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Comparative Study of Adverse Childhood Experiences of Adolescents in Indonesia

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Abstract. Adolescence is a transitional period from childhood to adulthood. The global adolescent population currently exceeds 1.2 billion, making up 16% of the world's population. Adverse childhood experiences in adolescents contribute significantly to mental health issues and also have an impact on adult lives. These experiences can be influenced by various factors including demographic background. Therefore, this study aimed to determine the differences in adverse childhood experiences with demographic background in adolescents in Indonesia. A comparative quantitative method with subjects aged 12-21 was adopted in this study. Furthermore, the instrument used was the World Health Organization Adverse Childhood Experiences Questionnaire (WHO ACE-IQ) which was further analyzed using the Jamovi 2.3.21 program. The results showed that 65.3% of the subjects experienced multiple adversities dominated by adolescent girls. Additionally, the dimension of adverse childhood experiences was the highest in emotional neglect. Other results showed that there was a significant role of demographic background including age with the highest prevalence in late adolescence (18-21 years) and parental marital status with the largest group of divorce in adverse childhood experiences. Future studies were further expected to examine and conduct publications with an equal number of subjects in each province throughout Indonesia to calculate prevalence more accurately and explore the relationship between demographic background and adverse childhood experiences. In this context, the study provided implications for adolescents to possess an overview of adverse childhood experiences.

Keywords: *adolescents, adverse childhood experience, demographic background*

Studi Komparatif *Adverse Childhood Experience* Remaja di Indonesia

Abstrak. Remaja merupakan masa peralihan dari masa kanak-kanak menuju masa dewasa. Populasi remaja global saat ini melebihi 1.2 miliar, yang merupakan 16% dari populasi dunia. *Adverse childhood experience* menjadi salah satu penyebab isu kesehatan mental pada remaja. Hal tersebut juga akan berdampak pada kehidupan dewasa remaja. *Adverse childhood experience* dapat dipengaruhi dari berbagai faktor, termasuk latar belakang demografi. Adapun tujuan dari penelitian ini untuk mengetahui perbedaan *adverse childhood experience* dengan latar belakang demografi pada remaja di Indonesia. Penelitian ini menggunakan metode kuantitatif komparatif dengan subjek berusia 12 - 21 tahun. Instrumen yang digunakan adalah World Health Organization Adverse Childhood Questionnaire (WHO ACE-IQ) yang kemudian dianalisis menggunakan program Jamovi 2.3.21. Hasil penelitian menunjukkan bahwa 65.3% mengalami *multiple adversities* yang didominasi oleh remaja perempuan. Kemudian dimensi adverse childhood experience tertinggi pada *emotional neglect*. Hasil lainnya menunjukkan bahwa ada peran yang signifikan dari latar belakang demografi yaitu usia dengan kelompok tertinggi pada remaja akhir di usia 18 – 21 tahun dan status pernikahan orang tua dengan kelompok tertinggi cerai hidup pada *adverse childhood experience* remaja. Penelitian selanjutnya diharapkan dapat meneliti dan melakukan publikasi dengan jumlah subjek yang sama di setiap provinsi di seluruh Indonesia untuk menghitung prevalensi secara lebih akurat dan mengeksplorasi hubungan antara latar belakang demografi dan pengalaman buruk masa kanak-kanak. Penelitian ini dapat memberikan implikasi untuk para remaja agar dapat memiliki gambaran mengenai *adverse childhood experience.*

Kata Kunci: *adverse childhood experience*, latar belakang demografi, remaja

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Adolescence is a transition period from childhood to adulthood. During this period, various patterns and behaviors are exhibited to explore the environment, understand the cause and effect, as well as interact with others. Therefore, the feeling of these behaviors forces the adolescents to build communication with the peers (Iffah & Yasni, 2022). In this context, the world's adolescent population currently numbers more than 1.2 billion or 16% of the globalization (WHO, 2023). In Indonesia, there are 22,130,827 adolescents aged 15 - 19 years (BPS, 2023). This developmental stage is crucial because adolescents seek to form identities, express opinions, experience physical and emotional changes, as well as face challenges that seem hard to overcome (Putra, 2017). Proper monitoring and support during this period are essential for adolescents to grow and develop according to the developmental stages and tasks, preparing for the next phase of life (Suryana et al., 2022). However, adolescents will have many problems when this is not monitored properly.

