

## **Adverse Childhood Experiences: Are They Associated with Greater Risk of Elder Abuse Victimization?**

### **Abstract**

Though a growing number of studies have examined the associations between adverse childhood experiences (ACEs) and negative later-life health outcomes, the effects of these early life-course factors on elder abuse victimization have yet to be fully investigated. Using a life-course perspective, this study examines the associations between ACEs and elder abuse victimization. We used data from a cross-sectional survey conducted in Beijing, China. A total of 1,002 older adults were included in this study. Retrospective self-report items were used to measure ACEs and elder abuse victimization in later life. Univariate and multivariate logistic regressions were performed to examine the associations between ACEs and elder abuse victimization. Five types of ACEs (i.e., socio-economic difficulty of the original family, parental divorce, frequent quarrels between parents, frequent physical punishment by parents, and starvation) were associated with a higher risk of elder abuse victimization. After controlling for participants' socio-demographic characteristics and adding these five types of ACEs simultaneously in the multivariate regression model, the poor socioeconomic status of the original family ( $OR = 1.759, p < .05$ ) and suffering frequent physical punishment inflicted by parents ( $OR = 2.288, p < .05$ ) were found to be significantly associated with elder abuse victimization. To have multiple (at least 4) ACEs is a risk factor for elder abuse victimization as well ( $OR = 3.06, p < .001$ ). This study provides evidence for ACEs as risk factors for elder abuse victimization. The findings highlight the importance of strengthening our understanding of the impacts of ACEs in both research and practice.

**Keywords:** adverse childhood experiences, life course perspective, intergenerational transmission of violence, elder abuse victimization

## **Introduction**

Elder abuse and neglect has received recognition globally as a major public health problem that demands action in order to reduce the risks associated with it and to develop preventative interventions (Yunus et al., 2019). According to the Centers for Disease Control and Prevention, elder abuse and neglect refers to an intentional act or failure to act that causes or creates a risk of harm to an older adult, including physical, emotional, sexual, and financial abuse, and neglect, and the perpetrator is often a caregiver or a person the elder trusts (Hall et al., 2016). Evidence derived from studies of geographically diverse regions suggests that the prevalence rate of elder abuse and neglect in community settings is as high as 15.7% (Yon et al., 2017). To develop effective strategies for identifying and preventing elder abuse, a better understanding of the risk factors is essential. Both perpetrator and victim characteristics and both present and past experiences are associated with elder abuse perpetration (Storey, 2020). In the current study, we are interested to know if a life course perspective can offer an effective approach to understanding the risk factors for elder abuse victimization among Chinese older adults. Understanding the impacts of older victims' childhood experiences will have important service planning implications, supporting the development of interventions that aim to reduce early life adversities and further developmental problems and improve the current health status of older adults.

### **Risk Factors Associated with Elder Abuse**

The ecological paradigm developed by Bronfenbrenner (1992) provides a systematic framework for understanding the risk factors for elder abuse and neglect (Pillemer et al., 2016; Schiamberg & Gans, 1999). According to the human ecological perspective, there are risk factors at different levels of the environmental system that are related to elder abuse and neglect. Individual factors include both victim-related and perpetrator-related risk factors. For older victims, being functional dependent, having a physical disability, chronic illness,

mental illness, cognitive impairment, and having low income and socio-economic status are related to higher risk of victimization (B. Fang et al., 2019; Pillemer et al., 2016). For perpetrators, having high caregiver burden, substance abuse, mental illness, and childhood victimization experiences have been identified as risk factors for elder abuse and neglect (Johannesen & LoGiudice, 2013; Schiamberg & Gans, 2000; Storey, 2020; Yan et al., 2015).

Relationship-level factors, including the marital status of older adults and kinship relations, are also potentially related to elder victimization and abuse. For example, there have been studies that have shown that being divorced, widowed, or single is associated with increased risk of elder victimization among US and Chinese older adults (Burnes et al., 2015; Wu et al., 2012). However, there have also been other studies that have demonstrated that older adults' marital status is not associated with elder victimization (Dong et al., 2007; Dong & Simon, 2013; Lai, 2011). Family members are the most common perpetrators, especially those who are coresident with their elder victims (Lithwick et al., 2000). The type of abuse and neglect appears to vary according to perpetrator type. Adult children are often the perpetrators of financial exploitation and neglect, while partners/spouses are often the perpetrators of physical abuse (Jackson, 2014).

