to decrease when PTSS is controlled for (direct effect).

Table 6.8 shows that PTSS did not significantly mediate the association between childhood maltreatment variables and antisocial personality symptoms. This was because of the failure by the mediation models to fulfill the first three conditions for mediation as suggested by Baron and Kenny (1986). PTSS did not mediate the relation between CPA and antisocial personality symptoms because the association between PTSS and antisocial personality was not significant, $\beta$ =.07 ($p$ = .07). Also, PTSS did not mediate the association between CSA and antisocial personality symptoms because of the nonsignificant relation between PTSS and antisocial personality symptoms, $\beta$ = .13 ($p$ = .09). In the same way, PTSS did not mediate the association between with antisocial personality symptoms and a history of neglect because the association between a history of neglect and PTSS was not significant, $\beta$ = -.11 ($p$ = .16). Lastly, the nonsignificant associations between witnessing interparental violence and PTSS, $\beta$ = .09 ($p$ = .25) and witnessing interparental violence and antisocial personality symptoms, $\beta$ = -.03 ($p$ = .72) showed that PTSS did not mediate the association between witnessing interparental violence and antisocial personality symptoms.

Table 6.8.
*PTSS Mediating the Association between Child Maltreatment Variables and Antisocial Personality Symptoms*

| Child Maltreatment variable | Regressions | B | SE | $\beta$ |
|---|---|---|---|---|
| **Physical abuse** | Physical abuse – PTSS[1] | 0.09 | .05 | .16* |
| | PTSS - Antisocial personality[1] | 0.12 | .07 | .07 |
| | Physical abuse – Antisocial personality[1] | 0.11 | .04 | .20** |
| | Physical abuse - Antisocial personality controlling for PTSS | 0.10 | .04 | .18* |
| **Sexual abuse** | Sexual Abuse - PTSS[1] | 0.19 | .05 | .16* |
| | PTSS - Antisocial personality[1] | 0.12 | .07 | .13 |
| | Sexual abuse – Antisocial personality[1] | 0.09 | .05 | .14* |
| | Sexual abuse - Antisocial personality controlling for PTSS | 0.06 | .05 | .10 |
| **Neglect** | Neglect - PTSS[1] | -0.12 | .09 | -.11 |
| | PTSS - Antisocial personality[1] | 0.16 | .07 | .19* |
| | Neglect - Antisocial personality[1] | 0.21 | .08 | .20** |
| | Neglect - Antisocial personality controlling for PTSS | 0.22 | .08 | .22** |
| **Witnessing violence** | Witnessing violence - PTSS[1] | 0.04 | .03 | .09 |
| | PTSS - Antisocial personality[1] | 0.15 | .07 | .17* |
| | Witnessing violence - Antisocial personality[1] | -0.01 | .03 | -.03 |
| | Witnessing violence - Antisocial personality controlling for PTSS | -0.02 | .03 | -.04 |

* $p < .05$ ** $p < .01$
[1] controlling for the third variable

In order to test whether PTSS was a mediator of the association between childhood maltreatment variables and criminal tendencies, a series of regressions and Sobel tests were completed (see Table 6.9). The model involving CSA, PTSS and criminal tendencies showed a significant association between CSA and PTSS, $\beta = .23$ ($p < .01$), and between PTSS and criminal tendencies, $\beta = .27$ ($p < .01$). The regression weight of the total effect of CSA on criminal tendencies was $\beta = .27$ ($p < .01$). After controlling for PTSS, the regression weight of the direct effect dropped to $\beta = .19$ ($p < .01$). The Sobel test (z) showed that PTSS partially mediated the association between CSA and criminal tendencies, $z = 2.41$ ($p = .02$).

The models involving PTSS mediating the association between CPA and criminal tendencies; a history of neglect and criminal tendencies; and witnessing interparental violence and criminal tendencies were all nonsignificant. PTSS did not mediate the association between CPA and criminal tendencies because of the nonsignifcant association between CPA and PTSS, $\beta = .05$ ($p = .56$). Similarly,

PTSS did not mediate the association between a history of neglect and criminal tendencies because the relation between a history of neglect and PTSS was not significant, $\beta$ = -.12 ($p$ = .05). The association between witnessing violence and criminal tendencies was also not mediated by PTSS because there was no relation between witnessing violence and PTSS, $\beta$ = .00 ($p$ = .98).

