From exposure to family violence during childhood to depression in adulthood:

A path analysis on the mediating effects of intimate partner violence

Abstract

Literature shows a link between adverse childhood experiences and subsequent depression, but there is a lack of concrete evidence on whether victimization of intimate partner violence (IPV) in adulthood plays significant roles in that link. This study aimed to test the mediating effect of adulthood IPV victimization in the associations between exposure to family violence in childhood and adulthood depression. Exposure to family violence in childhood was operationalized as one's experiences of child abuse and witnessing parental IPV in childhood. This study also tested the effects of other violence-related factors from the Personal and Relationships Profile, including one's antisocial personality, borderline personality, dominance, post-traumatic stress (PTS) symptoms, and violence approval, on the associations. A path analysis was conducted a cross-sectional survey study sample recruited between 2009 and 2010. The sample was 8,807 adults selected with a multi-stage stratified sampling procedure from 6 cities in China (43.4% male; mean age = 40.61 years, SD = 8.93). The main outcome was participants' depressive symptoms during the past two weeks. As predicted, the path model suggests that IPV victimization significantly mediated the associations between exposure to family violence in childhood and adulthood depression. Violence approval and PTS symptoms, but not the other violence-related factors, significantly mediated the above associations. Findings warrant the need to identify individuals with exposure to family violence in early stages, and to provide them with suitable intervention programmes to prevent subsequent IPV as well as to minimize the negative impacts of the exposure to family violence in childhood.

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Keywords

Depression, intimate partner violence, child abuse, victimization

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Childhood abuse experiences and adulthood depression

The effects of childhood abuse (CA) experiences, a type of adverse childhood experience (ACE), on the subsequent development of psychological problems are well documented in the literature (e.g. Chartier, Walker, & Naimark, 2009; Ouellet-Morin et al., 2015). Victims of CA are more likely to experience post-traumatic stress disorder (PTSD; Breslau et al., 2014), depression (Khan et al., 2015; Sansone, Wiederman, & Sansone, 2001), suicide attempts (Hardford, Yi, & Grant, 2014), and borderline personality disorder in adulthood (Temes, Magni, Fitzmaurice, Aguirre, Goodman, & Zanarini, 2017). Adulthood depression is one of the most robust negative health consequences associated with ACE and exposure to family violence in childhood (Chapman, Whitfield, Felittti, Dube, Edwards, & Anda, 2004). Some believe that CA and exposure to other family violence in childhood may result from poor-quality parent-child relationships, which are harmful to self-esteem and feelings of belonging (Dunkley, Masheb, & Grilo, 2010; Metson, Heiman, & Trapnell, 1999), and in turn make one vulnerable to depression in later stages. On the other hand, some demonstrate that ACE may produce changes in brain structure and stress-responsive neurobiological systems that make victims more prone to the development of depressive symptoms (Anda et al., 1999).

Intimate partner violence: A plausible mediator

CA and other ACE may not only lead to greater risks of mental health symptomology directly, but may also associate with hampered mental health in adulthood via different pathways. Violence experiences in adolescence or adulthood may be one of the factors that could be resulted from CA and may be associated with depressive and PTS symptoms in later

stages. Past research has provided concrete evidence that one type of victimization often

places an individual at a higher risk of other co-occurring violence or future victimization of

the same kind (Boney-McCoy & Finkelhor, 1995; Chan, 2017; Rich, Gidycz, Warkentin Loh,

& Weiland, 2005). Literature often points to the high possibility of a cycle of violence, in

which childhood experiences of physical and/or other types of maltreatment may predispose

the survivors to violence and crimes in later years, and CA may result in an increased risk of

delinquency, criminality, and violence in adulthood (Widom & Maxfield, 2001; Wright,

Turanovic, O'Neal, Morse, & Booth, 2016). A study has demonstrated that adult survivors of

CA are also more likely to be victims, but not perpetrators, of IPV and physical injury in

middle life than adults with no experience of CA (Widom, Czaja, & Dutton, 2014); while

some other research has showed that adult, especially men, who have experienced CA are

more likely to perpetrate violence (Machisa, Christofides, & Jewkes, 2016; Milaniak &

Widom, 2015). Findings of meta-analytical studies suggest a moderate effect size of .59

between childhood sexual abuse and subsequent adult sexual victimization (Roodman &

Clum, 2001) and a 2.2-fold increased odds of lifetime intimate partner violence (IPV)

associated with CA (Barrios et al., 2015), while those of regression analyses demonstrate a

doubled risk of physical IPV among those who have suffered abuse in childhood (Tiaden &

Thoennes, 2000).