Societal-level and cultural-level risk factors can also contribute to elder abuse and neglect. Certain traditional ideas that present older adults as useless, powerless, and dependent may have the effect of allowing adult children to have control over their parents (Crichton et al., 1999). Cultural conceptions that encourage a perception of older adults as less worthy may be related to the tolerance of violence (Schiamberg & Gans, 1999). In Chinese communities, filial piety is an important cultural value, emphasizing children's responsibility to respect and care for their parents (Chow, 2006). However, the younger generation's understanding of filial piety is changing in the current economic-centered society. Instead of regarding elderly caregiving as a moral obligation, some among the

younger generation are inclined to exchange caregiving duties for material benefits, for example, the heritage of house ownership (Zhang, 2017). This change in young people's understanding of filial piety has the potential to significantly increase the risk of financial abuse and neglect against older adults.

### **Life Course Perspective**

The ecological paradigm also discusses the influences of events and transitions that occur throughout an individual's life (Bronfenbrenner, 1992). The significance of these events and transitions are suggestive of the benefits of adopting a life course perspective when examining elder abuse and neglect. According to Schiamberg and Gans (1999), there are three temporal contexts that affect human development: ontogenic time, generational time, and historical time. Ontogenic time refers to "life events in the biography of a person" (Schiamberg & Gans, 1999, p. 85). Ontogenic development describes how an individual grows up to behave in a particular manner. For example, it explains how parents' experiences of childhood abuse can affect their own abusive or neglectful parenting behavior (Sidebotham, 2001). Generational time refers to the position of an individual within their family. Being grandchildren, grandparents, or parents in familial or romantic relationships can lead to experiences of different types of violence. Historical time refers to life events in the macro social dimension. For example, during Covid-19, the risk of domestic violence dramatically increases due to control actions such as social distancing and closures of organizations (Campbell, 2020).

When adopting the life course perspective, an intergenerational transmission of violence model is commonly used to explain the relationship between childhood abuse experiences and intimate partner perpetration or victimization in adulthood (Kerley et al., 2010; Stith et al., 2000; Widom & Wilson, 2015). Social learning processes may explain this cycle of violence. According to Bandura (1973), individuals growing up in an abusive family

tend to accept the use of aggression. Thus, children exposed to violence may develop pro-abuse norms, according to which the use of violence is acceptable in specific circumstances. This, in turn, increases the likelihood of subsequent perpetration or victimization (Kerley et al., 2010). In addition, the socio-economic origins may be persistent over a lifetime and low socio-economic status may have long-term consequences on lifetime victimization (Hayward & Gorman, 2004).

Researchers have also hypothesized that transgenerational violence plays a role in elder abuse and neglect. There have been several empirical studies carried out that offer support for the argument that there is a relationship between child abuse victimization and perpetration of elder abuse (Dong et al., 2017; Yan & Tang, 2003), a relationship between child abuse perpetration and elder abuse victimization (Chen & Chan, 2021), and a relationship between child abuse victimization and elder abuse victimization (Kong & Easton, 2018; McDonald & Thomas, 2013).

### **Impacts of Adverse Childhood Experiences**

Childhood is a critical period of growth and development in a person's life, during which adverse experiences can do significant damage to health and can also have long-term negative health impacts. From a developmental perspective, there can be serious long-term cascade effects, meaning that that certain negative childhood experiences can have cumulative consequences in adulthood, and these effects can then spread across different generations (Masten & Cicchetti, 2010). Definitions of ACE vary across different studies, but a standard definition generally includes childhood abuse and neglect that harm individuals directly, as well as negative family or social environments that cause harm indirectly. To understand the impacts of ACEs, in addition to the examination of individual ACEs, examination of multiple ACEs can better access the breadth of ACE (Hughes et al., 2017).

There have been studies conducted that have shown a correlation between ACEs and involvement in violence later in life (Anda et al., 2006; Bellis et al., 2014; Miller et al., 2011). For example, there is a strong relationship between ACEs and violence perpetration or victimization during adulthood (Hughes et al., 2017). Miller et al. (2011) found that physical dating violence in adolescents was significantly associated with various types of childhood adversities, including economic adversity, childhood abuse and neglect experiences, parental criminality, parental divorce, parental mental illness, and parental violence. Individuals with four or more types of ACEs were more likely to become the perpetrators or victims of violence (Bellis et al., 2014). Given that ACEs have been consistently associated with involvement in violence, this raises the question of whether ACEs are risk factors for elder abuse and neglect. However, as we discussed above, there is only limited available evidence for studying the re-experience of abuse across the course of individuals' lives and the ways in which childhood abuse victimization is associated with greater risk of elder abuse victimization (Kong & Easton, 2018; McDonald & Thomas, 2013). With regard to other types of ACE, the associations with elder victimization are still understudied.