A cause of various problems experienced by adolescents is traumatic experiences that occurred as children such as violence (WHO, 2021). These experiences can make the adolescents vulnerable to mental health problems. A study proved that traumatic experiences received by adolescents in childhood, especially those obtained from the surrounding environment could increase the risk of psychological and behavioral problems later in life (Downey & Crummy, 2022; Maurya & Maurya, 2023). Traumatic experiences in childhood that can trigger adolescent problems are called Adverse Childhood Experiences (ACEs).

ACEs are circumstances that occur during childhood causing stress and affecting mental as well as physical health in future life such as adolescence, adulthood, or later life (O'Neill et al., 2023). Various examples of ACEs are children (1) experiencing physical, emotional, and sexual violence, (2) being neglected by the environment, (3) living in an abusive household, (4) exposure to parents abusing substances or alcohol, (5) committing criminal acts, and (6) living at home with a caregiver who has a mental disorder (O'Neill et al., 2023). Generally, this adverse problem is experienced by children during adolescence age (Crouch et al., 2019). Supporting these results, another study stated that ACEs have three categories of aspects namely child abuse, family or household dysfunction, and violence in the social environment (Rahapsari et al., 2021).

The epidemiological results showed that millions of children throughout the world were exposed to ACEs annually (Asmussen et al., 2020). This is also reinforced by WHO showing that 51,945 adults globally who were actively engaged in filling out surveys were reported to experience ACEs. Furthermore, it was found that the ACEs experienced were factors that contributed to the mental disorders risk faced based on DSM criteria - IV (Kessler et al., 2010).

The ACEs experienced by each individual differ from one another, and this determines the severity of the problems faced. Previous publications stated that there were three possible levels of ACEs namely (1) not experiencing ACEs (no adversities), (2) only having an ACEs experience (single adversities), and (3) having various kinds of ACEs experiences (multiple adversities) (Pace et al., 2022). Individuals who experience multiple adversities are more vulnerable and have a high risk of suffering various health problems (Rogers et al., 2022), disrupting children's physical or psychological development (Kalmakis & Chandler, 2014), and social functioning of the adolescents (Tzouvara et al., 2023).

The identified causes of ACE are varied in different individuals. Generally, there are four main factors including (1) social factors such as poverty, unemployment, deprivation, discrimination, community disruption, and social isolation, (2) household factors comprising domestic violence, substance abuse, mental health, separation, and living in a nursing home, (3) family factors consisting of parenting skills, childcare capacity, parental age, and family structure, as well as, (4) intergenerational factors encompassing violence, exposure to ACEs in parents, and social inequality (Allen & Donkin, 2015). Among these, the strongest factor in predicting ACEs is parental neglect, especially when the problem is not resolved correctly (Salawu & Owoaje, 2020). Demographic background such as gender and socioeconomics are also risk factors for ACEs (Cronholm et al., 2015).

Efforts to understand the factors that can trigger ACEs are important to identify children at risk. Therefore, various prevention strategies can be developed and implemented to provide support to affected children. Previous publications stated that ACEs were caused by instability in the family, school, and social communities, thereby forming a toxic living environment. Children who live in an environment that frequently commits acts of violence in adolescence and adulthood tend to be engaged in the same acts, especially in romantic relationships (Shields et al., 2020). Furthermore, ACEs can make an individual develop antisocial traits and behavior which has a negative impact on the person and others (Bellis et al., 2018). This is associated with an increased probability of engaging in risky behavior, substance abuse, and experiencing mental health problems in adolescence and adulthood (Othman & Essau, 2019).

Despite the significance of ACEs, publications in Indonesia primarily focus on testing the instrument reliability (Rahapsari et al., 2021), and examining the concepts in the form of relationships between variables (Bahtiar et al., 2023; Dewi, 2022; Ramaiya et al., 2021; Salma et al., 2019; Widyorini et al., 2022). Criticism can arise from the possibility that the publications may not fully capture the complexity of risk factors in the Indonesian

context. This criticism needs to be considered seriously because Indonesia has a different demographic background from countries in the northern hemisphere (Cipta & Saputra, 2022) where most ACEs publications are conducted. The differences can further influence how individuals and families experience and respond to ACEs. The criticism also emphasizes the need for a more comprehensive and contextual analysis of the ACEs analysis in Indonesia. Therefore, this study aimed to identify potential risk factors regarding demographic background factors such as age, gender, parental marital status, and childbirth order in the Indonesian context. This is necessary by knowing the differences in each category through different tests on demographic background.

