

INVESTIGATING ADVERSE CHILDHOOD EXPERIENCES IN UNIVERSITY STUDENTS

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Abstract: This study investigates the prevalence of exposure to adverse childhood experiences (ACEs) and the Participation in the study was entirely voluntary.among 517 university students in Ha Noi. The research design employs a mixed-methods approach, utilizing the 28-item CDC/Kaiser Permanente ACE questionnaire for quantitative mapping, supplemented by semi-structured in-depth interviews guided by the WHO ACE-IQ framework with 15 participants. Within the present convenience sample, all participants met the study's operational criterion for exposure to at least one ACE. Within this multi-disciplinary university cohort, the moderate exposure group (2-3 experiences) accounted for 69.25%, while the high exposure group (≥ 4 experiences) represented 23.60%. Emotional neglect and structural household dysfunction (specifically substance abuse and parental divorce) emerged as the primary vectors of childhood vulnerability. Furthermore, independent samples T-tests and ANOVA results demonstrated statistically significant differences in cumulative ACE scores based on gender, academic year, geographical background, current living arrangements, and parental occupational stability. These findings corroborate the toxic stress framework and underscore the urgent need to implement trauma-informed mental health screening models within higher education institutions.

Keywords: Adverse childhood experiences (ACEs); cumulative risk model; toxic stress; university students; developmental psychology.

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1. Introduction

Childhood is the core foundation that shapes personality structure, emotional regulation capacities, and the establishment of internal working models about the self and the social world throughout the lifespan (Bowlby, 1969; Ainsworth et al., 1978). When the early caregiving environment is disrupted by adversity, a child's healthy development is severely threatened. The toxic stress framework has demonstrated that continuous or chronic exposure to negative experiences before the age

of 18 can alter brain structure and function (specifically, the prefrontal cortex and amygdala). This pushes the individual into a state of hyper-arousal, thereby increasing vulnerability to psychosomatic disorders in adulthood (Felitti et al., 1998; Shonkoff et al., 2012).

Theoretically, researching adverse childhood experiences (ACEs) helps elucidate the cumulative and interactive mechanisms of stress on psychological development, reinforcing the ecological systems approach in explaining human behavior and mental

health. Practically, domestic empirical studies have documented a high prevalence of childhood adversity among Vietnamese young people and have linked ACE exposure with depression, psychological distress, and suicidal ideation (Thai et al., 2020; Trinh et al., 2025). Particularly, the university stage - a developmental transition period marked by substantial social adaptation pressures in major cities such as Ha Noi - is a critical period in which earlier adverse experiences may remain relevant to psychological adjustment.

Although the high prevalence and linear negative consequences of ACEs on mental health have been widely documented globally (Hughes et al., 2017), studies in Viet Nam typically focus merely on describing single exposure rates or directly linking them to a specific clinical manifestation (such as depression or risk behaviors) among high school students. Currently, there is a lack of in-depth studies analyzing the comprehensive picture of the cumulative risk model of ACEs among university students. Specifically, there is a gap in identifying how demographic characteristics and socio-ecological contexts (gender, geographic background, family structure, parental occupational stratification) interact to influence the level of cumulative trauma in young adults' memories. Therefore, the core problem posed by this study is: *What is the current status of exposure and accumulation of adverse childhood experiences among university students, and which ecological contextual factors play a role in impacting the severity of these experiences?*

To address the aforementioned research problem, this paper focuses on resolving the following three key objectives:

To analyze the distribution patterns of adverse childhood experiences (ACEs) among university students based on the cumulative risk model, stratified into low-, moderate-, and high-exposure groups, in order to examine the trend of trauma accumulation.

To identify the prevalence rates and characteristic manifestations of specific ACEs across three principal domains: abuse (physical, emotional, and sexual abuse), neglect (physical and emotional neglect), and household violence/dysfunction (substance abuse, parental divorce, and witnessing domestic violence).

To examine and interpret statistically significant differences in the cumulative levels of ACEs under the influence of demographic factors and ecological contextual systems, including gender, academic year, place of origin, current living arrangement, and parental occupation, thereby providing an empirical basis for the development of early preventive intervention strategies.

2. Literature review

2.1. Research on a concept and manifestation of adverse childhood experiences

The term "Adverse Childhood Experiences" (ACEs) was first introduced in the 1990s through the landmark

study conducted by Felitti et al. (1998) in collaboration with the Centers for Disease Control and Prevention and Kaiser Permanente. According to the authors, ACEs refer to negative experiences occurring before the age of 18, including violence, abuse, neglect, and exposure to household dysfunction, all of which may exert long-term effects on individuals' physical and mental health.

Subsequent studies expanded both the scope and conceptualization of ACEs. Finkelhor et al. (2015) argued that adverse experiences are not limited to the family environment but may also arise from broader social and environmental adversities, such as community violence, discrimination, and bullying, which can likewise produce enduring negative effects on child development. Extending this perspective, Hughes et al. (2017) emphasized that ACEs encompass harmful physical and psychological experiences during childhood or adolescence, such as maltreatment or witnessing violence, which are strongly associated with adverse health, behavioral, and social outcomes across the lifespan. From these perspectives, ACEs may be understood as a broad and evolving construct encompassing multiple forms of personal, familial, and social adversity that exert cumulative and long-lasting effects on psychological and physical well-being throughout human development.

In 2009, the World Health Organization proposed a more biologically oriented conceptualization, defining adverse childhood experiences as "physiological stressors capable of disrupting neurodevelopment and consequently impairing normal cognitive and behavioral functioning" (World Health Organization, 2009). Under this framework, an event is considered an ACE only if it satisfies three conditions: (1) it produces biological stress, (2) the stress is sufficiently severe, and (3) there is evidence of disrupted neurodevelopment. However, this definition poses considerable challenges for empirical measurement, particularly in clinical research, given the current limitations in identifying specific biological indicators of such disruptions.

