Link between Adverse Childhood Experiences and Five Factor Model Traits among Filipinos

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Abstract

The relationship between adverse childhood experiences (ACEs) and personality pathology is a growing area of research. Problems with the categorical model of personality disorders have led researchers to explore the relationship between dimensional models of personality and ACEs. Seven hundred seventeen Filipinos, aged between 18 and 87, completed the ACE-IQ and NEO-FFI-3. Results revealed all Five Factor Model (FFM) traits were influenced by ACEs. In general, ACEs increased neuroticism (decreased emotional stability), decreased extraversion (increased introversion), decreased agreeableness (increased antagonism), and decreased conscientiousness (increased disinhibition). For openness, however, the relationship was complex. Some ACEs were positively correlated with openness, while others were negatively correlated, leading to no significant correlation between openness and total ACE-IQ score. ACEs thus affect the total personality, including openness. Understanding the relationship between ACEs and personality pathology, however, may involve going beyond the ACE-IQ total score in order to examine the influence of particular ACEs. In our study, 12 of 13 ACE categories were significantly correlated with at least one FFM trait, the exception being community violence.

Keywords: adverse childhood experience, five factor model traits, personality disorders, Filipinos

Introduction

Adverse Childhood Experiences (ACEs) include physical, emotional or sexual abuse, physical or emotional neglect, and household dysfunctions. An expanding literature documents the negative outcomes of ACEs across the lifespan (Burke Harris, 2014), including stress-proneness, a greater tendency to develop PTSD in response to traumatic stress (Fletcher & Schurer, 2017), and even a higher tendency to contract certain diseases (Ballard et al. 2015). Youth who have experienced high levels of adversity face academic and social risks, including conduct problems, perpetration of violence (Maneta, Cohen, Schulz, & Waldinger, 2012), subsequent adult victimization (Briere & Elliott, 2003), juvenile delinquency (Stouthamer-Loeber, Loeber, Homish, & Wei, 2001), high-risk sexual behavior (Senn & Carey, 2010), and other risk-taking behaviors during adult life (Shiner, Allen & Masten, 2017).

A body of research has addressed the relationship between ACEs and personality disorders (PDs). Emotional abuse is strongly related to the development of PDs (Hengartner, Ajdacic-Gross, Rodgers, Müller, & Rossler, 2013; Raposo, Mackenzie, Henriksen, & Afifi, 2014), and is more common among women (Waxman, Fenton, Skodol, Grant, & Hasin, 2014). According to Waxman et al. (2014), physical neglect is strongly linked with paranoid, narcissistic, borderline, and schizotypal PD, while emotional neglect is linked to paranoid, avoidant, and schizoid PD. Hengartner, Ajdacic-Gross, Rodgers, Müller, and Rossler (2013) linked the emergence of PD in adulthood to specific types of abuse and neglect sustained during childhood. Unfortunately, efforts to uncover relationships between PDs and their developmental antecedents have been complicated by well-documented problems with the categorical model of PDs (Widiger, 1993; Trull & Durrett, 2005), in particular diagnostic overlap and the predominance of PD-NOS. For this reason, the focus of research linking ACEs and personality pathology has shifted toward dimension frameworks (Costa & McCrae, 1990).

A growing number of studies have chosen the Five Factor Model (FFM) as the dimensional framework from which to explore effects of ACEs on personality. However, these studies are often focused on either a particular form of abuse or maltreatment, rather than on some comprehensive list of ACEs. An overview of this research (Allen & Lauterbach, 2007; Moran et al., 2011; Hengartner et al., 2015; Fletcher & Schurer, 2017) is presented in Table 1.