Method

Study design

The study design used was quantitative with a comparative type which aimed to determine certain variables empirically, objectively, rationally, measurably, and systematically as well as produce data to be analyzed statistically (Sugiyono, 2014). The comparative study was focused on examining the differences between the existence of one or more variables in two or more different samples or at different times (Sugiyono, 2014).

Study subjects

The subjects of this study were adolescents in Indonesia who were divided into three age groups and further adjusted to the phases of human development. These age groups included early (12 - 14 years), middle (15 - 18 years), and late (18 – 21 years) (Hurlock, 1980). Furthermore, non-probability sampling using incidental methods was used as the study procedure. In this method, sampling was conducted incidentally and suitable as a data source (Sugiyono, 2021). The subjects further included 921 adolescent subjects aged between 12 and 21 years which consisted of 344 (37.4%) men and 577 (62.6%) women spread throughout Indonesia. The data obtained from the subjects was dominated by adolescents in the early (37.5%), middle (32.5%), and late age groups. Another demographic background obtained was birth order which was dominated by the first child at 38.9%. The subjects with marital status of married parents comprised 85.0%, and the remainder were of divorced parents. All the subjects obtained were spread across 26 provinces and further grouped by the islands with most from the island of Java at 48.0%, Sumatera at 24.0%, and the rest were divided among two others.

Study variables and instruments

In this study, two main variables were the focus namely (1) demographic background, gender, age, birth order, and parent's marital status as independent variables (X) and Adverse Childhood Experiences (ACEs) as dependent element (Y). ACEs were unpleasant experiences that occurred in childhood that adolescents endured. To measure the dependent variable, this

study used the World Health Organization Adverse Childhood Questionnaire (WHO ACE-IQ) instrument adopted in the Indonesian context by (Rahapsari et al., 2021) with a validity value of 0.742 and a reliability of 0.807. This instrument possessed 29 question items and 13 dimensions namely (1) emotional neglect, (2) physical neglect, (3) physical abuse, (4) a family member who was chronically depressed, mentally ill, institutionalized, or suicidal, (5) an incarcerated family member, (6) one or both parents passed away, separated, or divorced, (7) collective violence, (8) psychological or emotional abuse, (9) alcohol and/or drug abuser in the household, (10) sexual abuse, (11) bullying, (12) community violence, and (13) household member treated violently. There were different answer choices for each indicator with 1 to 5 having "always, often, sometimes, rarely, and never," as well as 6 to 10 possessing "never, happens once, happens several times, and happens very often." Additionally, indicators 11 to 13 have the answer choices of "yes and no." Each category had the norming with an overall score range of 0 to 13 points. The score of ACEs was based on the total or no experience score in each dimension. In general, the severity of the ACEs was divided into three criteria including no, single, and multiple adversities (Pace et al., 2022).

Procedures and data analysis

This study procedure consisted of preparation, data collection, and analysis alongside ethical and security aspects that needed to be considered. In the preparation stage, the analysis examined the phenomena occurring in the variables explored. This was followed by examining the sources related to theoretical studies and determining the methods and scale to use. During the data collection stage, questionnaires were distributed via Google Form which included the aims and benefits, ensuring the subjects gave consent to participate. Additionally, confidentiality and anonymity of the data were ensured to maintain the identity of the subjects. During the data analysis stage, the obtained and recorded data were analyzed using the independent sample t-test statistical method to test the differences in ACEs by gender. Furthermore, one-way ANOVA was compared and tested for differences in ACEs by age, birth order, and parents' marital status via Jamovi version 2.3.21. Before carrying out the difference test, the data was normally distributed using the skewness and kurtosis normality test. When the data obtained was large, the normality test would only observe the skewness and kurtosis values. However, when the results were 0.978 and 0.644, the data was normally distributed because it was within the tolerance limit of ±2 (Field, 2009).

Results

The data analysis confirmed that the study objective was achieved namely identifying various demographic background factors that could potentially cause ACEs in adolescents. Detailed information was observed in the following.