As a strongly associated correlate of CA, IPV is often found to be associated with

depression. There has been evidence that IPV victims experience more depressive symptoms

and disorders in adulthood than non-victims (Houry, Kemball, Rhodes, & Kaslow, 2006;

Nixon, Resick, & Nishith, 2004). Learned helplessness and hopelessness may contribute to

the associations between IPV victimization and depression (Bargai, Ben-Shakhar, & Shalev,

2007; Gibb & Alloy, 2006). Learned helplessness may lead to low self-esteem and

difficulties with problem-solving (Campbell, Kub, & Rose, 1996; Clements & Sawhney,

2000), while learned hopelessness makes one attribute IPV to internal reasons and expect

negative outcomes in the future (Clements & Sawhney, 2000); all these phenomena are often

related to the development of depressive symptoms among IPV victims.

Existing literature addresses the relationships between (a) exposure to family violence

during childhood and depression in adulthood (Anda et al., 2006; Sansone et al., 2001), (b)

IPV and depression (Houry et al., 2006; Nixon et al., 2004), and (c) exposure to family

violence during childhood and IPV in adulthood (Boney-McCoy et al., 1995; Chan, 2017;

Rich et al., 2005). A recent research in 2015 has explored the effect of exposure to CA and

adulthood IPV on new-onset depression, and found that women who suffered from both

victimizations could be four to seven times more likely to suffer from depression in

adulthood (Ouellet-Morin, 2015). However, this study only investigated the effects on

women and failed to include witnessing of family violence during childhood as the

independent variable. Overall, even when there has been an abundance of studies on the

associations between childhood experiences of violence, adulthood depression, and IPV

separately, research on the mediating effect of IPV on the association between family

violence during childhood and depression in adulthood is lacking.

Personal and relationship factors as other pathways

Apart from previous victimization, literature has identified a number of factors that are

predictive for future violence. A group of researchers have listed 21 etiological factors of

violence and grouped them in a screening tool for future violence, namely the Personal and

Relationships Profile (PRP; Straus, Hamby, Boney-McCoy, & Sugarman, 1999). This gives a

comprehensive picture of the personal and social constructs that are associated with violence,

and facilitates the research on the mechanism underlying the issue. For example, "violence

approval" refers to as the degree to which the use of physical force is accepted when dealing

with interpersonal situations; and "dominance" describes the hierarchical relationships and

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how one partner gains control over another (Straus et al., 1999). A recent study has included

the PRP factors in exploring the associations between childhood physical maltreatment and

adult dating violence, and has provided preliminary evidence supporting the PRP factors in

affecting the associations (Tomsich, Jennings, Richards, Gover, & Powers, 2015).

The present study

On the basis of the past findings, this study extended existing studies by examining the

possible mediating effects of IPV victimization on the associations between the exposure of

childhood family violence, which included both CA and WPV, and adulthood depression. In

the present study, we hypothesized that CA and WPV would predict adulthood depression,

and proposed three main hypotheses with the inclusion of the mediating effects of IPV and

some PRP factors, including antisocial personality, borderline personality, dominance, post-

traumatic stress symptoms (PTS symptoms), and violence approval, which have been

demonstrated in previous research to be strongly related to IPV and child abuse (e.g. Chan,

2005):

(i)   PRP would emerge as significant pathways (mediators) explaining the

associations between CA, WPV, and past-year IPV victimization;

(ii)   PRP characteristics would emerge as significant pathways (mediators)

explaining the associations between CA, WPV, and depression; and

(iii)   Past-year IPV victimization would emerge as significant pathways (mediators)

explaining the associations between CA, WPV, and depression.

Methods

Participants

The sample was from a cross-sectional study in six cities in China: Shanghai,

Shenzhen, Xi'an, Tianjin, Wuhan, and Hong Kong conducted during 2009 and 2010. A total

of 11,647 households were sampled, and 8,945 agreed to participate (response rate=76.8%). Of all participating parents, 8,807 provided complete profiles of the major variables in the study.

Of the sample, 6,804 participants (77.3%) were recruited from urban areas while 2,003 (22.7%) were from rural areas in China (see Table 1). About 43.4% were male, and the mean age was 40.61 years (SD = 8.93). Significant differences were found in certain variables between the participants from urban areas (the urban subsample) and those from rural areas (the rural subsample). Overall, the rural subsample demonstrated lower socio-economic status (SES) than the urban subsample: greater proportions of them had low educational attainment (i.e., middle school or below), were unemployed, and had family income below the median (all $p < .05$).

Procedure

In each city, except for Hong Kong, a multistage stratified probability sampling procedure was used to select participants. In each city, two urban districts and one rural district (as defined by the Chinese government) were first sampled with stratification. Then neighbourhoods, towns, villages, communes, and finally households were selected step-by-step in each district using the stratified procedure. In Hong Kong, a two-stage sampling procedure was employed. Living quarters were first randomly sampled from the Register of Quarters maintained by the Hong Kong government. The sample was stratified by the type and the geographical region of residence. Households were eligible when they included a parent (or parents) of at least one child aged 17 years or under. In households with more than one eligible parent, the one with the most recent birthday was selected in order to minimize possible response bias. Eligible participants were recruited during household visits by a team of trained interviewers. No incentives were given to participants.