Subsequently, the World Health Organization (2018) further refined the concept through the Adverse Childhood Experiences International Questionnaire (ACE-IQ), defining ACEs as "sources of chronic or severe stress experienced during early life." According to this framework, an event qualifies as an ACE when it: (1) causes substantial stress or harm to the individual, (2) is repetitive or prolonged in nature, and (3) occurs before adulthood, typically before the age of 18. Such stressors may include violence, abuse, neglect, substance abuse, or collective conflicts such as war and social hostility. Compared with earlier approaches, the WHO (2018) framework is considered more comprehensive and practical because it shifts the focus from long-term consequences toward identifying the nature and characteristics of adverse experiences themselves, thereby

facilitating the development of measurement tools and cross-national comparative research. This definition has since been widely adopted as a conceptual standard in contemporary ACEs research.

Based on the foregoing perspectives, the present study adopts the conceptualization developed by the Centers for Disease Control and Prevention and Kaiser Permanente, whereby adverse childhood experiences are understood as negative experiences occurring before the age of 18, including abuse, neglect, and household dysfunction, that may exert long-term effects on individuals' physical health, mental health, and social adaptation.

2.2. Research on the prevalence of adverse childhood experiences

A growing body of international research has shown that adverse childhood experiences (ACEs) are highly prevalent and occur across diverse cultural and socioeconomic contexts. A systematic review conducted by Hughes et al. (2017), involving more than 250,000 participants from 37 countries, reported that over half of the population had experienced at least one ACE, while approximately 12% had experienced four or more ACEs. These findings suggest that childhood adversity is not limited to vulnerable populations but represents a widespread public health concern across different social contexts.

In Viet Nam, empirical evidence has similarly indicated high rates of exposure to childhood adversity. A multicenter study by Tran et al. (2015), conducted across eight universities nationwide, found that 76% of university students had experienced at least one form of adverse childhood experience. Higher prevalence rates have also been reported among adolescents. In a survey of nearly 5,000 secondary school students from different geographical regions, Thai et al. (2020) reported that 86% of participants had experienced at least one ACE, whereas nearly 56% had experienced multiple ACEs (two or more adverse experiences). These findings indicate that a considerable proportion of Vietnamese adolescents enter educational and social environments with prior exposure to psychological adversity.

Similarly, a large-scale study conducted in Ha Noi by Chu et al. (2022) involving 1,070 high school students found that 91.1% of participants had experienced at least one adverse childhood event. The most commonly reported forms of adversity were emotional neglect (69%) and witnessing domestic violence (32.4%), suggesting that psychological and family-related adversities may be more prevalent than direct physical violence in this population.

Related findings have also been observed in clinical populations. A study conducted by Lê, S. M. et al. (2022) at Hai Phong Psychiatric Hospital found that 66.67% of patients receiving treatment for methamphetamine-induced psychosis had experienced at least one ACE.

The most common adversities involved household dysfunction, including living with family members who abused alcohol (44.44%), had a history of incarceration (25.93%), or experienced mental illness (24.07%). These findings suggest that early exposure to dysfunctional family environments may be associated with an increased risk of later psychological and behavioral difficulties.

More recently, Trinh et al. (2025), in a survey of 1,391 first-year university students in Viet Nam, reported that 50% of participants had experienced at least one ACE, while 34.8% had experienced multiple ACEs. Students with ACE exposure also reported higher levels of depressive symptoms and lower life satisfaction compared with those without such experiences.

2.3. Research on the consequences of adverse childhood experiences

Research on adverse childhood experiences (ACEs) has mainly focused on identifying the prevalence, characteristics, and distribution patterns of these experiences across different populations, as well as examining their long-term psychological, behavioral, and health-related consequences. The theoretical foundation of this line of research is grounded in the stress-sensitivity model and the toxic stress framework, first introduced in the pioneering study by Felitti et al. (1998). According to this perspective, exposure to adverse experiences during sensitive stages of brain development may produce long-lasting negative effects on psychological and neurobiological functioning.

Neuroscientific studies have provided evidence for the substantial impact of ACEs on brain development. Shonkoff et al. (2012) suggested that prolonged exposure to adversity may generate toxic stress responses capable of disrupting neural development, particularly in the prefrontal cortex and amygdala. Consequently, individuals with histories of childhood adversity may develop heightened sensitivity to threats and excessive activation of stress-response systems, commonly described as "fight-or-flight" responses.

In addition, ACEs are often cumulative and interrelated, meaning that adverse experiences rarely occur independently. Felitti and Anda (1998) reported that increases in the number of ACEs were associated with substantially higher risks of depression, anxiety, substance use disorders, and other maladaptive behaviors. These findings indicate that ACEs should not be understood as isolated risk factors, but rather as interconnected and chronic stressors that may negatively influence psychological development over time.

Globally, the landmark epidemiological study conducted by Felitti et al. (1998) demonstrated a clear dose-response relationship, in which greater exposure to ACEs was associated with increased risks of mental and physical health problems in adulthood. More recent studies have continued to support this association.

For example, Daneshmend et al. (2025), in a study of university students, found that the association between ACEs and depressive symptoms was strongest when adverse experiences, particularly emotional abuse, occurred during adolescence (12–18 years old). Exposure to adversity during this sensitive developmental stage may increase vulnerability to depressive symptoms during the transition to university life. Similarly, Bartolome-Valenzuela et al. (2024) identified four distinct ACE exposure profiles and found that individuals in the highest exposure group reported significantly lower levels of well-being compared with other groups.

An emerging area of research related to ACEs concerns the concept of Positive Childhood Experiences (PCEs), proposed by Crandall et al. (2019). This perspective suggests that positive developmental experiences may buffer individuals against the negative consequences of childhood adversity. In addition, numerous international studies have shown that ACE exposure is a strong predictor of mental health difficulties and impaired social adjustment in adulthood (Hughes et al., 2017).

Consistent with these perspectives, Bowlby's Attachment Theory (1969) emphasizes the foundational role of early caregiver - child relationships in shaping secure or insecure attachment patterns. When adverse experiences occur during this developmental period, they may interfere with the formation of secure attachment and contribute to the development of anxious or avoidant attachment styles. Importantly, insecure attachment patterns may persist into adulthood and manifest in difficulties maintaining intimate relationships, chronic loneliness, and social disconnection (Mikulincer & Shaver, 2016).

General Conclusion: Although both international and Vietnamese empirical evidence has consistently confirmed the high prevalence and negative clinical consequences of adverse childhood experiences (ACEs), the existing literature still reveals several important research gaps.