Adverse Childhood Experiences (ACEs)

Table 1

ACEs by Gender

Category	Requirement	Male		Female	
		n	%	*n*	%
No Adversities	0	48	5.2	81	8.8
Single Adversities	1	74	8.0	117	12.7
Multiple Adversities	2 – 13	222	24.1	379	41.2

Note. *N* Male = 344 (37.4%). *M* Male = 2.92. *SD* Male = 2.54. *N* Female = 577 (62.6%). *M* Female = 3.16. *SD* Female = 2.62.

Table 1 showed that the prevalence of ACEs was determined by gender. The results showed that 14.0% of adolescents experienced no adversities, 9.3% and 14.8% of males and females respectively experienced single adversity, and the rest experienced multiple adversities.

Table 2

Dimensions of ACEs by Gender

Dimension of Adverse Childhood Experiences	*N*	Male		Female	
		%	*n*	%	*n*
Emotional Neglect	445	38.2	170	61.8	275
Physical Neglect	260	38.1	99	61.9	161
Alcohol and/or Drug Abuser in The Household	32	50.0	16	50.0	16
Family Member Who Is Chronically Depressed Mentally Ill, Institutionalized, or Suicidal	52	26.9	14	73.1	38
Incarcerated Family Member	41	34.1	14	65.9	27
One or Both Parents Passed Away, Separated, or Divorced	164	36.0	59	64.0	105
Household Member Treated Violently	225	24.4	55	75.6	170
Psychological/Emotional Abuse	309	33.3	103	66.7	206
Physical Abuse	232	37.9	88	62.1	144
Sexual Abuse	210	34.8	73	65.2	137
Bullying	197	29.4	58	70.6	139
Community Violence	416	37.5	156	62.5	260
Collective Violence	242	40.9	99	59.1	143

Note. *N* = number of respondents who experienced the dimension of ACEs.

Table 2 showed the prevalence value of having Adverse Childhood Experiences (ACEs). The highest ACEs were in the emotional neglect category with a total of 445 subjects consisting of 38.2% males and 61.8% females. This was followed by community violence with 16 subjects consisting of 37.5% males and 62.5% females. The lowest prevalence of ACEs was in the category of having an alcohol and/or drug abuser in the household with 32 subjects equally between male and female.

Table 3

ACEs and Demographic Background

Demographic Background

Demographic Background	*M*	*SD*	t	df	f	*p*
Gender			1.35	919	-	0.179
Male	2.92	2.54				
Female	3.16	2.62				
Age			-	2	9.70	<.001*
12 – 14	2.66	2.37				
15 – 17	3.07	2.72				
18 – 21	3.57	2.63				
Birth Order			-	3	1.17	.319
First	2.91	2.63				
Middle	3.29	2.58				
Youngest	3.06	2.59				
Single	3.36	2.36				
Parents' Marital Status			-	2	50.9	<.001*
Married	2.73	2.46				
Widowed	4.44	2.46				
Divorced	5.42	2.47				

Note. M = Mean. *SD* = Standard Deviation.
*p < .001 (significant)

Table 3 showed the differences in ACEs based on demographic background. These results showed differences when viewed from the age and parents' marital status. The ages 18 – 21 years (M = 3.57, SD = 2.63) reported significantly higher levels of ACEs than other age groups. The parents' marital status in the divorced group (M = 5.42, SD = 2.47) suggested a significantly higher level of ACEs than other parents' marital status groups. Subsequently, other results signified no difference when viewed from gender and birth order.

Discussion

This study examined the prevalence of ACEs in adolescents in Indonesia and found several results from the tests carried out with each category having a different prevalence. Additionally, other data tests differences in ACEs regarding demographic background which include gender, age, birth order, and parent's marital status. The study further grouped and divided the discussion into three sections namely (1) the overall prevalence of ACEs by gender, (2) the prevalence of ACEs dimensions by gender, and (3) testing the prevalence based on demographic background.

ACEs refer to unpleasant circumstances in childhood which can be events experienced by the individual or influenced by the environment. Based on the results obtained in this study, all subjects can experience ACEs with a more significant percentage of adolescent girls. This is because the number of female adolescent subjects active is higher than males.