Informed consent was required before each questionnaire was administered.

Participants were given a structured questionnaire to complete in a quiet and private corner

selected by a trained interviewer. The corners were mainly located at the households without

the presence of other family members. If the households were too small or too crowded with

other family members, the trained interviewers would discuss with the participants to decide

the location for completing the questionnaire. In case the participants needed assistance,

trained interviewers would be available to help. Items on sensitive issues were grouped into a

part which was detachable from the main questionnaire, and the detachable part was to be

completed and sealed in an envelope by the participants themselves. The study was approved

by the institutional review board of the University of Hong Kong/ Hospital Authority Hong

Kong West Cluster, and the local institutional review board in each of the five mainland

cities.

Measures

Depression. Symptoms of depression were assessed using the Chinese version of the

Beck Depression Inventory, version II (BDI-II; Leung, 2001). Participants were asked to

choose one answer from each of 21 groups of statements that represented how they had felt

during the past two weeks since the day when the questionnaire was done. The time frame of

two weeks was recommended by the original author of the BDI-II, so as to correspond more

accurately to the DSM-IV criteria (Beck, Steer, Ball, & Ranieri, 1996). All items were rated

with a 4-point scale. Total scores ranged from 0 to 63, with higher scores indicating more

severe depressive symptoms. The internal reliability was good in this study, with a

Cronbach's alpha of .89.

Exposure to family violence during childhood. The past experience of witnessing

IPV between parents (WPV) was assessed by the modified Chinese version of the CTS-2

(Chan, 2004). Witnessing parental emotional abuse (WPA – EA) was assessed with two

items: (a) whether the participants witnessed their father carry out psychological aggression

to their mother and (b) whether the participants witnessed their mother carry out

psychological aggression to their father. On the other hand, witnessing parental physical

abuse (WPA – PA) was assessed with four items: (a) whether the participants witnessed their

father carried out physical attacks to their mother, (b) whether the participants witnessed their

mother carried out physical attacks to their father, (c) whether the participants witnessed their

father got injured because of the physical attacks by their mother, and (d) whether the

participants witnessed their mother got injured because of the physical attacks by their father.

Dichotomous response was used (1 = yes, 0 = no) to capture such experience among

participants under the age of 18. The Cronbach's alpha of witnessing emotional abuse and

physical abuse was .94 and .79 respectively, indicating satisfactory to good reliabilities.

On the other hand, the Chinese version of CTS2 (Chan, 2004) was used to assess the

participants' retrospective experience of physical and emotional CA by their parents.

Participants were asked with four items if they have been maltreated by their father or mother

by means of physical violence and verbal aggression. A "yes/no" (1/0) scale was used. The

reliabilities of the subscales were good in this study (Cronbach's alpha = .80 – .88).

Participants also reported whether they had experienced sexual abuse before the age of 18

with three questions: (i) "I have ever been forced to touch someone in a sexual way, or

someone has touched me in a sexual way before the age of 18,"(ii) "I have ever been forced

to have sex with someone (have sex, anal or oral sex) before the age of 18," and (iii)

"Someone has done other behaviors that are considered as sexual coercion to me, besides the

two behaviors described in question (i) and (ii)." The severity of the childhood sexual abuse

was constructed by recording the score as "3" when the situation in Question (iii) happened;

"2" when the situation in Question (ii); "1" when the situation in Question (i); and "0" when

the situations in the three questions did not happen before the age of 18.

IPV victimization. Experiences of being victimized by their partner were assessed with the Chinese version of the 33-item Revised Conflict Tactics Scale (CTS2; Chan, 2004), which has four subscales measuring IPV in terms of physical violence, emotional violence, sexual violence, and injury. All items were rated with a "yes/no" (1/0) scale, and the total scores ranged from 0 to 33. In this study, the number of IPV victimization incidents in the past year was assessed. The reliabilities of the subscales were satisfactory to good, with Cronbach's alpha ranging from .78 to .87.

Violence-related features. The PRP (Straus et al., 1999) was used to measure IPV-related constructs. Five subscales were used, including (a) "antisocial personality", with nine items based on characteristics from DSM-IV; (b) "borderline personality", with nine items measuring features derived from DSM-IV; (c) "dominance", with nine items assessing the participant's level of control over his/her partner in a relationship; (d) "post-traumatic stress symptoms (PTS symptoms)", with eight items assessing the experiencing and re-experiencing of trauma, avoidance, or arousal; and (e) "violence approval", with ten items assessing the extent to which the use of physical force was acceptable in different interpersonal situations. All items were rated on a 4-point Likert scale. The subscale scores ranged from 0 to 27 for antisocial personality, borderline personality, and dominance, 0 to 24 for PTS symptoms, and 0 to 30 for violence approval, with higher scores indicating higher levels of risk factors possessed by the participant. The internal consistencies of the PRP scales were excellent in this study (Cronbach's alpha = .89 – .95).