Table 6.9.
*PTSS Mediating the Association between Child Maltreatment Variables and Criminal Tendencies*

| Child maltreatment | Regressions | B | SE | $\beta$ |
|---|---|---|---|---|
| **Physical abuse** | Physical abuse - PTSS[1] | 0.03 | .05 | .05 |
| | PTSS - Criminal tendencies [1] | 0.27 | .07 | .28** |
| | Physical abuse - Criminal tendencies [1] | 0.24 | .04 | .38** |
| | Physical abuse - Criminal tendencies controlling for PTSS | 0.21 | .04 | .34** |
| **Sexual abuse** Mediation test 2.41 ($p$ = .02) | Sexual abuse - PTSS[1] | 0.15 | .05 | .23** |
| | PTSS - Criminal tendencies [1] | 0.27 | .07 | .27** |
| | Sexual abuse - Criminal tendencies [1] | 0.18 | .05 | .27** |
| | Sexual abuse - Criminal tendencies controlling for PTSS | 0.13 | .05 | .19** |
| **Neglect history** | Neglect - PTSS[1] | -.13 | .08 | -.12 |
| | PTSS - Criminal tendencies [1] | 0.34 | .07 | .34** |
| | Neglect - Criminal tendencies [1] | 0.17 | .08 | .15* |
| | Neglect - Criminal tendencies for PTSS | 0.19 | .08 | .17* |
| **Witnessing violence** | Witnessing violence - PTSS[1] | 0.00 | .03 | .00 |
| | PTSS - Criminal tendencies [1] | 0.31 | .07 | .31** |
| | Witnessing violence - Criminal tendencies [1] | 0.11 | .03 | .24** |
| | Witnessing violence - Criminal tendencies controlling for PTSS | 0.10 | .03 | .21** |

* $p$ < .05 ** $p$ < .01
[1] controlling for the third variable

Table 6.10 shows that PTSS did not significantly mediate the association between childhood maltreatment variables and dating violence. Similar to the models that involved antisocial personality symptoms, the dating violence models did not fulfill the conditions necessary for mediation. PTSS did not mediate the association between CPA and dating violence because of the nonsignificant relation between CPA and PTSS, $\beta$ = .13 ($p$ = .12). Also, PTSS did not mediate the relation between CSA and dating violence because the total effect of CSA on dating violence was nonsignificant, $\beta$ = .07 ($p$ = .46). Similarly, PTSS did not mediate the association between a history of neglect and dating violence because the relation between a history of neglect and PTSS was not significant, $\beta$ = -.10 ($p$

= .25). In addition, there was no relation between having a history of neglect and dating violence. Lastly, PTSS did not mediate the association between witnessing interparental violence and dating violence because there was no relation between witnessing interparental violence and PTSS, $\beta$ = .01 ($p$ = .95).

Table 6.10.
*PTSS Mediating the Association between Child Maltreatment Variables and Dating Violence*

| | Regressions | B | SE | $\beta$ |
|---|---|---|---|---|
| **Physical abuse** | Physical abuse – PTSS[1] | 0.09 | .05 | .13 |
| | PTSS - Dating violence[1] | 0.92 | .03 | .25** |
| | Physical abuse - Dating violence[1] | 0.51 | .02 | .22** |
| | Physical abuse - Dating violence controlling for PTSS | 0.05 | .02 | .17* |
| **Sexual abuse** | Sexual abuse – PTSS[1] | 0.18 | .05 | .29** |
| | PTSS - Dating violence[1] | 0.12 | .03 | .28** |
| | Sexual abuse - Dating violence[1] | 0.02 | .02 | .07 |
| | Sexual abuse - Dating violence controlling for PTSS | -0.01 | .02 | -.02 |
| **Neglect** | Neglect – PTSS[1] | -0.12 | .09 | -.10 |
| | PTSS - Dating violence[1] | 0.10 | .03 | .28** |
| | Neglect - Dating violence[1] | 0.00 | .03 | .00 |
| | Neglect - Dating violence controlling for PTSS | 0.00 | .04 | .00 |
| **Witnessing violence** | Witnessing violence – PTSS[1] | 0.00 | .04 | .01 |
| | PTSS - Dating violence[1] | 0.10 | .03 | .28** |
| | Witnessing violence - Dating violence[1] | 0.00 | .01 | -.02 |
| | Witnessing violence - Dating violence controlling for PTSS | 0.00 | .01 | -.02 |