First, studies conducted in Viet Nam have primarily focused on describing the prevalence of individual ACEs or examining the direct associations between ACE exposure and specific psychological outcomes, such as depression, suicidal ideation, or psychosis, mainly among high school students or clinical populations. Limited attention has been given to understanding how multiple adversities interact and accumulate to create clinically significant risk thresholds among university students, a population currently facing substantial developmental transitions and social adaptation pressures within rapidly urbanizing environments.

Second, most previous studies have tended to conceptualize ACEs as relatively static individual experiences or retrospective memories, rather than examining them within broader developmental

ecological systems, including geographical background, family structure and occupational stability, and current living arrangements. As a result, the complex interaction between macro-level contextual conditions and the accumulation of micro-level psychological adversity remains insufficiently explained.

Therefore, the present study not only examines the prevalence of specific ACE domains, including abuse, neglect, and household dysfunction, but also applies a cumulative risk framework to classify participants according to ACE exposure severity and to identify the proportion of students exceeding the clinical risk threshold (≥ 4 ACEs). In addition, through inferential statistical analyses, including independent-samples t-tests and analysis of variance (ANOVA), the study directly investigates and interprets differences in childhood adversity levels under the interactive influence of ecological factors such as gender, regional background, current living arrangements, and parental occupation.

In summary, rather than viewing childhood adversity as isolated, idiosyncratic events, this study conceptualizes ACEs through an integrative framework of Developmental Ecological Systems Theory and Cumulative Risk Models. In this model, macro- and micro-systemic variables—including gender, academic cohort, geographic origin, current living arrangements, and parental socio-economic status - serve as the structural independent variables. These factors interactively shape the environment of the child, determining the density and compounding nature of stressors. The dependent variable, operationalized as the cumulative score of latent childhood trauma, represents the neurobiological and psychological payload that manifests as toxic stress. This theoretical mechanism posits that lower ecosystemic stability linearly intensifies the accumulation of trauma, crossing the clinical risk thresholds during the developmental transition of emerging adulthood. These findings are expected to provide an important scientific basis for the development of proactive screening models and trauma-informed psychological interventions within higher education settings.

3. Research methodology

3.1. Questionnaire surveys method

3.1.1. Participants

The survey was conducted in Ha Noi, Viet Nam. The research sample consisted of $N = 517$ university students from three higher education institutions: Viet Nam National University, Ha Noi (69.1%), National Academy of Education Management (16.1%), and Viet Nam Youth Academy (14.9%). Female students accounted for 56.3% of the sample, while male students represented 43.7%. Participants were recruited using convenience sampling based on voluntary participation. Students who met the inclusion criteria and agreed to participate during the data collection period were invited to complete the questionnaire. Therefore, the sample

should be regarded as a non-probability sample and may not be fully representative of all university students in Ha Noi. The minimum target sample size was evaluated using Cochran's standard formula for descriptive cross-sectional surveys. At a 95% confidence level ($Z = 1.96$) and a 5% margin of error, the minimum required threshold was determined to be $n = 384$. Our actual sample of $N = 517$ structurally exceeds this institutional requirement, ensuring sufficient statistical power.

The sample covered all four academic cohorts, with the largest proportion being third-year students (30.9%) and the smallest being second-year students (18.0%). Participants were structurally drawn from a broad range of academic disciplines to ensure a heterogeneous and diverse representation across the university population. Prior to entering university, most participants had grown up in rural areas (46.8%) or urban areas (44.7%), whereas students from mountainous regions accounted for 8.5% of the sample.

At the time of the study, 38.7% of students were living with their families, while the remainder were living with friends (32.1%) or independently (29.2%). Parental occupations were most frequently reported in the business/self-employed category (fathers: 28.4%; mothers: 30.2%), followed by workers and public employees/civil servants, each accounting for approximately 20%. Self-rated family economic status was predominantly reported as fairly good (38.3%) or average (34.2%), whereas the financially disadvantaged group represented the lowest proportion (12.6%).

Participation in the study was entirely voluntary. Before data collection, participants received an explanation of the study objectives, procedures, confidentiality provisions, and the sensitive nature of questions concerning adverse childhood experiences. Participants were informed that they could decline to answer any question or withdraw from the study at any time without penalty. Only students who agreed to participate completed the questionnaire. For the qualitative component, interviews were written down only with participants consent, and the resulting material was anonymized and used solely for research purposes. Given the sensitive nature of ACE-related questions, participants experiencing emotional discomfort were permitted to pause or discontinue participation.

The present study forms part of the student research project entitled "The effects of adverse childhood experiences on attachment in social relationships among university students in Hanoi." The project was defended before the Scientific Council of the Vietnam Youth Academy. According to the project review record, the Council accepted the research procedures, organization of the study, and the ethical provisions applied to research with university students on sensitive adverse childhood experiences. No separate ethics approval code or approval

date was provided in the explanatory review document; therefore, none is reported here.

3.1.2. Research instrument

Content of the scale: To assess adverse childhood experiences (ACEs), the present study employed the Adverse Childhood Experiences Scale developed by the Centers for Disease Control and Prevention and Kaiser Permanente. The ACEs scale has been widely utilized in studies on childhood trauma and mental health to evaluate individuals' exposure to adverse experiences occurring before the age of 18. In this study, adverse childhood experiences were measured using 28 items.

Scale Structure: Adverse childhood experiences were conceptualized across three primary domains: (1) Abuse, including emotional abuse, physical abuse, and sexual abuse. (2) Household violence and dysfunction, including witnessing domestic violence; living with a substance-abusing family member, living with a family member with mental illness or suicidal behavior, having an incarcerated household member; and parental divorce, separation, or death. (3) Neglect, including emotional neglect and physical neglect.

Scoring Procedure: The Adverse Childhood Experiences (ACEs) questionnaire in this study was scored as follows. For the two neglect domains, physical neglect and emotional neglect. The items were retained in their original five-point Likert format (1 = never true, 5 = very often true). Several items were reverse-coded to ensure consistency in measurement direction. Item scores within each domain were then summed to produce total scores ranging from 5 to 25. Scores of ≥ 10 indicated exposure to physical neglect, whereas scores of ≥ 15 indicated exposure to emotional neglect.