Demographic variables. Participants' age, gender, educational attainment, marital status, employment status, family income, and place of residence (urban or rural) were recorded.

Statistical analyses

Path analyses were conducted to examine the predictive power of the experience of

WPV during childhood, CA, current IPV victimization, and the PRP constructs for depressive

symptoms among the sample. The adequacy of model fit was assessed through several

indices, including the P^2 statistics, the Root Mean Square Error of Approximation (RMSEA),

the Comparative Fit Index (CFI), and the Tucker-Lewis Index (TLI). Models were considered

fit when the RMSEA value was found to be less than .06, and both the CFI and TLI were

higher than .95 (Hu & Bentler, 1999). Structural equation modelling (SEM) was conducted in

the current study to test a comprehensive path model for predicting IPV and the effects of

IPV on depressive symptoms. To specify, linear SEMs with latent variables were used to

model the complex relationships of the major study variables. Linear SEMs could also be

viewed as multivariate regression models. In these models, structural relationships between

multiple dependent variables and multiple independent variables were analysed

simultaneously. SEM represents a *synthesis* of path analysis with factor analytic procedures.

SEM identified the potential pathways, tested the significant relationship between the

independent variable (IV) and the dependent variable (DV), and compiled the mediational

analyses between WPA, CA, IPV, PRP, and depressive symptoms. When a non-significant

relationship between the IV and the DV in the presence of the mediators is found, a full

mediation establishes. When a significant relationship between the IV and the DV is found

and the strength of relationship is substantially reduced in the presence of the mediators, a

partial mediation establishes. In sum, the relationships between variables in SEM could be

more accurately estimated compared to conventional correlation or regression. All SEM

analyses were conducted with the use of Mplus version 7.0, while all other statistical analyses

including the descriptive statistics and correlational analyses were conducted with SPSS

version 23.0.

Results

Mean Scores and Prevalence Rates

The sample achieved a mean of 3.02 (*SD* = 5.27) in the depression scale. The mean

number of IPV victimization incidents in the past year ranged from 0.33 (*SD* = 3.42) to 2.06

(*SD* = 7.78). About 1.6% to 16.3% reported various types of WPV during childhood, and

about 1.1% to 18.4% reported experiencing CA. In general, the urban sample achieved higher

scores in depression, reported higher rates of sexual IPV, and physical and sexual CA; the

rural sample showed higher rates of physical WPV and injury-related WPV (all *p* <.05).

Details of the mean scores and prevalence rates of the major variables are summarized in

Table 2.

Path Analyses Findings

Depression was correlated with WPV, CA, the five PRP characteristics, and the four

types of IPV (*r* = .04 – .70, all *p* < .01). WPV during childhood was significantly correlated

to CA, and both were correlated with various types of IPV victimization in later life (*r* = .03 –

.63, all *p* < .05) (see Table 3).

The results of the path analyses are shown in Table 4 and Figure 1. The final model of

the overall sample (see Figure 1) fit the data well (χ^2 = 304.10, *df* = 28; RMSEA = .03; CFI =

.98; TLI = .95). Conceptually, the model suggests that: (a) ACE (i.e., WPV and CA) have

direct effects on depressive symptoms in adulthood (β = .04 – .07, *SE* = .01, all *p* < .01); (b)

current IPV victimization and PRP characteristics also have direct effects on depressive

symptoms (β = .14 – .22, *SE* = .01 – .02, all *p* < .001); (c) WPV and CA have direct effects

on IPV victimization (β = .04 – .12, *SE* = .01, all *p* < .01); (d) IPV victimization mediates the

WPV-depression and CA-depression links; and (e) PRP characteristics mediate the emotional

WPV-depression link.

Discussion

With a large and representative sample of adults in China, this study examines the underlying mechanisms of the associations between exposure to family violence during childhood (i.e., WPV and CA) and depression in adulthood. Path analyses reveal that, while some of the relationships between the two are direct, others can be explained by the mediating effects of IPV victimization and violence-related PRP characteristics. The findings of the path analyses shed light on the mechanisms of the WPV-depression and CA-depression links, and contribute to our understanding of the pathways underlying the cycle of violence and its robust negative consequences on victims' physical and mental health.