### **ACEs and Elder Abuse Victimization in Chinese Older Adults**

The past experiences of Chinese older adults have been shaped by the wider social, economic, and cultural contexts within which they have lived their lives. Chinese older adults experienced drastic social and economic instability during their childhood, including the War of Resistance against Japanese Aggression, the Chinese Civil War, the Great Leap Forward Famine, and the Cultural Revolution (M. Fang, 2019). Many older adults have suffered economic difficulties, in particular, serious food shortages and undernutrition during childhood. Early-life deprivation has been found to increase the risk of negative health outcomes in old age, including being overweight, having difficulty with activities of daily living (ADLs), and depression (Cui et al., 2020). There is also evidence for the negative

impacts that adverse family environment can have on the health of Chinese adults. According to a nationally representative sample of adults aged 45 and above (the CHARLS survey), one in four people experienced physical abuse (being beaten by parents) during childhood, and among these people, there was found to be an increased likelihood of depression (Li & Lu, 2019).

The problem of elder abuse has drawn increased attention from researchers in recent years. There has been a significant volume of research carried out into the prevalence and risk factors associated with elder abuse and neglect (Dong et al., 2007; Dong & Simon, 2013; B. Fang et al., 2019; Ji et al., 2018; Wu et al., 2012). However, these studies have generally been limited to examining the present characteristics and experiences of elder victims, and whether ACEs are associated with elder abuse victimization is not clear.

### **Objectives of the Present Study**

The goal of this study was to examine whether ACEs are associated with greater risk of elder abuse victimization. A diverse set of ACEs among Chinese older adults were investigated, and a life course perspective was used as theoretical framework for these risk factors for elder victimization. The objectives of the current study were to: 1) examine the prevalence of ACEs and elder abuse victimization among older adults; 2) examine the distinct associations between elder abuse victimization and individual ACEs; and 3) examine the associations between elder abuse victimization and the number of ACEs / multiple ACEs (at least four types).

## **Method**

### **Study Design and Sampling**

We used data from a cross-sectional survey conducted in 2019, which was a follow-up of a study conducted in 2018 that investigated the service needs of community-dwelling older adults living in District A, Beijing, China. The initial phase of the survey used a two-

step scheme to collect data. First, with official approval from the Bureau of Civil Affairs of District A, Beijing, the researcher obtained a list of the names of all residents aged 65 years and above. The total population size was 14,415. Second, a systematic sampling method with fixed sampling intervals ( $K = 6$ ) and non-repetitive random numbers was adopted. In cases where both members of a couple living within the same household were selected, the older person was invited to answer the questionnaire. A total of 2,156 valid samples were originally obtained. We successfully followed 1,076 respondents, with a response rate of 49.9%. No significant differences in socio-demographic characteristics were found between the interviewed group and the drop-out group. After further excluding participants with missing data ( $n = 74$ ), 1,002 participants were eventually included for analyses.

## **Procedure**

Twenty-one students enrolled in a Master of Social Work program participated in the research projects as interviewers. The research team trained them prior to data collection on how to perform interviews, including introducing the research team and purposes, explaining the informed consent procedures, and teaching interviewing techniques. A professional group (including one assistant professor, two doctoral students, and two masters students) participated in field supervision during data collection.

The participants were interviewed using face-to-face interview methods, with each interview lasting approximately 50 minutes to complete. Informed consent was obtained before interview. The participants were briefed on the research objectives of the survey and its voluntary principle. All study procedures were approved by the Ethics Committee of the local ethics committee boards.

## **Measures**

**Socio-demographic characteristics.** Participants provided information about their socio-demographic characteristics, including age, gender, marital status, educational



attainment, whether or not they were in receipt of a pension, and the number of children they had.

**Assessment of Elder Abuse.** Participants' victimization experiences during old age were measured using six self-constructed items, including experiencing physical assault, psychological aggression, active neglect, passive neglect, abandonment, and financial abuse. The physical and psychological aggression items were developed based on the revised Conflict Tactics Scales (CTS2; Straus et al., 1996). For example, experiences of physical violence were measured using the item "has anyone used physical violence (e.g., throwing something at you, pushing or shoving, grabbing, slapping, twisting hair, kicking, choking, burning or scalding on purpose, etc.) against you after the age of 60". The items concerning active neglect, passive neglect, abandonment, and financial abuse were adopted from the "The Third National Chinese Women Social Status Survey", in which older adults of both genders were included. The prevalence of elder victimization was estimated as the proportion of older adults who had experienced at least one type of victimization in later life.