For the remaining experiences within the abuse and household dysfunction domains, the original Likert-scale responses were dichotomized into binary variables. Higher-frequency responses ("often true" and "very often true") were coded as 1 (presence of exposure), whereas lower-frequency responses were coded as 0 (absence of exposure). The total ACEs score was calculated as the cumulative number of adverse experience categories endorsed by the participant, with higher scores reflecting greater exposure to adverse childhood experiences.

All ACE categories were ultimately recoded into binary values (0–1), the total cumulative ACE score was calculated by aggregating the 10 binary injury categories, resulting in a discrete ordinal index from 0 to 10. The internal consistency of the scale was assessed using Cronbach's Alpha coefficient. The results indicated a Cronbach's Alpha of $\alpha = .737$, demonstrating good reliability and supporting the suitability of the scale for use in the present study.

3.2. In depth interview method

In addition to the quantitative survey, in-depth interviews were conducted with 15 university students

studying at educational institutions in Ha Noi in order to obtain a more comprehensive understanding of adverse childhood experiences and the factors associated with these experiences among students. The WHO ACE-IQ was not used as the quantitative measurement instrument. Instead, it served as a theoretical framework for developing the semi-structured interview guide, enabling exploration of contextual adversities beyond the domains assessed in the CDC/Kaiser ACE questionnaire. Recognizing that the intra-familial focus of the CDC scale omits critical peer dynamics, the qualitative interview protocol was structurally expanded using the World Health Organization's Adverse Childhood Experiences International Questionnaire (ACE-IQ) framework. This theoretical expansion enabled the systematic tracking of macro-level ecological traumas, which are crucial for rendering culturally nuanced interpretations of trauma within the Vietnamese landscape. The interviews were conducted concurrently with the survey data collection process. With participants' consent, all interviews were audio-recorded, transcribed, and subsequently analyzed. Relevant excerpts were then selected and incorporated

into the findings section to illustrate the observed patterns and experiences.

3.3. Statistical analysis

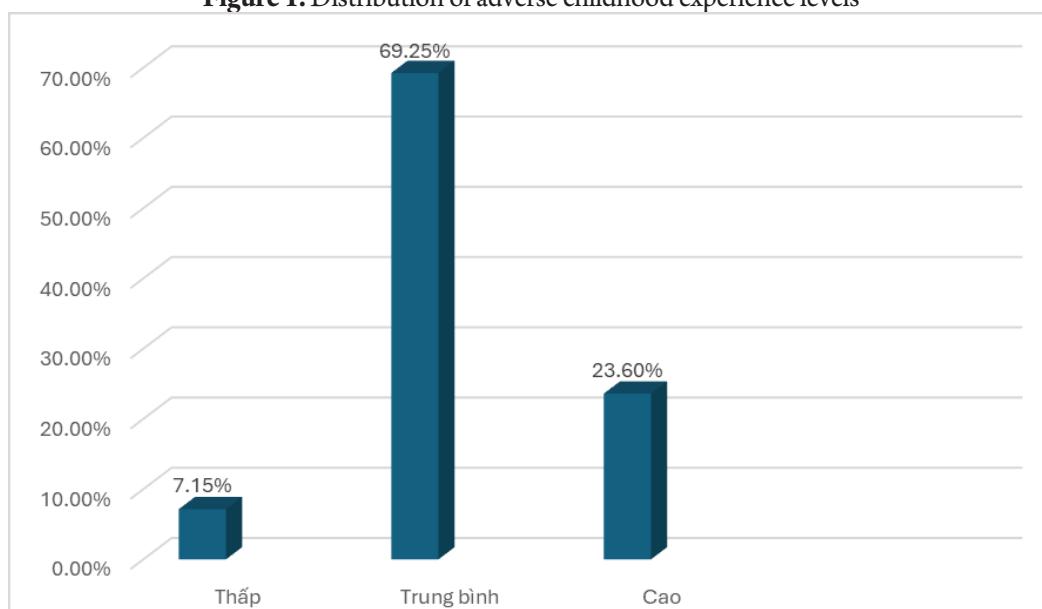
Data collected from the field survey were entered, coded, and analyzed using IBM SPSS statistics to perform descriptive statistical analyses, reliability testing, and other necessary inferential analyses. The study utilized two main categories of statistical procedures: descriptive statistics and inferential statistics.

4. Research findings

4.1. Distribution of adverse childhood experience levels by score categories

To comprehensively assess the level of exposure to childhood adversity, participants' total Adverse Childhood Experiences (ACEs) scores were calculated using the cumulative risk model. Consistent with the standard methodological approach adopted in the meta-analytic study published in *The Lancet Public Health* by Hughes et al. (2017), ACE exposure in the present study was classified into four ordinal categories: no exposure (0 ACEs), low exposure (1 ACE), moderate exposure (2-3 ACEs), and high exposure (≥ 4 ACEs).

Figure 1. Distribution of adverse childhood experience levels



Source: Authors' survey data (2026).

In the present sample, no students reported a complete absence of adverse childhood experiences (ACEs). Consequently, the distribution was concentrated across the remaining three exposure groups: low, moderate, and high exposure. As illustrated in Figure 1, the majority of students were classified within the moderate-exposure group (69.25%), followed by the high-exposure group (23.60%), whereas the low-exposure group accounted for only a small proportion of the sample (7.15%). This distribution indicates a substantial accumulation of adverse experiences within the study population. This

proportion is higher than those reported in previous Vietnamese studies, including 76% among university students across eight provinces (Tran et al., 2015), 86% among secondary-school students (Thai et al., 2020), 91.1% among high-school students in Ha Noi (Chu et al., 2022), and 50% among first-year university students (Trinh et al., 2025). Differences in prevalence across studies may be related, in part, to variations in measurement and operational definitions of ACE exposure. In the present study, the cumulative ACE score was derived from 10 dichotomized adversity categories;

physical and emotional neglect were assessed using multi-item Likert scores and subsequently classified according to the specified cut-off thresholds. Sample characteristics and recruitment procedures should also be considered, as participants were recruited through convenience sampling from three higher education institutions in Ha Noi.