Previous publications conducted in America reported that adolescent females experienced more ACEs than males (Baglivio et al., 2014; Giano et al., 2020). The interesting

aspect of the results is that both males and females experience these unpleasant circumstances. However, the results showed that adolescent girls were more vulnerable to experiencing ACEs. This is because women experience more childhood difficulties than men. There are also gender stereotypes or discrimination against females because women are considered inferior in terms of position, function, and role (Wati & Saifulloh, 2020), victims of violence, sensitive, irrational, weak, and dependent on males which is a double burden to be borne (Nur A, 2020). Therefore, numerous women are facing high psychological pressure leading to poor mental health (Almuneef et al., 2017).

Correlating with previous publications, women are significantly more inclined to report various ACEs as well as mental, social, and emotional health difficulties in adulthood (Haahr-Pedersen et al., 2020). Based on these results, the study found that adolescent females and males experienced a minimum of a single adversity. This correlates with publications conducted in Florida, England, and several other countries where adolescents experienced a minimum of one adversity (Baglivio et al., 2015; Bellis et al., 2014; Madigan et al., 2023). However, this study showed that both males and females experienced 2 to 13 ACEs or multiple adversities. This condition also occurs in Scotland and America with many experiencing multiple adversities (Pierce & Jones, 2022; Vaswani, 2018).

Previous publications further suggested that there was a relationship between the number of ACEs and increased health risks as well as developmental difficulties in adolescents (Webster, 2022). Given this scenario, more exposure to ACEs by adolescents will affect physical and mental conditions as well as chronic diseases in adulthood (Hustedde, 2021). However, there are inconsistencies in the results of several countries which provides the opportunity for further studies, especially in Indonesia.

Examining the prevalence of the dimensions of ACEs, two dimensions are considered the highest namely emotional neglect and community violence. This is correlated with the publication conducted in Singapore that emotional neglect is the most frequently experienced type of ACEs (Subramaniam et al., 2020). Adolescents from any background can experience emotional neglect (Kumari, 2020), and this is evident in the significant relationship with depressive symptoms during adolescence (Glickman et al., 2021). Additionally, emotional neglect is caused by parents' lack of support emotionally (Webb & Musello, 2013). Exposure to this dimension in childhood is related to maladaptive behavior and low self-esteem (Houtepen et al., 2018; Humphreys et al., 2020), as well as psychopathology in adulthood (Kisely et al., 2018). Victims of neglect who grow up can be caused by ignorance of the immediate environment, both intentionally and locally. The

environments are unable to provide a sense of comfort during development, prompting a significant impact on the lives of adolescents (Sevtin & Satiningsih, 2023).

The other highest dimension is community violence. Previous publications also found that adolescents experienced relatively high exposure to community violence (Koposov et al., 2021). This is a risk factor that originates from the environment and possesses a negative impact when experienced by children who live in communities lacking resources and are economically disadvantaged (Pittman & Farrell, 2022). The existence of community violence can hinder the social and emotional development of adolescents because a safe and comfortable environment to grow and develop well is needed (Quiñones et al., 2022). This dimension is also a factor causing poor mental health in the community (Javdani et al., 2014).

This study further examines ACEs based on demographic background which aims to determine the differences among adolescents in Indonesia when viewed from gender, age, birth order, and parents' marital status. Viewing ACEs from a demographic perspective is crucial to collecting data in understanding the scope of the problem and identifying which populations are more affected (Swedo et al., 2023). From the statistical analysis results, several demographic backgrounds do not have differences in ACEs. Furthermore, there are differences in parents' age and marital status with no variations regarding gender and birth order.

The analysis results showed that the age of late adolescents aged 18 - 21 was higher than other groups. Adolescents aged 18 – 21 years typically experience more ACEs compared to early or middle-age groups. During this age, most are in fairly good emotional and mental condition or minimum mental health which implies that the adolescents do not have significant psychological problems but also not at a high level of well-being (Yunalia et al., 2022). Adolescents are in a period of less stable mental conditions, conflicts, and changing demands as well as moods during this developmental stage (Hadjimina & Furnham, 2017). Furthermore, a previous publication conducted in Serbia also found that adolescents aged 18 to 29 years experienced more ACEs due to the sensitivity to feeling, attention, and reporting of these actions (Kostić et al., 2021). A form of adolescent's stressor is experiencing ACEs and when unable to control this stress, it prompts an impact on mental and health problems in general (Aloysius & Salvia, 2021).