**Assessment of ACE.** The participants responded to 15 questions assessing adverse experiences prior to their turning 18 years old, including the perceived socio-economic difficulty of their original family, living in a rural area, starvation experience, poor relationship with parents, parental divorce, death of father, death of mother, the participant's general health status, father's health status, mother's health status, serious or chronic childhood disease, frequent quarrels between parents, suffering frequent physical punishment by parents, experiencing major natural disasters (e.g., earthquake, famine, flood, etc.), and dropping out from school during childhood. The items were selected from previous studies on ACE (Boernhorst et al., 2019; Franz & McKinney, 2018; Maclean et al., 2016; Nurius et al., 2015; Shi & Wu, 2018). Five items about ACEs (socio-economic difficulty of their original family, the participant's general health status, father's health status, mother's health status,

poor relationship with parents) were designed using a five-point Likert scale, ranging from 1 (very good) to 5 (very poor). To sum the total number of ACEs, during data analysis, we recoded these five items in a dichotomous manner (0 = good, 1 = poor). The rest of the items were measured through dichotomous responses (0 = no, 1 = yes). The number of ACEs were recoded into a dichotomous variable representing “at least four types of ACEs” and “0-3 types of ACEs”.

### **Statistical Analysis**

Descriptive statistical analyses were performed to report the profile of the sample. Chi-square tests and independent t-tests were used to examine the differences between female participants and male participants.

To address the research objectives, first, descriptive analyses were performed to assess the prevalence of ACEs and elder abuse victimization. Second, to determine if ACEs were associated with greater risk of elder abuse victimization, we conducted Pearson and Spearman correlations among potential factors and elder abuse victimization, followed by logistic regressions. ACE related predictors of elder abuse victimization were determined by binary logistic regressions adjusted for socio-demographic variables. A series of logistic regression models examining the relationships between ACEs and elder abuse victimization were tested. In Model 1, we examined the associations between elder abuse victimization and each individual ACE. In Model 2, the adjusted effects of significant predictors in Model 1 were tested. In model 3, we examined the association between the number of ACEs and elder abuse victimization and in model 4, we examined the association between multiple ACEs and elder abuse victimization. We used the Statistical Package for the Social Sciences (SPSS) 21.0 to perform the data analyses.

## Results

### Profile of the Samples

Table 1 summarizes the characteristics of the sample. The respondents, on average, were 74.9 years old ( $SD = 6.2$ ) and had 2.3 children ( $SD = 1.1$ ). The majority (93.3%) of the sample received an old-age pension. About two thirds of the sample were married. Over half of the sample were educated to the level of junior secondary school or below. Over half of the sample were female (53.6%). Proportionately more male participants than female participants received old-age pensions, got married, and had received higher levels of education.

### Prevalence of ACEs and Elder Abuse

Table 2 shows the prevalence of ACEs among the participants during childhood. The most common types of ACE were living in a rural area (66.9%), starvation (67.4%), major disaster (63.4%), and socio-economic difficulty of the original family (53.0%). Generally speaking, the participants enjoyed good health status during childhood (91.3%) and did not suffer from serious or chronic disease (89.8%). Their parents were also generally healthy (86.3% for father, 83.4% for mother) during childhood. However, 12% of them experienced paternal death and 9.2% experienced maternal death. Only 1.7% of participants experienced parental divorce during childhood, but 7.7% experienced frequent quarrels between parents. The majority of participants (98.8%) had good relationships with their parents during childhood. Approximately 8% suffered from frequent physical punishment inflicted by parents during childhood. Nearly one fourth (23.8%) dropped out of school during childhood. Over half of the participants have experienced at least four types of ACEs. Proportionately more female participants had experienced socio-economic difficulty of the original family ( $\chi^2 = 5.56, p < .05$ ), but proportionately more male participants had experienced starvation during childhood ( $\chi^2 = 10.297, p < .01$ ). In addition, male participants were more likely to have suffered frequent physical punishment inflicted by parents during childhood ( $\chi^2 = 7.103, p$

< .05). The mean number of ACEs was 3.6 (SD = 2.0), with more ACEs reported by male participants on average ( $t = 2.256, p < .05$ ).

With respect to elder abuse victimization, as shown in Table 3, 0.9% of participants experienced physical assault after the age of 60, 4.4% experienced psychological aggression, 0.8% experienced active neglect, 2.1% experienced passive neglect by caregivers, 0.1% experienced abandonment, and 1.4% experienced financial exploitation. Overall, 7.3% of the sample had experienced at least one type of elder abuse during their lifetime. No significant difference was detected between male and female victimization.

### **ACE Risk Factors Associated with Elder Abuse**

Before creating regression models to examine the factors associated with elder abuse, we calculated the correlation coefficients among all the variables (see correlation coefficient table in the Appendix). Among ACEs, respondents' socio-economic status, self-health status, parental divorce, frequent quarrels between parents, starvation, and suffering frequent physical punishment during childhood were found to be significantly correlated with elder abuse ( $p < 0.05$ ). However, no significant correlation was found between elder abuse and other factors. And no strong correlation (coefficient  $> 0.6, p < 0.05$ ) was found among these potential factors.