According to Hughes et al. (2017), this form of score stratification plays a critical role in examining the dose–response relationship between ACE exposure and later psychological outcomes. In particular, exposure to four or more ACEs has commonly been regarded as a clinical risk threshold, beyond which the likelihood of mental health problems, emotional dysregulation, and disruptions in social attachment patterns increases markedly compared with non-exposed individuals. Although the high-exposure group did not represent the largest proportion in the present study, the prevalence rate of 23.60% remains noteworthy and warrants further investigation into the mechanisms underlying the development of insecure attachment patterns and psychological maladjustment.

In practice, adverse family events rarely occur in isolation and are often accompanied by multiple overlapping forms of adversity, including violence, abuse, and neglect. For example, one female student described her experiences as follows: “When I was 10 years old, I witnessed my father physically assaulting my mother. One night, he came home drunk, beat my mother, and took all the money for gambling... Whenever I felt sad or struggled as a child, I had no one to turn to because no one understood me” (Interview excerpt, XH_01_F). Similarly, another participant reported: “Whenever my parents argued and stopped talking to each other, my mother often vented her emotions onto me, and I passively absorbed all of that negativity.”(Interview excerpt, GD_01_F). Some participants were exposed to multiple severe forms of adversity simultaneously, including both domestic violence and sexual abuse. One participant stated: “I was sexually abused by my cousin during childhood and frequently witnessed domestic violence. These experiences left me constantly feeling unsafe and deeply emotionally hurt.” (Interview excerpt, GD_02_F).

These findings are consistent with foundational ACE studies demonstrating the cumulative nature of childhood adversity among individuals with high levels of exposure. Rather than occurring as isolated traumatic events, ACEs tend to accumulate and interact over time, thereby increasing vulnerability to mental health problems in adulthood. The landmark study conducted by Felitti et al. (1998) indicated that individuals exposed to four or more ACEs are generally considered a high-risk group and are significantly more likely to experience depression, substance abuse, and suicidal behaviors later in life.

4.2. Prevalence of adverse childhood experiences among university students

Descriptive statistical analyses indicated that students

in the present sample had experienced various forms of adverse childhood experiences (ACEs), although the prevalence of these experiences differed substantially across domains. Based on the structure of the ACEs scale, adverse experiences were categorized into three major groups: abuse, neglect, and household violence or dysfunction.

Table 1. Descriptive Statistics for the Abuse Domain (N = 517)

Types of ACE	YES		NO	
	N	%	N	%
Physical abuse	102	19.7	415	80.3
Emotional abuse	69	13.3	448	86.7
Sexual abuse	48	9.3	469	90.7

Source: Authors’ survey data (2026).

Based on variables related to participants’ personal experiences, descriptive analyses were conducted to examine the prevalence of abuse-related adverse childhood experiences within the sample. The results presented in Table 1 provide an overview of exposure rates across different forms of abuse. Specifically, physical abuse was the most frequently reported form of abuse, with 19.7% of participants indicating prior exposure. This was followed by emotional abuse (13.3%) and sexual abuse (9.3%). These findings suggest that the prevalence of abuse experiences differed across domains, with physical abuse being comparatively more common within the present sample. However, this internal hierarchy within the abuse domain does not override the broader systemic trends of the study, where chronic structural familial stressors—namely household substance abuse (28.6%) and parental divorce (23.8%) -remained the most dominant forms of ACEs across the absolute sample.

Qualitative findings further illustrated the diversity and severity of these adverse experiences. One participant reported that she had been sexually abused by her cousin during childhood (Interview excerpt, GD_02_F). Another participant described growing up in an environment in which her parents frequently scolded and criticized their children while showing little concern for their opinions (Interview excerpt, XH_02_F). Similarly, one student reported that persistent parental conflict and toxic arguments were accompanied by unfair physical punishment directed toward her (Interview excerpt, KT_01_F). Another participant shared that he had grown up in a financially unstable family environment in which domestic violence was a recurrent part of his childhood experience (Interview excerpt, XH_03_M).

Overall, the findings indicate that physical, emotional, and sexual abuse were all present within the study sample, although with differing prevalence rates and manifestations. These results provide an empirical foundation for further investigation into the psychological and social consequences associated with childhood abuse experiences.

Table 2. Descriptive statistics for the neglect domain (N = 517)

Types of ACE	Minimum Value	Maximum Value	Mean	Standard Deviation
Physical neglect	9	20	14.40	1.994
Emotional neglect	7	25	18.62	5.285

Source: Authors' survey data (2026).

For the neglect domain, Table 2 indicates that the examined experiences included physical neglect and emotional neglect. The results showed that the mean score for emotional neglect was 18.62 (SD = 5.285), whereas the mean score for physical neglect was 14.40 (SD = 1.994). Compared with the binary variables used in other sections of the ACEs scale, these mean values suggest that experiences related to insufficient emotional support, lack of care, and limited family responsiveness were relatively prevalent within the study sample.

The relatively large standard deviation for emotional neglect (SD = 5.285) indicates a considerable degree of variation in students' experiences of this form of adversity,

suggesting substantial individual differences in the level of emotional support received within the family environment. In contrast, the lower standard deviation observed for physical neglect (SD = 1.994) suggests that experiences related to this form of neglect were more consistent across participants.

Qualitative findings further suggest that this variation may be associated with emotionally distant, stressful, or disconnected family environments. In-depth interview data provided additional insight into the psychological context underlying these experiences. One participant described her childhood as characterized by "poverty and deprivation, both materially and emotionally" (Interview excerpt, XH_04_F). Another participant reported that family conflicts were typically ignored rather than addressed directly, stating that "problems were usually left unresolved and expected to fade over time" (Interview excerpt, KT_02_F). Similarly, one student shared that persistent parental conflict and toxic arguments were accompanied by unfair physical punishment directed toward her (Interview excerpt, KT_01_F). These findings suggest that emotional neglect may not only reflect the absence of emotional support, but also broader patterns of emotional disengagement and ineffective family interaction.