Consistent with past research (e.g., Chapman et al., 2004; Khan et al., 2015; Ouellet-Morin et al., 2015; Rich et al., 2005; Sansone et al., 2001; Sullivan, Meese, Swan, Mazure, & Snow, 2005), this study demonstrates that one's experiences of being victimized, both in childhood and in intimate adult relationships, are predictive of greater levels of depressive symptoms, reflecting that the negative impacts of child victimization continue well beyond childhood and compromise psychological functioning in adulthood. The findings show that emotional CA is more predictive of adult depressive symptoms than physical CA. It is possible that emotional CA is more indicative of the poor quality of the parent-child relationship and more harmful to self-esteem and sense of belonging (Dunkley et al., 2010; Metson et al., 1999), and in turn makes one more vulnerable to depression.

Our findings also support the indirect pathways of the associations via IPV victimization. Our findings are commensurate with the past research that demonstrated the associations between exposure to family violence during childhood and an increased risk of both IPV victimization (Widom et al., 2014) and perpetration (Milaniak & Widom, 2015). Previous research has shown that sexual CA, but not physical CA, is related to IPV victimization among adults (Feerick, Haugaard, & Hien, 2002). Yet our findings show

significant relationships between physical and emotional CA and adult IPV, indicating that

these two types of CA, besides sexual CA, might also be predictive of future IPV. It is

possible that violence in the family of origin could lead to later IPV though social learning

(Bandura, 1977; Sullivan et al., 2005). Social learning theory posits that one acquires violent

behaviours by direct experience or observation (Farmer, Clark, & Sherman, 2003).

Individuals who experience WPV and/or CA may learn that violence is effective in intimate

relationships. Although we did not test this theory directly, the mediating effects of PRP

characteristics (in particular, violence approval, the degree to which one accepts the use of

physical force or violence in interpersonal situations) do provide some preliminary evidence

for the role of social learning in such cases. Individuals who have witnessed emotional IPV

between their parents may learn that IPV is an acceptable means of resolving conflict

between partners, and might then tolerate IPV victimization when they grow up.

One should be cautious in assuming a universal mechanism for the effects of exposure

to family violence during childhood on subsequent depression. Gender, age, and ethnicity are

some of the factors that may interact with other variables in the associations between

childhood family violence and adulthood depression. Among these possible factors, the

(urban/rural) origin of an individual has often been overlooked. The present finding showed

significant differences between the urban residents and the rural residents in depression, IPV,

CA, and WPV. Although the urban/rural differences were not the focus of this study, this

finding was still notable and should be considered by future studies on exploring the

associations between childhood family violence and adulthood depression. Indeed, past

findings do provide indirect evidence supporting a role for this factor in the associations

between childhood family violence and adulthood depression. A pilot study in the last decade

compared IPV experiences of urban and rural residents in the US (Logan, Walker, Cole,

Ratliff, & Leukefeld, 2003). Despite a relatively small protective order sample ($N = 23$), the

study provided the very first piece of evidence for the higher rates of physical IPV and CA, as well as the poorer overall and mental health, among rural residents compared to urban counterparts. However, there has been no further research since this preliminary study, and the lack of empirical evidence on the urban-rural differences in IPV and health warrants a well-designed and carefully executed study with a large and representative sample.

Limitations

There are certain limitations in this study. First, it employed a retrospective design to probe experiences of childhood family violence. Errors and biases, such as memory recall biases, may appear in the responses and result into unreliable and inaccurate data which could confound the results. Future research may consider a longitudinal prospective design to minimise such errors. Second, the path analysis did not differentiate the perpetrators of CA. A previous path analysis has shown that CA inflicted by fathers has a greater negative impact on women's sexual IPV victimization in adulthood than CA by mothers (Rich et al., 2005). The final path model showed that paternal physical CA, but not maternal physical CA, was associated with subsequent sexual IPV. Unfortunately, Rich et al.'s study did not include male sample and findings do not allow the investigation on whether this difference exists only in female or in both genders. Yet, the findings shed light on the possibility that the gender(s) of perpetrator and victim may interact in the associations between CA, WPV, IPV, and depression. A third limitation arises when correlation does not imply causation in the path models. Although the models developed in this study fit well statistically, there may be alternative models that can explain the data. Also, it was possible that the severity or repeated exposures to violence may affect the associations between CA, IPV, and depression. Future research may explore the moderating effects of the severity and frequency of violence in the path model. The fourth limitation is the exclusion of childhood sexual abuse in the path

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model due to its extremely low prevalence. Although sexual abuse is an important domain in child abuse, we decided to exclude it from the model in order to improve the overall model fit. Future studies may include childhood sexual abuse in the path model and explore its effects. Another limitation is that childhood neglect experiences were not included in the path analyses. We agree that neglect is a prevalent issue in the world and a great concern in child maltreatment literature; however, we decided to include only physical and emotional childhood abuse experiences in this preliminary study so as to avoid over-complicated findings in the path models. Future research may take references on our present findings and expand the investigation to cover different aspects of childhood maltreatment experiences including neglect. The last limitation is that the associations between WPV, CA, IPV, PRP, and depression may be accounted for by variables that were not examined in this study, such as social support, stress level, self-esteem, and hopelessness. Future studies may explore different potential moderators and mediators so as to draw a clearer picture on the pathways underlying the cycle of violence and its impact on one's health.

