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Kory Floyd

Affectionate communication is a prosocial behavior that exhibits a stress-buffering effect, ameliorating the influence of stressors on stress reactivity. Whereas previous research has demonstrated such an effect on physiological and health-related reactions to acute stressors, the current study explores the ability of affectionate communication to moderate the influence of early childhood adversity on adult mental well-being. Using a Census-matched probability sample of U.S. American adults (N = 727), this study documents that both depressive symptoms and stress are inversely related to trait affectionate communication and that trait affectionate communication moderates the effect of adverse childhood experiences on these outcomes.

Keywords: Adverse childhood experiences; affectionate communication; affection exchange theory; depression; stress

Few impairments to mental well-being are as prevalent in the population as depression and stress (Hammen, 2005). Major depressive disorder is the most commonly diagnosed psychiatric disorder in the United States (Gotlib & Hammen, 2009), with a lifetime prevalence rate—as documented across 30 countries—of 10.8% (Lim et al., 2018). Depression presents with a range of possible symptoms, from anhedonia, unexplained weight changes, and insomnia or hypersomnia to fatigue, feelings of worthlessness, and decreased concentration (American Psychiatric Association,

Correspondence to: Kory Floyd, Department of Communication, University of Arizona, PO Box 210025 Tucson, Az 85721, United States E-mail: koryfloyd@arizona.edu

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2013), and is a primary predictor of attempted suicide (Nanayakkara, Misch, Chang, & Henry, 2013). Stress is the brain and body's response to perceived threat (Fink, 2010). Stress itself is not a psychopathology, but individuals can be diagnosed with and treated for acute stress disorder, a condition that typically follows an overwhelming traumatic event (American Psychiatric Association, 2013). Stress can manifest with a variety of physical symptoms, including muscle tension, headaches, immunosuppression, and pain, and with a variety of psychological symptoms, such as irritability, sadness, and panic attacks (Cleveland Clinic, 2021). Tangri (2003) projected that stress costs the U.S. economy more than $300 billion annually in the form of absenteeism, lost productivity, employee turnover, accidents, workers' compensation awards, and medical, legal, and insurance fees.

The significant quality-of-life impairments imposed by depressive symptoms and stress make relevant any effective means of diminishing their prevalence. In the social sciences, substantial research has documented a protective effect of prosocial communication, whereby social support and strong social bonds ameliorate the influence of threatening events on health outcomes, including mental health outcomes such as depressive symptoms and stress (e.g., Cohen, Janicki-Deverts, Turner, & Doyle, 2015). One category of threatening events that is commonly associated with health impairments is the experience of early childhood adversity. This study examines the protective effect of one form of prosocial communication—the communication of affection—for minimizing the deleterious effects of adverse childhood experiences on depressive symptoms and stress in adulthood.

The present study is guided by affection exchange theory, introduced subsequently. This review then explains the efficacy of affectionate communication as a stress buffer and reviews early childhood adversity as a significant stressor, before articulating the study's three hypotheses.

Affection Exchange Theory

Affection exchange theory (AET: Floyd, 2006, 2019) offers an explanation for how and why humans express affectionate communication and with what consequences. AET is described as neo-Darwinian because it assumes that survival and procreation are superordinate human goals, and the theory's third postulate, in particular, proposes that affectionate communication is adaptive with respect to those goals. Multiple mechanisms are explicated linking affectionate behavior to survival and procreation, and among these is the proposal (from subpostulate 3d) that expressing and receiving affection covary with regulatory physiological pathways for stress (see Floyd, 2019). One such regulatory function that has been identified and studied for affectionate communication and several other prosocial behaviors is a stress-buffering effect, described next.

Affectionate Communication as a Stress Buffer

AET shares conceptual space with Cohen and Wills's (1985) *stress-buffering hypothesis* by predicting that affectionate communication buffers individuals against the negative effects of stressors. Cohen and Wills originally explicated their prediction with respect to social support, offering that social support is health-supportive in part because it ameliorates the deleterious physical and mental effects of stressful events. For instance, if two people face the same stressor (e.g., the threat of social or political unrest), the person whose life is characterized by less social support would experience a greater increase in physiological and emotional stress arousal, whereas these reactions would be relatively attenuated in the person with greater social support (other things being equal). The magnitude of the stress response is relevant for wellness because exaggerated stress reactions contribute to hypertension and associated organ damage (Manuck, Kasprowicz, & Muldoon, 1990) as well as to the progression of cardiovascular disease (Lynch, Everson, Kaplan, Salonen, & Salonen, 1998).

Whereas much research on the stress-buffering hypothesis has focused on the benefits of social support (e.g., Moskowitz, Vittinghoff, & Schmidt, 2013; Rafaelli et al., 2013), studies have also demonstrated that affectionate communication buffers individuals against the negative effects of stressors. For instance, Grewen, Anderson, Girdler, and Light (2003) found that sharing hand holding and hugging with a romantic partner for ten minutes attenuated blood pressure reactivity to a public speaking stressor, relative to a non-contact control group. Pauley, Floyd, and Hesse (2015) later demonstrated a similar cardiovascular buffering effect for both romantic partners and other-sex platonic friends, indicating that the stress-ameliorating advantage is not unique to romantic pair bonds (see also Cohen et al., 2015). In a separate study, Floyd, Pauley, and Hesse (2010) found that even trait-level affectionate behavior—an index of how much affectionate communication people give and receive typically—predicted reduced cortisol arousal to laboratory stressors, suggesting that affectionate communication is stress buffering even when not exchanged immediately before one encounters a stressor (see also Floyd et al., 2007).