As shown in Model 1 of Table 4, the results of univariate logistic regression analyses demonstrated that respondents' socio-demographic characteristics (i.e., age, gender, educational level, pension, marriage status, and number of children) did not predict elder abuse victimization. After adjusting for respondents' socio-demographic characteristics, respondents who experienced socio-economic difficulty of the original family (OR = 2.015,  $p < 0.01$ ), parental divorce (OR = 3.715,  $p < 0.05$ ), frequent quarrels between parents (OR = 2.854,  $p < 0.01$ ), starvation (OR = 1.991,  $p < 0.05$ ), and suffered frequent physical punishment by parents (OR = 2.768,  $p < 0.01$ ) during childhood were more likely to report elder abuse victimization. Moreover, Model 2 of Table 4 also demonstrates the results of

multivariate logistic regression analysis testing multiple types of ACEs together. Only experiencing socio-economic difficulty of the original family ( $OR = 1.759, p < 0.05$ ) and frequent physical punishment by parents ( $OR = 2.288, p < 0.05$ ) during childhood were associated with elder abuse victimization. As shown in Table 5, in Model 3, the number of ACEs was significantly associated with the likelihood of elder abuse victimization ( $OR = 1.287, p < 0.001$ ). And in Model 4, multiple (at least four) ACEs was significantly related with the increased risk of elder abuse victimization ( $OR = 3.06, p < 0.001$ ). Using Bayesian Information Criteria to compare the different models, we found that models using individual ACEs and multiple ACEs can fit the data better, compared with using the number of ACEs as the predictor.

## **Discussion**

Adopting a life course perspective, we examined the prevalence of ACEs among samples of Chinese older adults and investigated their associations with elder abuse victimization. Regarding the first objective of our study, the findings demonstrate the various levels of ACE prevalence among the older adults of a Beijing district. Over half of the participants experienced starvation, major disaster, and socio-economic difficulty during their childhood. The retrospective information on these ACEs reflects the historical facts surrounding China's 1959–1961 Great Leap Forward Famine (Cui et al., 2020), demonstrating the reliability of responses to these self-reported measure of ACEs. Although 7.7% of participants reported that they experienced frequent quarrels between parents, their parents' divorce rate was very low (1.7%), which is consistent with the extremely low divorce rate in the 1960s (Q. Wang & Zhou, 2010). Nearly 8% of participants claimed that they had suffered frequent physical punishment at the hands of parents during childhood, with proportionately more males than females experiencing this. Physical punishment is a typical form of harsh authoritarian parenting in Chinese culture and has been shown to be associated with relational aggression

among children (Nelson et al., 2006). However, it is interesting that, according to their retrospective reporting, the majority of participants enjoyed good relationships with their parents during childhood.

By addressing the second objective, this study provides evidence for ACEs as risk factors for elder abuse victimization. In our investigation, 7.3% of participants reported that they had experienced elder abuse and neglect in any form. This prevalence is comparable to the evidence from a nationally representative dataset (7%; Ji et al., 2018) and lower than for older adults in clinical settings (39.7% caregiver neglect; B. Fang et al., 2019). We found that experiencing socio-economic difficulty of the original family, parental divorce, frequent quarrels between parents, starvation, and frequent physical punishment by parents during childhood were associated with greater risks of elder abuse victimization. The results of this study thus make a significant contribution to the existing knowledge about the adverse impact of childhood hunger, demonstrating that it is not only associated with health risks (e.g., being overweight, having difficulty with ADLs, and depression; Cui et al., 2020) but also with increased risk of elder abuse and neglect. Researchers have suspected for some time now that long-standing pathological family dynamics play a role in elder abuse victimization (Choi & Mayer, 2000), and this empirical study provides evidences that supports this hypothesis.

We identified two ACEs significantly associated with elder abuse victimization in multivariate analysis. The first salient factor is the low socio-economic status of the original family, which can be understood as a structural force. In this study, low socio-economic status of the original family was correlated with a number of ACEs, including family members' poor health status, living in rural areas, experiencing parental death, starvation, major disaster, and dropping out of school (see Appendix). Thus, experiencing socio-economic difficulties during childhood may indicate elevated levels of ACEs and become the driving cause of adulthood adversities. However, only a small number of studies have

included consideration of low socio-economic status when examining the impacts of ACEs on health outcomes (Hughes et al., 2017). More empirical studies are needed to test the impact of low socio-economic status.

Our study also provides evidence concerning the associations between childhood physical abuse and elder abuse victimization, extending the boundaries of existing knowledge about the intergenerational transmission of violence. Previous studies on transgenerational violence have typically been conducted with the aim of examining the impacts of childhood abuse on violence during adulthood (Stith et al., 2000; Widom & Wilson, 2015). Our results demonstrate that the subsequent impact of childhood victimization is felt not only in early adulthood but can also extend into later stages of life (Kong & Easton, 2018). Some long-term structural forces (e.g., low socio-economic status, living in a rural area) can be persistent risk factors for victimization in lifetime. Thus, ACEs has long-term negative impacts, which may make victims more vulnerable to later-life violence.