Implications

This study examined the mediating roles of IPV victimization and PRP characteristics in associations between exposure to family violence during childhood and depression in later life among a large and representative sample in modern China. Although it has been well demonstrated in Western literature that exposure to direct or indirect childhood family violence could result in adulthood health problems (Wright et al., 2016), there are still a majority of adult survivors of CA or WPV who could overcome the negative impact of ACE. Researchers and stakeholders have been making effort on breaking the cycle of violence and reducing the negative consequences of exposure to family violence during childhood by understanding the pathways and identifying the underlying factors between the associations between CA and adulthood psychopathology. The findings of the current path analyses may

shed lights on the importance of IPV, violence approval personality, and PTS symptoms in mediating the effect of CA and WPV on adulthood depression, and show the need to identify individuals with CA and WPV and provide them with suitable intervention or prevention programmes to prevent subsequent IPV in adulthood and to minimize the negative impacts of one's exposure to childhood family violence.

Furthermore, the implications of this study on the development of effective measures and services to prevent and combat CA and WPV in modern China may be particularly great. Child abuse or maltreatment has been growing into a hot topic in Mainland China recently, and has attracted the attention of the mass media, the public, and the Chinese government (China Social Assistant Foundation, 2015). Although the Chinese government has started to make efforts on combating child maltreatment, the results are not satisfactory. There are three major laws to protect children in Mainland China, namely the Criminal Law, the Law on the Protection of Minors, and the recently enacted Anti-Domestic Violence Law. Yet, there is a lack of clear definitions of child maltreatment and the specific roles of different professionals (Xie, Sun, Chen, Qiao, & Chan, 2017), leading to a deficiency in the provision of effective services for adult CA and IPV survivors. The findings of this study may help lessen the gap by acknowledging the associations between various family violence and adult depression, and provide both evidence and insights for the development and expansion of the programmes and services related to family violence in modern China.

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Table 1

Demographic Characteristics of the Sample (N=8,807)

Characteristic	Frequency (%)			
		Comparison by Residential Area		
	Overall (N=8,807)	Urban (n=6,804)	Rural (n=2,003)	t / χ^2
Gender				49.40***
Male	3,822 (43.4)	2,823 (41.5)	999 (49.9)	
Female	4,942 (56.1)	3,963 (58.3)	979 (48.9)	
Missing	43 (0.5)	17 (0.2)	25 (1.2)	
Age, mean (SD)	40.61 (8.93)	40.75 (9.03)	40.14 (8.54)	2.68**
Marital status				28.70***
Married or cohabiting	8,198 (93.1)	6,295 (92.5)	1903 (95.0)	
Divorced, separated, or widowed	383 (4.3)	339 (5.0)	44 (2.2)	
Missing	226 (2.6)	170 (2.5)	56 (2.8)	
Educational attainment [a]				413.90***
Middle school or below	4,405 (50.0)	3,052 (44.9)	1,353 (67.5)	
High school	2,694 (30.6)	2,345 (34.5)	349 (17.4)	
Tertiary school or above	1,392 (15.8)	1,232 (18.1)	160 (8.0)	
Missing	316 (3.6)	175 (2.6)	141 (7.0)	
Unemployment	595 (6.8)	451 (6.6)	144 (7.2)	902.41***
Family income				6.10*
No income	254 (2.9)	202 (3.0)	52 (2.6)	
Below median	3,349 (38.0)	2,040 (30.0)	1,309 (65.4)	
Above median	4,403 (50.0)	3,936 (57.8)	467 (23.3)	
Missing	801 (9.1)	626 (9.2)	175 (8.7)	
Addictive behaviours				
Frequent gambling	1,052 (11.9)	876 (12.9)	176 (8.8)	34.39***
Frequent smoking	1,954 (22.2)	1,407 (20.7)	547 (27.3)	34.30***
Alcohol dependence	1,104 (12.5)	808 (11.9)	296 (14.8)	8.71**
Substance dependence	39 (0.4)	32 (0.5)	7 (0.3)	0.63

Note. [a] Educational attainment: middle school or below=grade 9 or below; high school=grade 10 to grade 12; tertiary school or above=university or above.