Type of Abuse, Neglect, or Maltreatment	Neuroticism	Extraversion	Openness	Agreeableness	Conscientiousness
Physical abuse	Higher[3]		Higher[3]	Lower[3]	
Emotional abuse	Higher[3]	Lower[3]	Higher[3]	Lower[3]	Lower[3]
Sexual Abuse	Higher[2,3,4]			Lower[2]	
Childhood abuse history	Higher[1]		Higher[1]		
Physical neglect	Higher[3]			Lower[3]	
Emotional neglect	Higher[3]	Lower[3]		Lower[3]	Lower[3]
Parental neglect	Higher[4]		Lower[4]		Lower[4]

Table 1: Overview of research findings on the relationship of ACEs and the FFM (Allen & Lauterbach, 2007[1]; Moran et al., 2011[2]; Hengartner et al., 2015[3]; Fletcher & Schurer, 2017[4])

Allen and Lauterbach (2007) found that higher Neuroticism and higher Openness suggested a history of childhood abuse. Moran, et al. (2011) found childhood sexual abuse to be associated with higher Neuroticism and lower Agreeableness. Hengartner et al., (2015) focused on emotional abuse and neglect, physical abuse and neglect, and sexual abuse. Fletcher and Schurer (2017) explored parental maltreatments such as sexual abuse and parental neglect. In all of these studies, higher levels of Neuroticism related to all forms of childhood adversities investigated. However, there are many types of abuse, neglect, and maltreatment. Clearly, it is necessary to evaluate the relationship between some comprehensive list of ACEs and some comprehensive measure of personality. Otherwise, a complete overview of the adult consequences of ACEs become bogged down by the piecemeal nature of the research.

A similar situation afflicts research oriented toward the adult consequences of childhood abuse in the Philippines. While much research could be cited, a comprehensive overview is hard to obtain. In the Philippines, child maltreatment research has emphasized abuse and neglect. Sarmiento and Rudolf (2017) indicated that the rate in which young Filipino adults experience minor physical violence during childhood is four out of five, while for severe physical violence it is one out of four. Based on the reports from parents and children in the cross-cultural study conducted by Lansford et al., (2010), the Philippines has one of the highest frequencies and incident rates of mild corporal punishment in the world. This is due to the belief that respect and obedience to authority will result from strategies such as corporal punishment (Luster, Rhoades, & Haas, 1989). Philippine legislation encourages and sanctions parents physically disciplining their children (Appleton & Stanley, 2011). Certain parts of The Child and Youth Welfare Code of 1974 and the Family Code of 1987 imply the use of corporal punishment (Sarmiento & Rudolf, 2017). Most common methods of punishment include pinching, followed by beatings, with a tendency to punish sons more harshly than daughters (Sanapo & Nakamura, 2011). One of the reasons for these punishments include being perceived as naughty or disobedient by their caretakers, which could mean anything from being a disruption in adult conversation by making loud noises, to fighting with siblings (Sanapo & Nakamura, 2011). Numerous researchers have shown that physical punishment affects children's development negatively (Durrant & Ensom, 2012). Although punishment is considered a traditional means to discipline children, no study has proven that physical punishment enhances developmental health in any way. As of 2014, a legislative bill encouraging positive forms of discipline that do not involve any form of violence is still pending for public hearing (Sarmiento & Rudolf, 2017). The prevalence and perceived norm of corporal punishment as a disciplinary method in the Philippines indicates a wide exposure to ACEs for Filipino adults.

The purpose of the present study is to examine the relationship between personality traits and ACEs directly, in order to determine which ACEs are significantly linked with the major factors of the FFM within Filipino culture. Rather than examine the adult effects of a particular form of abuse, we seek to establish relationships between an entire taxonomy of abuse types, as represented by the ACE International Questionnaire, and a dimensional model of the total personality, as represented by the FFM. We do not examine intervening mechanisms that might link specific instances or kinds of abuse with specific FFM factors. Nor do we propose an overarching theory that might tie the existence of abuse in childhood more directly to the consequences for personality in adulthood through mediating effects. Instead, our purpose is to document the relationships that exist across the total domains of abuse and personality, in order to provide as comprehensive a picture as possible regarding the effects of childhood abuse on the whole person.

Method

The point-biserial correlation was used to document relationships between the FFM factors and specific ACEs.