* $p$ < .05 ** $p$ < .01
[1] controlling for the third variable

The regression coefficients and the Sobel test results of the mediation models involving childhood maltreatment variables and the overall score for externalizing problems are presented in Table 6.11. The model testing CSA showed significant associations between CSA and PTSS, $\beta$ = .24 ($p$ < .01) and between PTSS and externalizing problems, $\beta$ = .29 ($p$ < .01). The regression weight of the total effect of CSA on externalizing problems was significant, $\beta$ = .22 ($p$ < .01). After controlling for PTSS, the regression weight of the direct effect dropped to a nonsignificant level, $\beta$ = .13 ($p$ < .01). This indicated complete mediation by PTSS, and the Sobel test showed that indeed PTSS mediated the association between CSA and externalizing problems, $z$ = 2.58 ($p$ < .01).

In contrast, PTSS did not mediate the association between CPA and externalizing problems because of the nonsignificant association between CPA and PTSS, $\beta$ =

.05 ($p$ = .47). Similarly, PTSS did not mediate the association between a history of neglect and externalizing problems because of the nonsignificant association between a history of neglect and PTSS, $\beta$ = -.12 ($p$ = .08). In addition, PTSS was not a significant mediator of the relation between witnessing interparental violence and externalizing problems because of the nonsignificant associations between witnessing interparental violence and PTSS, $\beta$ = .04 ($p$ = .53) and between witnessing interparental violence and externalizing problems, $\beta$ = .12 ($p$ = .12).

Table 6.11.
*PTSS Mediating the Association between Child Maltreatment Variables and Externalizing Problems*

| Child maltreatment | Regressions | B | SE | $\beta$ |
|---|---|---|---|---|
| **Physical abuse** | Physical abuse - PTSS[1] | 0.03 | .05 | .05 |
| | PTSS - Externalizing[1] | 0.48 | .12 | .28** |
| | Physical abuse – Externalizing[1] | 0.38 | .07 | .36** |
| | Physical abuse - Externalizing controlling for PTSS | 0.33 | .07 | .31** |
| **Sexual abuse** Mediation test 2.58 ($p$ < .01) | Sexual abuse - PTSS[1] | 0.16 | .05 | .24** |
| | PTSS - Externalizing[1] | 0.50 | .13 | .29** |
| | Sexual abuse – Externalizing[1] | 0.25 | .08 | .22** |
| | Sexual abuse - Externalizing controlling for PTSS | 0.15 | .09 | .13 |
| **Neglect** | Neglect - PTSS[1] | -0.14 | .08 | -.12 |
| | PTSS - Externalizing[1] | 0.59 | .12 | .34** |
| | Neglect – Externalizing[1] | 0.32 | .14 | .16* |
| | Neglect - Externalizing controlling for PTSS | 0.36 | .14 | .19** |
| **Witnessing violence** | Witnessing violence - PTSS[1] | 0.02 | .03 | .04 |
| | PTSS - Externalizing[1] | 0.55 | .11 | .32** |
| | Witnessing violence – Externalizing[1] | 0.09 | .06 | .12 |
| | Witnessing violence - Externa-lizing controlling for PTSS | 0.07 | .06 | .09 |

* $p$ < .05 ** $p$ < .01
[1] controlling for the third variable

Table 6.12 shows the regression coefficients and Sobel test results of the mediation models involving childhood maltreatment variables and depressive symptoms. The model testing CSA, PTSS and depressive symptoms showed significant associations between CSA and depressive symptoms, $\beta$ = .22 ($p$ < .01), and between PTSS and depressive symptoms, $\beta$ = .33 ($p$ < .01). The regression weight of the total effect of CSA on depressive symptoms was also significant, $\beta$ = .26 ($p$ < .01). After controlling for PTSS, the direct effect of CSA on depressive symptoms dropped but remained significant, $\beta$ = .16 ($p$ = .02).The Sobel test showed that PTSS partially mediated the association between CSA and depressive symptoms, $z$ = 2.55 ($p$ = .01).