Regarding the third objective, we found that the greater number of ACEs was associated with greater likelihood of elder abuse victimization. However, multiple (at least four) ACEs can be a stronger predictor for the later life victimization. The result is consistent with previous evidence in Western countries (Bellis et al., 2014; Hughes et al., 2017).

### **Limitations**

Our study has several limitations. First, although individuals can remember major life events reasonably well (Smith & Thomas, 2003), the use of retrospective data may be vulnerable to recall bias. Several factors, such as social desirability bias and fallibility of memory, can affect the validity of retrospective self-reports (Z. Wang et al., 2011). However, given that longitudinal study is not feasible, the use of retrospective measures is still a worthwhile method. Second, because the current study used a cross-sectional design, we cannot test the causal effects of ACEs on elder abuse victimization. Third, as this survey only recruited older

adults living in Beijing and the sample size is relatively small, the study may not be representative of all older adults in China. Fourth, each type of ACE and elder abuse victimization experience was based on a single self-report item. For example, the severity and chronicity of the elder abuse victimization experience were not examined. Regarding childhood abuse experience, we only measured whether participants had suffered frequent physical punishment inflicted by parents during childhood. Future studies should therefore endeavor to undertake a more comprehensive assessment of participants' abuse and neglect experiences. This will facilitate an expansion of our current understanding of the associations between ACEs and elder abuse victimization.

### **Implications for Research and Practice**

To our knowledge, this study is the first of its kind to examine the associations between ACEs and elder abuse victimization. It makes an important contribution to advancing our knowledge of the risk factors for elder abuse victimization and has several implications for future research and practice. First, future research can expand our understanding of the various types of ACE, and this will aid in the building up of a comprehensive picture of the negative impacts of ACEs on health. Our study demonstrates that low socio-economic status during childhood was associated with experiences of later life victimization; however, this type of ACE has received less attention compared with other adversities (e.g., violence, abuse, criminality, parental separation and divorce; Hughes et al., 2017). Second, although there has been significant research carried out to study the intergenerational transmission of violence, our understanding of the circle of violence is still incomplete. Previous research has found that exposure to interpersonal violence was associated with lower accuracy during cognitive and affective theory of mind, which could further predict children's aggressive behaviors (Heleniak & McLaughlin, 2020). To understand the underlying mechanism in the



relationship between childhood abuse and later life victimization, future research needs to explore moderating or mediating factors affecting the relationship.

Strengthening our understanding of the impacts of ACEs also has implications for violence prevention practices. ACEs are not only associated with negative health outcomes in adulthood (Hughes et al., 2017) but also victimization experiences in later life. Future services for older adults should include screening for a history of ACEs, which can help practitioners develop a thorough understanding of risks and causes of potential health problems while at the same time helping to prevent elder abuse victimization. Also, as childhood victimization may make victims more vulnerable to later-life exposure to violence, service providers need to develop prevention programs that aim to enhance coping skills. It is also important to prevent or reduce early-life adversities, for example, through programs that can be delivered in social services and community settings and that aim to reduce the negative impacts associated with low socio-economic status of the original family and prevent harsh parenting.

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Table 1 Descriptive Characteristics of the Sample ( $N = 1,002$ )

	Total sample		Female		Male		$\chi^2/t\text{-test}^1$
	N	%	N	%	N	%	
Age (Mean, SD)	74.9 ± 6.2		74.6 ± 5.9		75.2 ± 6.4		1.577
Pension recipient							12.773***
No	67	6.7	50	9.3	17	3.7	
Yes	935	93.3	487	90.7	448	96.3	
Marital status							119.693***
Not married (single, divorced, separated, widowed)	315	31.4	249	46.4	66	14.2	
Married	687	68.6	288	53.6	399	85.8	
No. of children (Mean, SD)	2.3 ± 1.1		2.4±1.1		2.2±1.0		-3.398**
Educational level							69.097***
Pre-primary/primary	293	29.2	212	39.5	81	17.4	
Junior secondary	332	33.1	156	29.1	176	37.8	
Senior secondary	225	22.5	116	21.6	109	23.4	
Tertiary or above	152	15.2	53	9.9	99	21.3	

*Note.* <sup>1</sup> Test for gender difference. <sup>2</sup> Test for the difference between victims and non-victims.  
<sup>\*</sup>  $p < 0.05$ ; <sup>\*\*</sup>  $p < 0.01$ ; <sup>\*\*\*</sup>  $p < 0.001$ . M = mean; SD = standard deviation; EA = elder abuse.