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

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Table 2

Mean Scores, Standard Deviations (SD), and Prevalence of the Major Variables

Variable	Mean (SD)			
		Comparison by Residential Area		
	Overall (N=8,807)	Urban (n=6,804)	Rural (n=2,003)	t
Depression	3.02 (5.27)	3.12 (5.33)	2.73 (5.10)	2.83***
IPV victimization				
Emotional	2.06 (7.78)	2.11 (8.05)	1.89 (6.82)	1.11
Physical	0.33 (4.42)	0.31 (3.56)	0.41 (6.50)	-0.88
Injury	0.05 (0.98)	0.06 (1.09)	0.04 (0.47)	0.81
Sexual	0.33 (3.42)	0.37 (3.67)	0.19 (2.58)	2.28*
PRP				
Antisocial personality	17.58 (5.88)	17.53 (5.69)	17.78 (6.48)	-1.53
Borderline personality	17.59 (7.69)	17.47 (7.31)	18.07 (8.87)	-2.71*
Dominance	18.93 (7.71)	19.01 (7.60)	18.75 (8.08)	1.25
PTS symptoms	17.36 (7.46)	17.28 (7.32)	17.74 (7.96)	-2.26*
Violence approval	21.83 (6.39)	21.80 (6.10)	21.99 (7.32)	-1.04
		Frequency (%)		χ^2
Witnessing parental violence				
Emotional	1,437 (16.3)	1,108 (16.3)	344 (17.2)	0.89
Physical	334 (3.8)	245 (3.6)	92 (4.6)	4.14*
Injury	139 (1.6)	97 (1.4)	44 (2.2)	5.84*
Childhood abuse				
Emotional	1,617 (18.4)	1,281 (18.8)	353 (17.6)	1.48
Physical	729 (8.3)	593 (8.7)	138 (6.9)	6.78*
Sexual	94 (1.1)	87 (1.3)	7 (0.3)	12.65***

Note. IPV=intimate partner violence; PRP=personal and relationship profile; PTS symptoms=post-traumatic stress symptoms.

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

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Table 3

Correlations between Depression, IPV Victimization, PRP, Witnessing Parental Violence, and Childhood Abuse (N=8,807)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Depression	–	.18**	.10**	.06**	.06**	.05**	.12**	.12**	.13**	.70**	.16**	.14**	.16**	.14**	.04**
2. IPV (Emotional)		–	.33**	.17**	.02	-.01	.01	.01	.01	.04**	.20**	.12**	.14**	.13**	.02
3. IPV (Physical)			–	.33**	.05**	.00	.01	.01	.01	.04**	.06**	.14**	.60**	.63**	.26*
4. IPV (Injury)				–	.54**	.03**	.02	.02	.01	.03**	.03**	.06**	.02	.04**	.02
5. IPV (Sexual)					–	.00	.00	.00	.01	.01	.02	.05**	.04**	.02*	.08**
6. PRP (Antisocial)						–	.75**	.57**	.55**	.52**	.00	.01	-.04**	-.01	.00
7. PRP (Borderline)							–	.70**	.68**	.54**	.02	.03**	-.02	.01	-.01
8. PRP (Dominance)								–	.59**	.51**	.04**	.30**	.01	.03*	.00
9. PRP (PTS symptoms)									–	.43**	.04**	.03**	.01	.03*	.01
10. PRP (Violence approval)										–	.07**	.05**	.04**	.05**	-.01
11. WPV (Emotional)											–	.39**	.52**	.35**	.02
12. WPV (Physical)												–	.27**	.37**	.05**
13. CA (Emotional)													–	.52**	.04**
14. CA (Physical)														–	.03**
15. CA (Sexual)															–

Note. IPV=intimate partner violence; PRP=personal and relationship profile; PTS symptoms=post-traumatic stress symptoms; WPV=witnessing parental violence; CA=childhood abuse.

*p<.05, **p<.01.