Similar analyses involving a history of neglect, PTSS and depressive symptoms showed significant associations between a history of neglect and PTSS, $\beta$ = -.16 ($p$ < .05), and between PTSS and depressive symptoms, $\beta$ = .40 ($p$ < .01). The total effect of a history of neglect on depressive symptoms was $\beta$ = .22 ($p$ < .01). After controlling for PTSS, the direct effect of a history of neglect on depressive symptoms increased marginally, $\beta$ = .25 ($p$ < .01). This implied suppression of the association between a history of neglect and depressive symptoms by PTSS, Sobel test $z$ = -2.15 ($p$ = .03). In contrast, PTSS did not mediate the association between CPA and depressive symptoms because the association between CPA and PTSS was not significant, $\beta$ = .09 ($p$ = .22). Similarly, PTSS did not mediate the association between witnessing interparental violence and depressive symptoms because of the nonsignificant associations between witnessing interparental violence and PTSS, $\beta$ = .05 ($p$ = .47) and witnessing interparental violence and depressive symptoms, $\beta$ = .08 ($p$ = .26).

Table 6.12
*PTSS Mediating the Association between Child Maltreatment Variables and Depressive Symptoms*

| Child Maltreatment | Regressions | B | SE | $\beta$ |
|---|---|---|---|---|
| **Physical abuse** | Physical abuse – PTSS[1] | 0.05 | .04 | .09 |
| | PTSS – Depressive symptoms[1] | 0.32 | .06 | .35** |
| | Physical abuse – Depressive symptoms[1] | 0.12 | .04 | .22** |
| | Physical abuse - Depressive symptoms controlling for PTSS | 0.08 | .04 | .16* |
| **Sexual abuse** Mediation test 2.55 ($p$ = .01) | Sexual abuse - PTSS[1] | 0.14 | .05 | .22** |
| | PTSS - Depressive symptoms[1] | 0.30 | .06 | .33** |
| | Sexual abuse – Depressive symptoms[1] | 0.16 | .04 | .26** |
| | Sexual abuse – Depressive symptoms controlling PTSS | 0.10 | .04 | .16* |
| **Neglect** Mediation test[2] -2.15 ($p$ =.03) | Neglect - PTSS[1] | -0.08 | .08 | -.16* |
| | PTSS - Depressive symptoms[1] | 0.36 | .06 | .40** |
| | Neglect – Depressive symptoms[1] | 0.23 | .07 | .22** |
| | Neglect - Depressive symptoms controlling for PTSS | 0.25 | .07 | .25** |
| **Witnessing violence** | Witnessing violence - PTSS[1] | 0.02 | .03 | .05 |
| | PTSS - Depressive symptoms[1] | 0.34 | .06 | .38** |
| | Witnessing violence – Depressive symptoms[1] | 0.03 | .03 | .08 |
| | Witnessing violence - Depressive symptoms controlling for PTSS | 0.02 | .03 | .05 |

* $p$ < .05 ** $p$ < .01
[1] controlling for the third variable
[2] suppression effect

In order to test whether PTSS was a significant mediator of the association between childhood maltreatment experiences and borderline personality symptoms, a series of regressions and Sobel tests were completed (see Table 6.13). The model testing CSA, PTSS and borderline symptoms showed that the association between CSA and borderline personality symptoms was significant, $\beta = .18$ ($p < .01$). Similarly, the relationship between PTSS and depressive symptoms was significant, $\beta = .47$ ($p < .01$). The regression weight of the total effect of CSA on borderline personality symptoms was also significant, $\beta = .26$ ($p < .01$). After controlling for PTSS, the direct effect of CSA on depressive symptoms dropped to a nonsignificant level, $\beta = .12$ ($p < .01$). This implied complete mediation of the association between CSA and borderline personality symptoms by PTSS. The Sobel test showed that this mediation was significant, $z = 2.59$ ($p < .01$).

Similar analyses involving a history of neglect, PTSS and borderline personality symptoms showed significant associations between a history of neglect and PTSS, $\beta = -.17$ ($p < .05$), and between PTSS and borderline personality symptoms, $\beta = .52$ ($p < .01$). The regression weight of total effect of a history of neglect on borderline personality symptoms was also significant, $\beta = .19$ ($p < .01$). After controlling for PTSS, the direct effect of neglect history increased marginally, $\beta = .22$ ($p < .01$). This implied that PTSS suppressed the relationship between a history of neglect and borderline personality symptoms, $z = -2.47$ ($p < .01$).