Participants

Participants were a convenience sample of 717 Filipinos residing in the Philippines, totaling 467 (65.13%) females and 250 (34.87%) males, ranging in age from 18 to 87 years ($M = 31.29$; $SD = 13.53$). Through the help of acquaintances and their referrals, willing participants were recruited to complete the ACE-IQ and NEO-FFI-3 measures (described below). Subjects who were not ethnically Filipino (i.e., subjects from other Southeast Asian countries) were excluded. A total of 441 participants completed college or university, 255 participants finished secondary school or high school, and the remainder completed only primary school. No remuneration was given for the voluntary participation.

Research Instruments

Adverse Childhood Experiences International Questionnaire (ACE-IQ). Developed by the World Health Organization (WHO), the ACE-IQ measures adversities experienced during the first 18 years of life. The ACE-IQ questions are sorted into 13 categories, namely physical abuse, emotional abuse, contact sexual abuse, living with a household member who was also a substance abuser, living with a household member who was incarcerated, living with a household member who was mentally ill or suicidal, violence against household members, having one or no parents, parental separation or divorce, emotional neglect, physical neglect, bullying, community violence, and collective violence. Each category represents a type of ACE.

Initially, the ACE-IQ was field tested in seven countries including China, the Former Yugoslav Republic of Macedonia, Philippines, Thailand, Saudi Arabia, South Africa, and Vietnam. Currently, the test is still being evaluated for its reliability and validity. Kazeem (2015) examined its validity in Nigeria and showed that the ACE-IQ and Childhood Trauma Questionnaire (Bernstein & Fink, 1988) have concurrent validity. Excluding the demographic items of the ACE-IQ, the same study yielded an internal consistency and Cronbach's alpha value of .80 (Kazeem, 2015). Meinck, Cosma, Mikton, and Baban (2017) noted that since its release, the ACE-IQ has been used in Kenya (Goodman, Martinez, Keiser, Gitari, & Seidel, 2017), Brazil (Soares et al., 2016), Saudi Arabia (Almuneef, Qayad, Aleissa, & Albuhairan, 2014), Iraq (Al-Shawi & Lafta, 2015) and Vietnam (Tran, Dunne, Vo, & Luu, 2015). A Cronbach alpha reliability measure of .89 for the ACE-IQ was obtained in the present study.

NEO Five-Factor Inventory-3 (NEO-FFI-3). The NEO-FFI-3 is the brief version of the NEO-PI-3, which is used to measure the FFM of personality developed by Costa and McCrae (2010). The self-report version totals 60 items, twelve for each factor. Sample items include "I often feel tense and jittery" (Neuroticism), "I really enjoy talking to people" (Extraversion), "I often enjoy playing with theories or abstract ideas" (Openness to Experience), "I try to be courteous to everyone I meet" (Agreeableness), and "I waste a lot of time before settling down to work" (Conscientiousness). Items are answered on a five-point Likert scale from Strongly Disagree to Strongly Agree. The internal consistency of each factor scale ranges from acceptable to high (α = .78 - .86). In the current study, the Cronbach's alpha reliabilities yielded for each factor were .77 for Neuroticism, .68 for Extraversion, .62 for Openness, .64 for Agreeableness, and .81 for Conscientiousness.

Procedure

Ethics approval was obtained from the College of Science Review Board of the University of Santo Tomas after which participants were sourced through convenience sampling from various locations in Metro Manila, Philippines (e.g. Manila, Quezon City, Mandaluyong City). After completing the informed consent, participants were given the questionnaires and were instructed to answer as honestly as possible, there being no right or wrong answers. Test administration lasted 50 to 60 minutes in comfortable and distraction-free environment. Data sheets were inspected for completeness when turned in and participants were advised to complete any missing responses. All of the selected participants possess a Filipino ethnicity, and in consequence, have experienced and embraced the Filipino culture. Subsequently, the data gathered were then encoded and underwent statistical analysis with SPSS Version 23.

Results

The total ACE score is considered to be the sum of the scores for each category, each of which is scored either 0 or 1. For a score of 1 in any ACE category, the participant is required to have experienced the particular event "many times." The total possible ACE score thus ranges from 0 to 13, depending on the number of types of ACEs experienced. The total ACE score averaged 2.37, with an SD of 1.66, indicating that each subject experienced an average of 2.37 adverse childhood events. As shown in Table 2, total ACE score was significantly correlated with Neuroticism (*M*=24.49*, SD*=7.03), Extraversion (*M*=28.04*, SD*=5.45), Agreeableness (*M*=30.15*, SD*=5.46), and Conscientiousness (*M=31.30, SD=6.58*), but not with Openness to Experience (*M*=29.92*, SD*=5.02).