Table 2 Prevalence of ACEs

	Total sample		Female		Male		$\chi^2$ test
	N	%	N	%	N	%	
<b>Family SES – Socio-economic status</b>							5.560*
poor	531	53.0	271	50.5	200	43.0	
rich	471	47.0	266	49.5	265	57.0	
<b>Family SES – Living in rural area</b>							1.785
No	332	33.1	168	31.3	164	35.3	
Yes	670	66.9	369	68.7	301	64.7	
<b>Family SES – Starvation</b>							10.297**
No	327	32.6	199	37.1	128	27.5	
Yes	675	67.4	338	62.9	337	72.5	
<b>Household dysfunction – Relationship with parents</b>							0.695
poor	12	1.2	532	99.1	458	98.5	
good	990	98.8	5	0.9	7	1.5	
<b>Household dysfunction – Parental divorce</b>							1.072
No	985	98.3	530	98.7	455	97.8	
Yes	17	1.7	7	1.3	10	2.2	
<b>Household dysfunction – Death of father</b>							0.004
No	882	88.0	473	88.1	409	88.0	
Yes	120	12.0	64	11.9	56	12.0	
<b>Household dysfunction – Death of mother</b>							3.319
No	910	90.8	496	92.4	414	89.0	
Yes	92	9.2	41	7.6	51	11.0	
<b>Victimization experience – Frequent quarrels between parents</b>							0.170
No	925	92.3	494	92.0	431	92.7	
Yes	77	7.7	43	8.0	34	7.3	
<b>Victimization experience – Suffering frequent physical punishment by parents</b>							7.103**
No	923	92.1	506	94.2	417	89.7	
Yes	79	7.9	31	5.8	48	10.3	
<b>Illness episodes – General health status of participant</b>							0.007
poor	87	8.7	490	91.2	425	91.4	
good	915	91.3	47	8.8	40	8.6	
<b>Illness episodes – Father's health status</b>							0.226
poor	137	13.7	461	85.8	404	86.9	
good	865	86.3	76	14.2	61	13.1	
<b>Illness episodes – Mother's health status</b>							0.112
poor	166	16.6	450	83.8	386	83.0	

good	836	83.4	87	16.2	79	17.0	
<b>Illness episodes</b> – Serious disease or chronic disease							0.955
No	900	89.8	487	90.7	413	88.8	
Yes	102	10.2	50	9.3	52	11.2	
<b>Major disaster</b>							0.689
No	367	36.6	203	37.8	164	35.3	
Yes	635	63.4	334	62.2	301	64.7	
<b>Dropping out of school</b>							0.951
No	764	76.2	416	77.5	348	74.8	
Yes	238	23.8	121	22.5	117	25.2	
<b>Multiple ACEs</b>							3.362
0-3 types	488	48.7	276	51.4	212	45.6	
4 types and above	514	51.3	261	48.6	253	54.4	
Number of ACEs (Mean, SD)	3.6±2.0		3.5±2.0		3.8±2.0		2.265*

Note. \*  $p < 0.05$ ; \*\*  $p < 0.01$ .

Table 3 Prevalence of Elder Abuse of Different Types

	Total sample		Female		Male		$\chi^2$ test
	N	%	N	%	N	%	
Physical abuse							0.624
No	993	99.1	531	98.9	462	99.4	
Yes	9	0.9	6	1.1	3	0.6	
Verbal/emotional abuse							0.032
No	958	95.6	514	95.7	444	95.5	
Yes	44	4.4	23	4.3	21	4.5	
Active neglect							0.257
No	994	99.2	532	99.1	462	99.4	
Yes	8	0.8	5	0.9	3	0.6	
Passive neglect							0.994
No	981	97.9	528	98.3	453	97.4	
Yes	21	2.1	9	1.7	12	2.6	
Abandonment							1.156
No	1001	99.9	537	100.0	464	99.8	
Yes	1	0.1	0	0	1	0.2	
Financial exploitation							0.072
No	988	98.6	529	98.5	459	98.7	
Yes	14	1.4	8	1.5	6	1.3	
Any type of elder abuse							0.268
No	929	92.7	500	93.1	429	92.3	
Yes	73	7.3	37	6.9	36	7.7	