In contrast, PTSS did not mediate the association between CPA and borderline personality symptoms because the relation between CPA and PTSS was not significant, $\beta = .06$ ($p = .37$). Similarly, PTSS did not mediate the association between witnessing violence and borderline personality symptoms because of the nonsignificant associations between witnessing interparental violence and PTSS, $\beta = .02$ ($p = .82$,) and between witnessing interparental violence and borderline personality symptoms, $\beta = .13$ ($p = .07$).

Table 6.13
*PTSS Mediating the Association between Child Maltreatment Variables and Borderline Personality symptoms*

| Child maltreatment | Regressions | B | SE | $\beta$ |
|---|---|---|---|---|
| **Physical abuse** | Physical abuse - PTSS[1] | 0.04 | .04 | .06 |
| | PTSS – Borderline symptoms[1] | 0.43 | .06 | .48** |
| | Physical abuse – Borderline symptoms[1] | 0.12 | .04 | .22** |
| | Physical abuse - Borderline symptoms controlling for PTSS | 0.08 | .04 | .14* |
| **Sexual abuse** Mediation test 2.59 ($p$< .01) | Sexual abuse - PTSS[1] | 0.12 | .04 | .18** |
| | PTSS – Borderline symptoms[1] | 0.42 | .06 | .47** |
| | Sexual abuse – Borderline symptoms[1] | 0.15 | .04 | .26** |
| | Sexual Abuse - Borderline symptoms controlling for PTSS | 0.07 | .04 | .12 |
| **Neglect** Mediation test[2] -2.47 ($p$< .01) | Neglect - PTSS[1] | -0.19 | .07 | -.17** |
| | PTSS – Borderline symptoms[1] | 0.46 | .06 | .52** |
| | Neglect – Borderline symptoms[1] | 0.19 | .08 | .19** |
| | Neglect - Borderline symptoms controlling for PTSS | 0.13 | .06 | .22** |
| **Witnessing violence** | Witnessing violence - PTSS[1] | 0.01 | .03 | .02 |
| | PTSS – Borderline symptoms[1] | 0.44 | .06 | .49** |
| | Witnessing violence – Borderline symptoms[1] | 0.06 | .03 | .13 |
| | Witnessing violence - Borderline symptoms controlling for PTSS | 0.04 | .03 | .09 |

* $p$ < .05 ** $p$ < .01
[1] controlling for the third variable
[2] suppression effect

Table 6.14 shows the regression coefficients and Sobel test results of the mediation models involving the childhood maltreatment variables and the overall score for internalizing problems. The model testing CSA, PTSS and internalizing problems showed that CSA was significantly related to internalizing problems, $\beta$ = .16 ($p$ = .02). The relation between PTSS and internalizing problems was also significant, $\beta$ = .46 ($p$ < .01). The regression weight of the total effect of CSA on internalizing problems was $\beta$ = .30 ($p$ < .01). After controlling for PTSS, the regression weight of the direct effect of CSA on internalizing problems dropped but remained significant, $\beta$ = .16 ($p$ = .02). The Sobel test showed that PTSS partially mediated the association between CSA and internalizing problems, $z$ = 2.32 ($p$ = .02). Similar analyses involving a history of neglect, PTSS, and internalizing problems showed significant associations between a history of neglect and PTSS, $\beta$ = -.20 ($p$ < .01), and between PTSS and internalizing problems, $\beta$ = .53 ($p$ < .01). The regression weight of the total effect of a history of neglect on internalizing

problems was $\beta = .24$ ($p < .01$). After controlling for PTSS, the direct effect of neglect history on internalizing problems increased marginally, $\beta = .27$ ($p < .01$). This implied that PTSS suppressed the effect of neglectful experiences in childhood on internalizing problems, $z = -2.91$ ($p < .01$).