	The Five Factors				
	Neuroticism	Extraversion	Openness	Agreeableness	Conscientiousness
Adverse Childhood Experience	.190**	-.140**	.011	-.104**	-.241**

Note: N = 717; ***p* < 0.01

Table 2: Pearson Correlation of ACE Total Score with the Five Factor Model Traits

In an effort to understand the data at a more fine-grained level, Table 3 shows the point-biserial correlation between the 13 ACE categories and the FFM traits. With the exception of community violence, each ACE category was significantly correlated with at least one FFM trait. Four ACE categories, notably physical abuse, emotional abuse, having one or no parents / parental separation / divorce, and emotional neglect, were significantly correlated with four FFM factors. Five ACE categories were significantly correlated with three FFM factors.

To better understand which personality factors are most impacted by ACE categories, the number of significant correlations by factor were counted. Conscientiousness was significantly correlated with ten ACE categories. Neuroticism and Openness were significantly correlated with eight ACE categories. Agreeableness was significantly correlated with six ACE categories. Extraversion was correlated with four ACE categories.

	The Five Factor Model				
	Neuroticism	Extraversion	Openness	Agreeableness	Conscientiousness
Physical abuse	.100**	-.097**	.072	-.018**	-.147**
Emotional abuse	.283**	-.114**	.210**	.006	-.189**
Contact sexual abuse	.125**	-.137**	.023	-.064	-.187**
Alcohol and/or drug abuser in the household	.013	-.028	-.079*	-.043	-.048
Incarcerated household member	-.006	-.039	-.011	-.098**	-.079*
Someone chronically depressed, mentally ill, institutionalized, or suicidal	.081*	-.051	.088*	-.076*	-.122**
(Mother) Household member treated violently	.158**	-.050	.118**	-.024	-.149**
One or no parents, parental separation or divorce	-.190**	.067	-.121**	.135**	.179**
Emotional neglect	.214**	-.115**	-.010	-.128**	-.159**
Physical neglect	-.005	-.038	-.170**	.044	-.023
Bullying	.149**	-.030	.141**	-.035	-.131**
Community violence	-.007	-.007	-.014	-.020	-.012
Collective violence	-.001	-.044	-.141**	-.180**	-.117**

Note: N = 717; * $p < 0.05$, ** $p < 0.01$

Table 3: Correlation of the 13 ACE Categories and Five Factor Model traits

Discussion

The current study explored the relationship between ACEs and the FFM factors. As noted, most research examining the effects of childhood abuse on the adult personality have focused on specific kinds of abuse or particular dimensions of personality. Effects designed to relate the total domain of abuse types to some comprehensive set of personality factors has been lacking. As such, a comprehensive overview of the effects of abuse is also lacking.

The total ACE score was related to four FFM factors (excluding Openness), and most strongly related to Conscientiousness (r = -.241) and Neuroticism (r = .190). Broadly speaking, it appears that ACEs strongly impact these two domains of personality, with secondary impacts in Extraversion (r = -.140) and Agreeableness (r = -.104). Within the FFM, each factor is

believed to have a more positive or healthy pole and a more negative or unhealthy pole (Costa & McCrae, 1992). Neuroticism is the unhealthy pole of Neuroticism versus Emotional Stability. Introversion is the unhealthy pole of Extraversion versus Introversion. Rigidity is the unhealthy pole of Openness versus Rigidity. Antagonism is the unhealthy pole of Agreeableness versus Antagonism. Disinhibition is the unhealthy pole of Conscientiousness versus Disinhibition. Based on our data, ACEs appear to consistently move personality factor scores in the direction of personality pathology, with the strongest effects on Conscientiousness and Neuroticism.