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Table 4

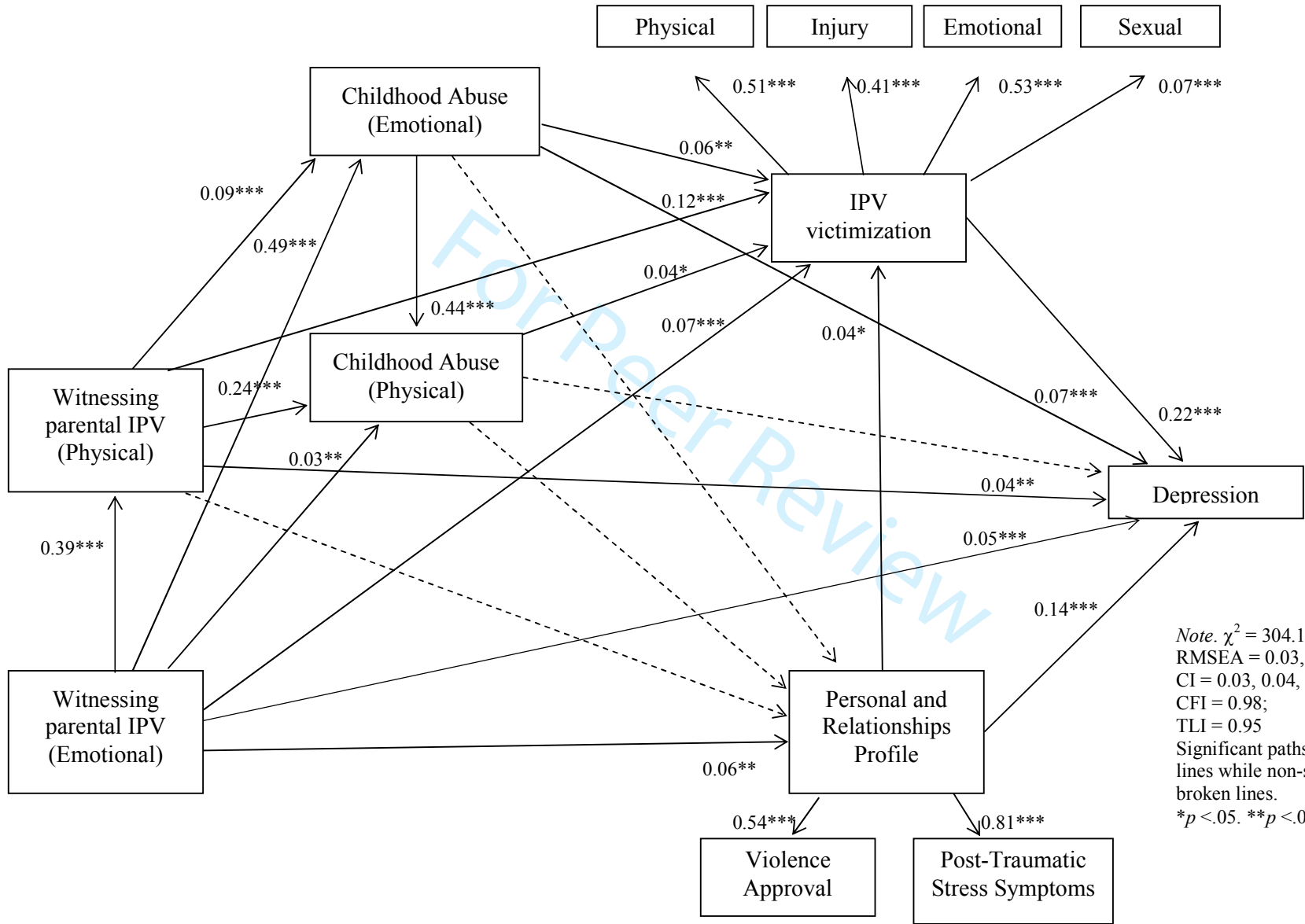*Standardized Coefficients and Standard Errors of the Preferred Path Models (N=8,807)*

Path	Standardized coefficient (β)	Standard error
Overall model		
Direct effects		
WPV (Emotional) → Depression	.05***	.01
WPV (Physical) → Depression	.04**	.01
CA (Emotional) → Depression	.07***	.01
CA (Physical) → Depression	.03	.01
IPV victimization → Depression	.22***	.02
PRP → Depression	.14***	.01
Indirect effects		
WPV (Emotional) → WPV (Physical) → CA (Emotional) → CA (Physical) → Depression	.001	.000
WPV (Emotional) → WPV (Physical) → CA (Emotional) → CA (Physical) → IPV victimization → Depression	.002*	.001
WPV (Emotional) → WPV (Physical) → CA (Emotional) → CA (Physical) → PRP → Depression	.001	.000

Note. IPV=intimate partner violence; PRP=personal and relationship profile; WPV=witnessing parental violence; CA = childhood abuse.
*p<.05, **p<.01, ***p<.001.

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5   **Figure Captions**
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9   *Figure 1*. Path Analysis of Associations among Witnessing Parental IPV, Experiences of Childhood Abuse, IPV Victimization during
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11   Adulthood, Personal and Relationships Profile, and Depression among the Study Sample ($N = 8,807$)
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Physical | Injury | Emotional | Sexual

Childhood Abuse (Emotional)

IPV victimization

Witnessing parental IPV (Physical)

Childhood Abuse (Physical)

Witnessing parental IPV (Emotional)

Personal and Relationships Profile

Depression

Violence Approval

Post-Traumatic Stress Symptoms

0.51*** 0.41*** 0.53*** 0.07***

0.06**

0.12***

0.09***

0.49***

0.44***

0.04*

0.07***

0.04*

0.24***

0.07***

0.22***

0.03**

0.04**

0.05***

0.39***

0.14***

0.06**

0.54*** 0.81***

Note. $\chi^2 = 304.10$, *df* = 28, p <.001;
RMSEA = 0.03,
CI = 0.03, 0.04, p <.001;
CFI = 0.98;
TLI = 0.95
Significant paths are shown in solid lines while non-significant paths in broken lines.
*p <.05. **p <.01. ***p <.001.