In this context, there are differences in ACEs not only in age but also in parents' marital status groups which are divided into three namely married, widowed, and divorced. The parents' marital status in the divorced group is at a high level compared to others which is the main cause of highly significant ACEs (Besel, 2020; Jamieson, 2019). A child will perceive that divorce represents a major change in the family, which implies relocating to another house, observing less of a parent, changing

schools, or moving into a different income group (SAC, 2022). Children feel stressed and worried as family dynamics change which further becomes a new stressor (Besel, 2020; Jamieson, 2019). Divorced parental relationships, current hostility, and parental conflict, as well as turbulent home environments, will make children stressed and emotionally painful (Carmel, 2022).

Other demographic backgrounds such as gender and birth order do not significantly differ in ACEs as both males and females are vulnerable. This correlates with a publication conducted in America showing no significant difference between genders in exposure to ACEs (Leban & Gibson, 2020; Pierce & Jones, 2022). Similarly, birth order including the eldest, middle, youngest, and only child have the potential to experience ACEs depending on the parenting style carried out by the family. Parenting styles can influence adolescents' mental conditions which will have an impact on adult lives (Azzahra et al., 2022).

The results of this study showed that adolescents who experienced ACEs affected the growth and had an impact on the health both physically and mentally. Preventive steps need to be taken to overcome the increase in ACEs by creating a safe, stable, and nurturing environment for all children and families (Merrick et al., 2019). Subsequently, adolescents should be able to increase resilience to develop and improve emotional regulation skills to rise from adversity (Thiadi & Risnawaty, 2023). As the closest environment, the family should be aware of parenting styles appropriate to the household's conditions. Therefore, children do not need to feel neglected by the families during the growth and development period. Schools serving as the second place for adolescents can also conduct assessments of the students and reactivate psychological services that are more proactive and long-term according to needs, as well as periodical counseling. This study can also be a basis for relevant government policymakers to provide facilities to families and schools or directly improve the mental health of adolescents.

Based on the results of the previous discussion, this study examines the prevalence of ACEs among adolescents in Indonesia in terms of gender and the differences based on demographic background. The study also provides a general description of the ACEs experienced by adolescents in Indonesia. Additionally, the variables raised are also rarely analyzed in Indonesia which is an update on this topic. The limitation of the analysis is the uneven distribution of data collection or the number of subjects in each province in Indonesia. Furthermore, the analysis only calculated the prevalence of ACEs in terms of gender and the differences based on limited demographic background. Future publications are expected to analyze and conduct the investigation with an even number of subjects in each province throughout Indonesia. It is also important to calculate prevalence with more demographic background and examine the relationship. The

results of this study can be further used as a reference for further publications regarding the ACEs of adolescents in Indonesia.

Conclusions

In conclusion, this study grouped the examination into three categories namely (1) ACEs by gender, (2) dimensions of ACEs by gender, and (3) testing ACEs based on demographic background. The results showed that adolescent females were more dominant in experiencing ACEs compared to males. Furthermore, the dimensions that adolescents often experience were emotional neglect and community violence. The study further found that demographic backgrounds were influencing ACEs namely age and parents' marital status. The backgrounds were also more inclined to experience multiple adversities with 65.3% of the subjects confirming the results.

Suggestion

This study provided implications for adolescents pursuing an overview of ACEs. By understanding this, the adolescents could identify the experiences and further minimize the potential for mental disorders. Furthermore, schools and families could take an active role in providing interventions in the form of counseling for those who have experienced ACEs by considering aspects of gender, age, birth order, and parent's marital status. These results could create an urgency to take preventive action against ACEs in particular and other mental health disorders in general. The effort could include socialization, training, and coaching to improve and strengthen the provision of adolescents through various personal abilities to manage mental health, thereby avoiding disorders that have the potential to disrupt development. Considering that many factors influenced the tendency for ACEs, it was necessary to include cognitive, social, personality, or other factors in understanding the etiology of adolescents in Indonesia. Future publications could also analyze, explore, and expand other demographic variables to provide in-depth insight into the risk factors related to individual and family levels. Additionally, further publications could examine the effectiveness of developing personal abilities to reduce ACEs which were not discussed. These included self-resilience, self-awareness, coping with stress, problem-solving skills, and others.

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