Table 4 Individual ACE items as Predictors of Elder Abuse

Variable (reference group)	Model 1 Univariate				Model 2 Multivariate			
	OR		95% C.I.		OR		95% C.I.	
			Lower	Upper			Lower	Upper
<b><i>Socio-demographic characteristics</i></b>								
Age	3.238	.954	.906	1.004	1.715	.966	.916	1.018
Male <sup>1</sup>	.788	1.277	.744	2.190	.030	1.051	.600	1.840
Junior secondary <sup>2</sup>	1.449	.651	.324	1.310	1.015	.689	.334	1.422
Senior secondary <sup>2</sup>	.221	1.175	.599	2.306	.731	1.356	.675	2.727
Tertiary or above <sup>2</sup>	.260	1.220	.568	2.618	.561	1.349	.616	2.957
Receiving pension <sup>3</sup>	.019	.934	.355	2.453	.039	.906	.337	2.433
Married <sup>4</sup>	.896	.751	.416	1.358	.518	.802	.439	1.464
Number of children	.118	.949	.706	1.277	.356	.911	.670	1.238
<b><i>ACEs</i></b>								
Poor socio-economic status <sup>5</sup>	7.010	2.015**	1.200	3.385	4.119	1.759*	1.020	3.036
Living in rural area <sup>6</sup>	1.216	1.361	.787	2.356				
Starvation <sup>7</sup>	4.916	1.991*	1.083	3.658	1.959	1.580	.833	2.998
Poor relationship with parents <sup>8</sup>	2.374	3.440	.715	16.556				
Parent divorce <sup>9</sup>	4.792	3.715*	1.147	12.028	2.832	3.022	.833	10.961
Death of father <sup>10</sup>	.163	.846	.375	1.907				
Death of mother <sup>11</sup>	1.623	1.628	.769	3.448				
Poor self-health status <sup>12</sup>	3.840	2.001	1.000	4.005				
Poor father's health status <sup>13</sup>	.324	1.217	.619	2.395				
Poor mother's health status <sup>14</sup>	.145	1.130	.602	2.120				
Serious disease or chronic disease <sup>15</sup>	2.667	1.743	.895	3.396				
Frequent quarrels between parents <sup>16</sup>	9.660	2.854**	1.473	5.528	3.365	1.977	.954	4.094
Suffering frequent physical punishment by parents <sup>17</sup>	8.495	2.768**	1.396	5.490	5.094	2.288*	1.115	4.697
Major disaster <sup>18</sup>	.877	1.297	.753	2.234				
Dropping out of school <sup>19</sup>	3.145	1.657	.948	2.895				

Note. \*  $p < 0.05$ , \*\*  $p < 0.01$ . <sup>1</sup> Reference category = Female; <sup>2</sup> Reference category = Pre-primary/primary; <sup>3</sup> Reference category = receiving no pension; <sup>4</sup> Reference category = single; <sup>5</sup> Reference category = good socio-economic status; <sup>6</sup> Reference category = living in urban or suburban area; <sup>7</sup> Reference category = never experienced starvation; <sup>8</sup> Reference category = good relationship with parents; <sup>9</sup> Reference category = parents were not divorced; <sup>10</sup> Reference category = father was alive; <sup>11</sup> Reference category = mother was alive; <sup>12</sup> Reference category = good self-health status; <sup>13</sup> Reference category = good health status of father; <sup>14</sup> Reference category = good health status of mother; <sup>15</sup> Reference category = No serious disease or chronic disease; <sup>16</sup> Reference category = no frequent quarrels between parents; <sup>17</sup> Reference category = not suffering frequent physical punishment; <sup>18</sup> Reference category = not experienced major disaster; <sup>19</sup> Reference category = not dropping out of school.

Table 5 Number of ACEs and Multiple ACEs (at least four ACEs) as Predictors of Elder Abuse

Variable (reference group)	Model 3				Model 4			
	Wald	OR	95% C.I.		Wald	OR	95% C.I.	
			Lower	Upper			Lower	Upper
<b><i>Socio-demographic characteristics</i></b>								
Age	2.893	.956	.908	1.007	2.612	.958	.910	1.009
Male <sup>1</sup>	.195	1.132	.653	1.963	.238	1.147	.662	1.988
Junior secondary <sub>2</sub>	.534	.766	.375	1.564	.568	.762	.375	1.546
Senior secondary <sub>2</sub>	1.088	1.446	.723	2.890	1.091	1.444	.725	2.874
Tertiary or above <sub>2</sub>	1.349	1.589	.727	3.473	1.379	1.597	.731	3.486
Receiving pension <sup>3</sup>	.012	.947	.355	2.528	.012	.948	.357	2.520
Married <sup>4</sup>	.746	.769	.424	1.395	.813	.761	.420	1.379
Number of children	.213	.931	.687	1.262	.162	.940	.694	1.273
<b><i>ACEs</i></b>								
Number of ACEs	16.037	1.278***	1.133	1.440				
Multiple ACEs (Four ACEs and above) <sup>5</sup>					15.917	3.060***	1.767	5.301

Note. \*\*\*  $p < 0.001$ . <sup>1</sup> Reference category = Female; <sup>2</sup> Reference category = Pre-primary/primary; <sup>3</sup> Reference category = receiving no pension; <sup>4</sup> Reference category = single; <sup>5</sup> Reference category = 0-3 ACEs.