Table 3. Descriptive statistics for household violence and family dysfunction experiences. (N = 517)

Types of ACE	YES		NO	
	N	%	N	%
Household substance abuse	148	28.6	369	71.4
Parental divorce	123	23.8	394	76.2
Domestic physical violence	42	8.1	475	91.9
Incarcerated household member	41	7.9	476	92.1
Household mental illness	24	4.6	493	95.4

Source: Authors' survey data (2026).

As shown in Table 3, adverse childhood experiences (ACEs) related to household dysfunction were unevenly distributed across different categories of adversity. Among these experiences, household substance abuse was the most frequently reported form of adversity (28.6%), followed by parental divorce or separation (23.8%). These findings suggest that instability in family structure and functioning represented a relatively common source of adversity within the study sample.

Other forms of household dysfunction were reported at lower but still notable rates, including witnessing physical violence within the family (8.1%), having a family member involved in criminal behavior (7.9%), and living with a family member experiencing mental health problems (4.6%). Although these experiences differed in prevalence, they collectively reflected disruptions within the family environment that may influence individuals' sense of safety and psychological development.

Interview data further illustrated the diversity and

severity of these experiences. One participant described growing up in conditions characterized by "poverty and deprivation, both materially and emotionally," while family members frequently blamed and verbally criticized one another during conflicts (Interview excerpt, XH_04_F). Another participant recalled witnessing her father physically assaulting her mother after returning home intoxicated and gambling away the family's money. She also described feeling emotionally isolated during childhood, stating that she had no one to seek support from because "no one understood" her (Interview excerpt, XH_01_F).

Several participants described persistent parental conflict and emotionally hostile family environments. One student reported frequent toxic arguments between her parents, accompanied by unfair physical punishment directed toward her (Interview excerpt, KT_01_F). Another participant shared that she grew up in a financially unstable family in which domestic violence was a recurring aspect of daily life (Interview excerpt, XH_03_M).

Similarly, one female student described repeated parental arguments arising from suspicions of infidelity, which contributed to prolonged feelings of anxiety and emotional tension (Interview excerpt, KT_01_F). Another participant characterized her family environment as emotionally stressful, with adults engaging in frequent unresolved conflicts that created ongoing psychological pressure within the household (Interview excerpt, KT_03_F).

In addition, one participant reported that parental conflicts often involved yelling and occasional physical aggression, leading her to become highly sensitive to interpersonal conflict. She further described how periods of emotional withdrawal between her parents resulted in her mother redirecting negative emotions toward her, forcing her to passively absorb these emotional burdens (Interview excerpt, GD_01_F). Another student described repeated violent conflicts between her father and uncle that escalated to the point of police intervention, contributing to persistent feelings of insecurity and chronic anxiety throughout her childhood (Interview excerpt, GD_02_F).

Taken together, the findings indicate that students in the present study were exposed to multiple forms of childhood adversity, although the prevalence of these experiences varied across domains. Adversities associated with family instability and insufficient emotional support, particularly emotional neglect and parental divorce, appeared to be more common than severe forms of direct abuse such as sexual abuse.

Overall, the results suggest that adverse childhood experiences among university students are expressed not only through direct forms of violence, but also through deficiencies in emotional care, support, and family connectedness. These findings highlight the important role of the family environment in individual development and suggest that prolonged exposure to dysfunctional family conditions may have long-term implications for psychological adjustment and later social relationships.

4.3. Factors associated with adverse childhood experiences

The results of the independent-samples *t*-test indicated a statistically significant difference in the level of adverse childhood experiences (ACEs) between male and female students ($p = .001 < .05$). Specifically, male students reported higher mean ACE scores ($M = 2.97$) than female students ($M = 2.68$).

Table 4. Comparison of total adverse childhood experience (ace) scores between student groups by gender

Characteristic	Mean	Sig
Male	2.97	.001
Female	2.68	

Source: Authors' survey data (2026).

These findings suggest that male students in the present sample tended to report a greater number of adverse childhood experiences than female students. This difference may reflect variations in family environments, parenting practices, or levels of exposure to risk factors between genders. In addition, the findings indicate that gender was significantly associated with differences in reported ACE scores in the present sample. However, the cross-sectional design of this study does not permit conclusions regarding causal relationships or developmental processes.

To further examine the influence of demographic characteristics on students' total ACE scores, One-Way ANOVA was conducted.

Table 5. Comparison of total adverse childhood experience (ace) scores across student groups by demographic characteristics (N = 517)

Characteristic	Mean	Sig.
Academic year		
First year	2.95	p = .001
Second year	3.26	
Third year	2.47	
Fourth year	2.73	
Place of residence		
Urban area	2.93	p = .010
Rural area	2.62	
Mountainous area	3.11	
Current living arrangement		
Living with family	2.55	p = .001
Living with friends	3.05	
Living alone	2.89	
Father's occupation		
Government officials/ Public employee	2.33	p <.001
Factory worker	2.65	
Self-employed/ Business	2.72	
Office employee	2.99	
Retired	3.60	
Other	3.25	
Mother's occupation		
Government officials/ Public employee	2.35	p <.001
Self-employed/ Business	2.97	
Office employee	2.77	
Factory worker	2.86	
Retired	2.61	
Other	3.55	

Source: Authors' survey data (2026).

Descriptive statistics indicated variations in adverse childhood experience (ACE) scores across academic years. First-year ($M = 2.95$) and second-year students ($M = 3.26$) reported higher ACE scores than third-year students ($M = 2.47$), followed by a slight increase among fourth-year students ($M = 2.73$). This pattern did not follow a linear trend, suggesting potential differences in the ways individuals recall and interpret childhood experiences across developmental stages. From the perspective of reconstructive memory theory proposed by Elizabeth Loftus, autobiographical memories are not fixed reproductions of past events but may be influenced by current emotional states, contextual factors, and interpretive processes during recall. However, because the present study employed a cross-sectional design, these differences should not be interpreted as developmental changes over time and may instead reflect differences in recall, current psychological status, or cohort characteristics.

From a developmental and social psychological perspective, the ANOVA results for place of origin demonstrated that ACEs were closely associated with individuals' broader ecological developmental contexts rather than representing purely individual-level experiences. The statistically significant difference between residential background groups ($p = 0.010$) suggests that geographical and social environments during childhood were significantly related to levels of exposure to adversity.