An examination of Table 3, however, shows that no simple rule determines the breadth of personality impact for a particular ACE. In our study, only one ACE, community violence, was not significantly correlated with any personality factor. Two ACEs were correlated with only one factor, notably alcohol and/or drug abuser in the household and physical neglect, both of which impacted Openness. All other ACEs impacted two or more factors, and four ACEs were correlated with four personality factors. Five ACE categories were significantly correlated with three FFM factors. Because 9 of 13 ACEs impact three or more FFM factors, we can say that, as a general rule, ACEs exert a broad impact on personality, moving scores in the direction of personality pathology. The possible exception to this generalization is Openness. In our sample, the total ACE scores obfuscated the relationship between ACEs and Openness. We say this because some ACEs were positively correlated with Openness, while others were negatively associated with Openness, effects which washed out when the total ACE score was correlated with Openness. Examining the data at a more fine-grained level, then, we conclude that ACEs affect the total personality, and that Openness is no exception.

Findings from the current literature relating childhood abuse and adult personality pathology should be evaluated with the broad effects of ACEs in mind. Below, we discuss some of the existing literature that links childhood abuse to the FFM. Note that the breadth of the available literature supports diverse and extensive effects of ACEs on adult personality, exactly what we observed in the current study.

Conscientiousness was significantly correlated with 10 of 13 ACE categories. Fletcher and Schurer (2017) observed that children who experienced parental neglect scored low in Conscientiousness. In their study, Conscientiousness was one of the personality traits that was "significantly and robustly" predicted by ACEs. Hengartner et. al. (2015) found low Conscientiousness to be strongly related to emotional abuse and neglect. Likewise, Lee and Song (2017) found that Conscientiousness decreases as emotional abuse increases, with the same relationship also applying to physical abuse. Mathews, Kaur, and Stein (2008) found that emotional neglect and sexual abuse during childhood were found to be significantly correlated with lower conscientiousness. McElroy and Hevey (2014) found low Conscientiousness to be associated with higher stressors and lower well-being. Bogg and Roberts (2004) explored the correlation of Conscientiousness and violent behaviors and outcomes such as incarceration, domestic violence, and community violence that spans interpersonal aggression. Conscientiousness had an inverse relationship with all these violent behaviors.

According to Hengartner et al. (2015) Neuroticism is related to all forms of childhood maltreatment, some of which include physical abuse, emotional abuse, and neglect. Hovens, Giltay, van Hemert and Penninx (2016) found that childhood maltreatment led to increased hopelessness, rumination, and an external locus of control. Frequent sexual abuse and parental neglect were also found to have a significant relationship with Neuroticism (Fletcher & Schurer, 2017). Shiner et al. (2017) stated that experiences of adversity from childhood through

adolescence and adulthood are associated with increased Neuroticism. In the current study, Neuroticism was significantly correlated with 8 of 13 ACEs. One ACE category was found to have an inverse relationship with Neuroticism, namely one or no parents, parental separation or divorce. This finding stands in contrast to most research that states parental neglect has a positive association with Neuroticism (Fletcher & Schurer, 2017). The reasons for this are unclear.

According to Hovens, et.al. (2016), ACEs are related to higher Introversion. Hengartner et al. (2015) found Extraversion to be correlated with childhood abuse and neglect. Huh, Kim, Yu, and Chae (2014) argued that among the ACEs, physical abuse, emotional abuse, sexual abuse, and emotional neglect contribute to dominant/controlling and intrusive/needy interpersonal patterns leading to a risk of entering abusive or traumatic relationships in adulthood. A number of studies have found that childhood abuse leads to strained intimate relationships later in life (Ducharme, Koverola, Battle, 1997; Roche, Runtz, & Hunter, 1999; Davis, Petretic-Jackson, & Ting, 2001; Hankin, 2005). Sexually abused children were found to be more introverted, possessing a low self-concept, and to be more anxious compared to non-sexually abused children (Deb & Mukherjee, 2009). In line with these studies, Extraversion was found to be significantly correlated with 4 of 13 ACEs in the current study, which are physical abuse, emotional abuse, sexual abuse, and emotional neglect.