In contrast, PTSS did not mediate the association between CPA and internalizing problems because the relation between CPA and PTSS was not significant, $\beta = .04$ ($p = .54$). Similarly, PTSS did not mediate the association between witnessing interparental violence and internalizing problems because of the nonsignificant associations between witnessing interparental violence and PTSS, $\beta = .02$ ($p = .79$), and witnessing interparental violence and internalizing problems, $\beta = .13$ ($p = .09$).

Table 6.14.
*PTSS Mediating the Association between Child Maltreatment Variables and Internalizing Problems*

| Child maltreatment | Regressions | B | SE | $\beta$ |
|---|---|---|---|---|
| **Physical abuse** | Physical abuse - PTSS[1] | 0.03 | .04 | .04 |
| | PTSS – Internalizing [1] | 0.37 | .05 | .48** |
| | Physical abuse - Internalizing[1] | 0.12 | .04 | .25** |
| | Physical abuse - Internalizing controlling for PTSS | 0.08 | .04 | .17** |
| **Sexual abuse** Mediation test 2.32 ($p$= .02) | Sexual abuse - PTSS[1] | 0.12 | .04 | .16* |
| | PTSS – Internalizing[1] | 0.36 | .05 | .46** |
| | Sexual abuse - Internalizing[1] | 0.26 | .04 | .30** |
| | Sexual abuse - Internalizing controlling for PTSS | 0.08 | .03 | .16* |
| **Neglect** Mediation test[2] -2.91 ($p$<.01) | Neglect - PTSS[1] | -0.23 | .07 | -.20** |
| | PTSS – Internalizing[1] | 0.41 | .05 | .53** |
| | Neglect - Internalizing[1] | 0.21 | .06 | .24** |
| | Neglect - Internalizing controlling for PTSS | 0.24 | .05 | .27** |
| **Witnessing violence** | Witnessing violence - PTSS[1] | 0.01 | .03 | .02 |
| | PTSS – Internalizing[1] | 0.39 | .05 | .50** |
| | Witnessing violence - Internalizing [1] | 0.05 | .03 | .13 |
| | Witnessing violence - Internalizing controlling for PTSS | 0.03 | .02 | .09 |

* $p < .05$ ** $p < .01$
[1] controlling for the third variable
[2] suppression effect

## 6.4. Mediation of the association between child maltreatment variables and psychopathology outcomes by social desirability

Similar analyses were conducted to determine if social desirability significantly mediated the association between childhood maltreatment variables and psychopathology outcomes. Social desirability was a significant mediator in only four of the mediation models. The mediation by social desirability was significant in the relationship between CPA and antisocial personality symptoms ($z = 2.29$, $p = .02$), CPA and depressive symptoms ($z = 2.30$, $p = .02$), and CPA and borderline personality symptoms ($z = 2.36$, $p = .02$). Correspondingly, social desirability significantly mediated the association between CPA and internalizing problems ($z = 2.20$, $p = .03$). With social desirability significantly mediating only four of the mediation models, its influence was more restricted than that of PTSS, hence the substantive models involving PTSS in the Zambian sample were indeed valid.

In sum, the results described above show that in Zambia males reported more externalizing personality problems than did females, whereas females were more likely to report depressive symptoms than did males. Both genders were however comparable in their experience of internalizing problems. They were also similar in their experience of all forms of child maltreatment examined in this study. Social desirability was negatively related to all psychopathology variables except dating violence. In addition, PTSS was significantly associated with all psychopathology variables except antisocial personality symptoms. Higher income levels were associated with less depressive symptoms and less borderline personality symptoms. After controlling for social desirability, the background variables and PTSS, a history of neglect was the most prominent predictor of the psychopathology outcomes. The only other child maltreatment variable that was associated with psychopathology in the Zambian sample was CPA in its association with more criminal tendencies.

Further, the mediation models indicated that PTSS significantly mediated the associations between CSA and all psychopathological symptoms except antisocial personality symptoms. This implies that the effect of CSA on the various psychopathological symptoms was in part or completely mediated by PTSS. None of the associations between the various child maltreatment experiences and antisocial personality were mediated by PTSS. It is notable that except for criminal tendencies all models that involved CPA and witnessing interparental violence as predictors did not show mediation by PTSS. It is also remarkable that PTSS had a suppressing effect on the associations between a history of neglect and depressive symptoms; borderline personality symptoms, and internalizing personality symptoms.