Specifically, students from mountainous areas reported the highest ACE scores ($M = 3.11$). One possible interpretation may be drawn from the cumulative risk model, which suggests that children growing up in disadvantaged environments may experience multiple concurrent stressors. However, the present study did not directly assess socioeconomic conditions, healthcare access, educational opportunities, or family stress. Therefore, these findings should be interpreted as associations rather than evidence that these contextual factors caused higher ACE scores.

Students originating from urban areas reported the second-highest ACE scores ($M = 2.93$). This pattern may reflect the presence of more concealed forms of adversity within urban settings, such as economic pressure, weakened family connectedness, and elevated psychological stress associated with child-rearing practices. In contrast, students from rural areas reported the lowest ACE scores ($M = 2.62$), suggesting that although economic conditions in rural contexts may be less favorable, traditional family structures and stronger community cohesion may function as protective factors during childhood development. However, because socioeconomic conditions, healthcare

access, educational opportunities, and family stress were not directly measured in the present study, these findings should be interpreted as associations rather than evidence that these contextual factors caused higher ACE scores.

For current living arrangements, statistically significant differences were also observed ($p = .001$), highlighting the importance of present social support environments as indirect indicators of earlier developmental experiences. Students currently living with their families reported the lowest ACE scores ($M = 2.55$), suggesting that this group may have experienced relatively stable and emotionally supportive family environments during childhood. Conversely, students living with friends reported the highest ACE scores ($M = 3.05$). Although current living arrangement was significantly associated with ACE scores, the present study did not examine the reasons for students' housing choices. Therefore, these findings should not be interpreted as evidence of family disruption or insecure attachment.

Students living alone reported intermediate ACE scores ($M = 2.89$), reflecting the heterogeneity of this group. This category is likely to be heterogeneous and may include students living independently for educational, financial, or personal reasons. The present study did not collect information that allows these different circumstances to be distinguished.

Regarding paternal occupation, the results revealed statistically significant differences across occupational groups ($p < .001$). Students whose fathers were government officials or public employees reported the lowest ACE scores ($M = 2.33$). This finding may indicate an association between paternal occupational group and students' reported ACE scores. However, because family income, occupational stability, and family functioning were not directly assessed, the mechanisms underlying this association remain unclear. Students from mountainous areas demonstrated the highest levels of adversity exposure, potentially reflecting the influence of socioeconomic disadvantage and limited social resources, whereas students from urban areas appeared to experience more indirect psychosocial pressures associated with modern urban life. In contrast, students whose fathers were retired ($M = 3.60$) or employed in other occupations ($M = 3.25$) reported substantially higher ACE scores, potentially reflecting the influence of occupational instability, socioeconomic insecurity, or age-related family stressors during child-rearing.

Intermediate levels of ACE exposure were observed among students whose fathers worked as factory workers ($M = 2.65$), self-employed or business workers ($M = 2.72$), and office employees ($M = 2.99$). These findings further suggest patterns of social stratification, in which

ACE exposure tended to increase as occupational stability and economic security decreased.

A similar pattern was observed for maternal occupation, with statistically significant differences identified across groups ($p < .001$). These findings underscore the particularly important role of mothers within children's early caregiving and attachment systems. Students whose mothers were government officials or public employees reported the lowest ACE scores ($M = 2.35$), suggesting that maternal occupational and social stability may be associated with less adverse developmental environments. In contrast, the "other occupation" category reported the highest ACE scores ($M = 3.55$), potentially reflecting occupational instability or living conditions associated with greater exposure to childhood adversity.

The remaining maternal occupational groups -including office employees ($M = 2.77$), factory workers ($M = 2.86$), and self-employed or business workers ($M = 2.97$) demonstrated similar stratification patterns, with ACE exposure tending to increase in less stable occupational contexts.

Taken together, these findings suggest that ACE scores differed across several demographic characteristics, including gender, academic year, place of residence, current living arrangement, and parental occupation. However, because this study employed a cross-sectional design, these associations should not be interpreted as evidence of causal relationships. These results provide important implications for early prevention strategies, particularly interventions aimed at strengthening family functioning and supporting children in high-risk contexts.

5. Conclusion

This study empirically mapped the distribution, specific phenotypic patterns, and socio-ecological correlates of adverse childhood experiences (ACEs) among a sample of 517 university students in Ha Noi. Utilizing a sequential mixed-methods approach, the investigation yielded several critical, non-causal baselines regarding the landscape of early-life trauma during the transition to emerging adulthood.

First, the quantitative mapping validated the pervasive nature of childhood adversity within the sampled cohort under the cumulative risk framework. Every participant reported exposure to at least one category of childhood trauma prior to the age of 18. Although this descriptive 100% prevalence rate appears exceptionally high compared to certain international benchmarks, it highlights a remarkably widespread baseline of early-life vulnerability that persists across all nine academic disciplines sampled,

regardless of the students' specific fields of study. Within this diverse cohort, the vast majority of students were clustered within the moderate-exposure group (2–3 ACEs; 69.25%), while nearly a quarter of the entire sample (23.60%) exceeded the clinical risk threshold of high exposure (≥ 4 ACEs), indicating significant latent vulnerability to toxic stress responses.

Second, the structural distribution of trauma markers was characterized primarily by intangible emotional deprivation and macro-familial instability. Overt physical abuse demonstrated the highest baseline frequency strictly within the boundaries of the direct abuse domain (19.7%). However, when evaluating the absolute landscape of exposure, chronic micro-environmental vulnerabilities predominated; emotional neglect recorded a remarkably high continuous mean baseline ($M = 18.62$, $SD = 5.285$), while household substance abuse (28.6%) and parental divorce or separation (23.8%) constituted the most pervasive structural stressors. This statistical pattern was heavily cross-contextualized by the qualitative inquiry, where narrative prompts unmasked the profound, long-standing psychological erosion caused by prolonged emotional detachment and exposure to domestic violence.