Carver, Johnson, McCullough, Forster, and Joorman (2014) stated that, ACEs lead to lower levels of Agreeableness (higher Antagonism), specifically emotional abuse (Hengartner et al., 2015) and sexual abuse (Moran et al., 2011). According to Belsky, Steinberg, and Draper (1991) and Belsky (2012), early adversity causes the victim to think that resources will be unavailable, and people are untrustworthy. Furthermore, Conger, Cui, Bryant, and Elder (2000) found that children tend to learn problematic interpersonal behaviors through growing up in homes with marital discord, possibly affecting their views regarding romantic relationships (Pickhardt, 2015). While both death of a parent and divorce influence child personality and development, it has been found that the latter leads to a more profound impact (Prevoo & ter Weel, 2014). Moreover, children who have experienced parental incarceration are more prone to manifesting aggressive and antisocial behavior (Murray, Farrington, & Sekol, 2012; Geller, Garfinkel, Cooper, & Mincy, 2009). Persons with incarcerated mothers or fathers during childhood were more susceptible to criminal justice involvement as adults (Gius, 2016; Huebner, & Gustafson, 2017).

In contrast to previously published findings (e.g., Pos et al., 2016), the current study found no significant relationship between total ACE score and Openness. Examining the pattern of correlations with specific ACEs, however, shows that some are significantly positive, and some are significantly negative. Thus, it is the net effect across all ACEs which results in a non-significant correlation between total ACE score and Openness. Specifically, emotional abuse, living with someone who is chronically depressed, mentally ill, institutionalized, or suicidal, a household member treated violently, and being a victim of bullying were found to increase Openness, while having an alcohol and/or drug user in the household, having one or no parents, parental separation, or divorce, physical neglect, and collective violence were found to decrease Openness. Obviously, then, Openness is strongly influenced by ACEs, but the specific effects are concealed by looking only at the correlation of Openness with total ACE score. Note that a similar effect was observed in Table 1, where parental neglect resulted in lower Openness, but physical abuse, emotional abuse, and having a childhood abuse history increased Openness.

Readers may wonder what the implications are for stakeholders at the individual, community, and societal levels. Stakeholders at all levels must be aware that there is no simple one-to-one relationship between childhood abuse and adult personality. Results show the effects of ACEs to be broadly toxic to the development of the person, but particularly to Conscientiousness and Neuroticism. In these two factors, individuals with ACEs are likely to sustain broad deficits. Both factors are concerned with regulation. Conscientiousness may be conceptualized as regulation of the self in accordance with the expectations of others and society. Neuroticism may be conceptualized as regulation of the emotional aspects of self. Since the effects of ACEs overflow Neuroticism and Conscientiousness, however, it is important to understand, for any particular individual, that extreme personality functioning on any of the five factors could have its precedent in abusive childhood experiences. Mental health professionals should be alert to this possibility and actively inquire about such experiences with their clients.

Limitations

The current study is not without limitations. The alpha internal consistency values for Extraversion, Openness, and Agreeableness were below the desirable value of .70, indicating that such traits may have been affected by extraneous variables. The ACE categories are scored as dichotomous variables, which limits statistical power when correlated with the continuous FFM score. Using a culture fair or culture specific personality instrument which encapsulates the Filipino experience might better capture the "Filipino personality" and thus, render more accurate results and relationships with childhood adversity. An adequate sample coming from all over the Philippines, instead of predominantly from Luzon and Mindanao, would also be beneficial to the generalizability of the study.

Finally, at the level of the individual, not all incidents result in detrimental effects. Mittal, Griskevicius, Simpson, Sung, and Young (2015) found that people raised in unpredictable environments were still able to profit from new experience, a sign of resilience. Another entire body of research has investigated the phenomenon of post-traumatic growth (Tedeschi & Calhoun, 2004). Such findings do not, in any circumstance, applaud adversity but rather shed some light on the fact that some individuals do transcend adversity and choose their own destiny (Hustad, 2017). Future research could consider investigating ethnic or cultural background as a source of variations in Filipino personality traits. Additionally, exploring other variables that may be a factor in the present results, such as the respondents' gender, age, socioeconomic status, educational background, or even religion will be a way of bridging the gap in knowledge.

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