Third, inferential analyses showed statistically significant differences in cumulative ACE scores across several demographic and contextual characteristics. Male students reported higher mean ACE scores than female students, and ACE scores also varied by academic year and geographic place of origin. Students from mountainous regions recorded the highest mean ACE score ($M = 3.11$); however, because macro-level environmental stressors were not directly measured, this result indicates an association rather than a causal pathway. ACE scores also differed by parental occupational group and current living arrangement, with students living with friends reporting a higher mean score ($M = 3.05$) than those living with family ($M = 2.55$). These variables should therefore be interpreted as contextual correlates rather than protective or risk factors established by the present cross-sectional design.

Overall, these findings underscore that adverse childhood experiences cannot be adequately conceptualized as isolated, individualized events; instead, they are systemic products manifested at the intersection of a child's proximal family environment and distal socioeconomic structures. These insights provide a compelling empirical foundation for higher education institutions in Viet Nam to move beyond passive counseling and actively establish proactive, trauma-informed screening networks and targeted mental health intervention models to cultivate psychological resilience.

REFERENCES

- Ainsworth, M. D. S. (1978). The Bowlby–Ainsworth attachment theory. *Behavioral and Brain Sciences*, 1(3), 436–438. Cambridge University Press.
- Bowlby, J. (1969). *Attachment and loss: Vol. 1. Attachment*. Basic Books.
- Chu, N. D., Pham, N. A., & Bui, T. T. H. (2022). Trải nghiệm bất lợi thời thơ ấu và sự thấu cảm ở học sinh trung học phổ thông. [Adverse childhood experiences and empathy among high school students]. *Tạp chí Khoa học Trường Đại học Sư phạm Hà Nội*, 67(2), 192–204. <https://doi.org/10.18173/2354-1067.2022-0034>
- Daneshmend, A. Z. B., Sherratt, F. E., Ethier-Gagnon, M. A., Jarkas, D. A., & McQuaid, R. J. (2025). Types and timing of childhood trauma and their relationship to symptoms of depression, suicidal ideation, and anxiety among Canadian university students. *Journal of Interpersonal Violence*. Advance online publication. <https://doi.org/10.1177/08862605251372562>
- Dang, H. M. (Ed.), Le, T. H. T., Dang, D. A., & Nguyen, M. H. (2023). *Trải nghiệm tuổi thơ tiêu cực: Các vấn đề lý luận và thực tiễn*. [Adverse childhood experiences: Theoretical and practical issues]. Nhà xuất bản Đại học Quốc gia Hà Nội, Hà Nội.
- Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., Koss, M. P., & Marks, J. S. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults. *American Journal of Preventive Medicine*, 14(4), 245–258. [https://doi.org/10.1016/S0749-3797\(98\)00017-8](https://doi.org/10.1016/S0749-3797(98)00017-8)
- Finkelhor, D., Shattuck, A., Turner, H., & Hamby, S. (2015). A revised inventory of adverse childhood experiences. *Child Abuse & Neglect*, 48, 13–21. <https://doi.org/10.1016/j.chiabu.2015.07.011>
- Hughes, K., Bellis, M. A., Hardcastle, K. A., Sethi, D., Butchart, A., Mikton, C., Jones, L., & Dunne, M. P. (2017). The effect of multiple adverse childhood experiences on health. *The Lancet Public Health*, 2(8), e356–e366. [https://doi.org/10.1016/S2468-2667\(17\)30118-4](https://doi.org/10.1016/S2468-2667(17)30118-4)
- Kalmakis, K. A., & Chandler, G. E. (2014). Adverse childhood experiences: Towards a clear conceptual meaning. *Journal of Advanced Nursing*, 70(7), 1489–1501. <https://doi.org/10.1111/jan.12329>
- Ha, N. L. (2026). *Ảnh hưởng của trải nghiệm tuổi thơ bất lợi đến sự gắn bó trong mối quan hệ xã hội của sinh viên đại học trên địa bàn thành phố Hà Nội*. [The effects of adverse childhood experiences on attachment in social relationships among university students in Hanoi]. [Đề tài nghiên cứu của sinh viên]. Học viện Thanh thiếu niên Việt Nam.
- Le, S. M., Nguyen, Q. D., & Nguyen, T. T. D. (2023). Nghiên cứu các trải nghiệm bất lợi thời thơ ấu của bệnh nhân loạn thần do sử dụng methamphetamine điều trị tại Bệnh viện Tâm thần Hải Phòng năm 2022. [Adverse childhood experiences among patients with methamphetamine-induced psychosis treated at Hai Phong Psychiatric Hospital in 2022]. *Tạp chí Khoa học sức khỏe*, 1(2), 17–25. <https://doi.org/10.59070/jhs010223013>
- Shonkoff, J. P., Garner, A. S., Siegel, B. S., Dobbins, M. I., Earls, M. F., McGuinn, L., & Committee on Early Childhood, Adoption, and Dependent Care. (2012). The lifelong effects of early childhood adversity and toxic stress. *Pediatrics*, 129(1), e232–e246. <https://doi.org/10.1542/peds.2011-2663>
- Thai, T. T., Nguyen, P. T., Tran, T. D., Nguyen, H., Shochet, L., Fisher, J., & Dunne, M. P. (2020). The effect of adverse childhood experiences on depression, psychological distress and suicidal thought in Vietnamese adolescents: Findings from multiple cross-sectional studies. *Asian Journal of Psychiatry*, 53, Article 102134. <https://doi.org/10.1016/j.ajp.2020.102134>
- Tran, Q. A., Dunne, M. P., Vo, T. V., & Luu, N. H. (2015). Adverse childhood experiences and the health of university students in eight provinces of Viet Nam. *Asia-Pacific Journal of Public Health*, 27(8 Suppl), 26S–32S. <https://doi.org/10.1177/1010539515589812>
- Trinh, H. H., Nguyen, T. T., Nguyen, T. Q., Ngo, N. T., Nguyen, S. T., Nguyen, C. V., Mac, T. D., & Nguyen, T. H. (2025). Impacts of adverse childhood experiences on mental health and satisfaction with life in first-year college students: Results from a cross-sectional study in Viet Nam. *Psychiatry Investigation*, 22(8), 939–948. <https://doi.org/10.30773/pi.2025.0068>
- World Health Organization. (2018). *Adverse childhood experiences international questionnaire (ACE-IQ)*. World Health Organization.