Stressors come in multiple forms, of course. Some are acute, meaning they are severe and sudden in onset, such as an unexpected job loss or a traumatic injury. Others are chronic, meaning they either are protracted (such as a chronic illness) or they constantly recur (such as repeated marital conflict). The latter category includes stressful events encountered at previous points in time that, although they no longer pose an imminent threat to well-being, nonetheless continue to cause distress. Multiple studies have confirmed that such events include adverse childhood experiences, described subsequently.

Adverse Childhood Experiences

A formidable empirical literature examines adverse childhood experiences (ACE) as comprising a wide range of negative events that occur at a young age. These

commonly encompass the broad categories of abuse, neglect, and household dysfunction, including such specific experiences as mental illness or substance abuse in the household, parental separation or divorce, domestic violence toward a child's mother, and incarceration of a family member (DeLisi et al., 2017; Lackova Rebicova et al., 2019). As might be expected, ACE scores correlate strongly with behavioral problems, academic challenges, and likelihood of diagnosis for attention deficit hyperactivity disorder (ADHD) during childhood (Danese & McEwan, 2012; Hunt, Slack, & Berger, 2017; Jiminez, Wade, Lin, Morrow, & Reichman, 2016). Perhaps more notable, however, multiple studies have demonstrated that ACE has a dose-response relationship with mental health deficits in adulthood, including substance abuse disorders and psychopathy (Bowen, Jarrett, Stahl, Forrester, & Valmaggia, 2018), anxiety disorders (Slopen et al., 2010), and attachment dysfunction (Thomson & Jaque, 2017), meaning that the more adverse childhood experiences an individual encounters, the greater that individual's likelihood of suffering one or more of these problems. Moreover, ACE scores predict adult depressive symptoms (Anda et al., 2002; Chapman et al., 2004; Danese et al., 2009). In a meta-analysis, Petruccelli, Davis, and Berman (2019) found an odds ratio of 4.78 (95% CI: 4.55, 5.03) for depression for individuals who experienced four or more adverse childhood experiences. Similarly, ACE scores predict adult stress (Hammett, Karney, & Bradbury, 2020; Karatekin, 2018; Nurius, Green, Logan-Greene, & Borja, 2015). In a study of college undergraduates, for instance, Karatekin and Ahluwalia (2020) found a significant moderate relationship (r = .30) between ACE scores and stress.

Various theoretical models have been proposed to explain the association between childhood adversity and adult mental impairment. One proposal is that ACE induces early changes in stress response systems, leading to impairments in the ability to maintain homeostasis (e.g., Hertzman & Boyce, 2010). A second possibility is that the effects of stressors are cumulative, so the outcomes of early life stressors accumulate and continue to cause distress later in life (Mäkinen, Laaksonen, Lahelma, & Rahkonen, 2006). Kendall-Tackett (2002) even proposed that early life adversities lead to maladaptive coping mechanisms (e.g., abusing alcohol to cope with childhood distress) and that those mechanisms impair health in adulthood. As Karatekin and Ahluwalia (2020) pointed out, these theoretical mechanisms are not necessarily mutually exclusive and may be difficult to separate experimentally. Nonetheless, they all advance the prediction that adverse childhood experience is positively associated with health impairments in adulthood.

Hypotheses

Evidence confirms that adverse childhood experience functions as a stressor in adulthood. Affection exchange theory proposes that affectionate behavior can buffer individuals against the deleterious effects of stressors, and multiple studies have demonstrated that buffering effect with respect to acute stressors. The question investigated in the present study is whether affectionate communication similarly

buffers individuals against the negative effects of adverse childhood experiences. As noted, the focus of this study is on the mental health outcomes of depressive symptoms and stress.

Among AET's most commonly tested predictions is that affectionate communication is significantly associated with well-being. A recent meta-analysis confirmed that the association between affectionate communication and health is moderately strong (r = .23; Hesse et al., 2020), and with some exceptions (e.g., Floyd, Hesse, Boren, & Veksler, 2014), affectionate communication is *positively* associated with well-being. The same hypothesis is derived here as an inverse association between affectionate behavior and mental distress:

> H1: Affectionate communication is inversely associated with (a) depressive symptoms and (b) stress.

As detailed above, a variety of theoretical mechanisms also suggests a main effect of ACE scores on mental wellness. Specifically anticipated is that childhood adversity is directly associated with mental distress in adulthood:

> H2: ACE scores are positively associated with (a) depressive symptoms and (b) stress.

The principal prediction, however, is that affectionate communication exerts a buffering effect, protecting people from the deleterious influence of ACE scores on mental distress, an effect that would manifest in the form of moderation:

> H3: Affectionate communication moderates the positive association between adverse childhood experiences and (a) depressive symptoms and (b) stress, such that the positive association is attenuated when affectionate communication is higher.

Method

Procedure and Participants

Participants were recruited via the online participant recruitment portal Prolific. To be eligible for the study, participants had to be at least 18 years old and able to read and write in English. Eligible participants completed and submitted an online questionnaire in exchange for $1.90US, which was determined based on the estimated time to completion of 7.5 minutes and which equated to an average per-hour rate of $14.56US. The sample was Census-matched to the United States adult population with respect to gender, age, ethnicity, and racial categories.

The study's hypothesis and analytical strategy were preregistered with Open Science Framework on February 21, 2021, and the study was approved by the university's institutional review board.[1]

A sample size of 750 participants was originally recruited. Among those, 23 participants failed embedded attention checks, resulting in a sample of 727 comprising a Census-matched probability sample of U.S. American adults.[2] With respect to

gender, 364 identified as female, 352 as male, 3 as transgender, 3 as "other gender," and 1 did not report. Participants ranged in age from 18 to 89 years, with an average age of 46.32 years (*SD* = 15.91). With respect to ethnicity, 5.3% reported identifying as Hispanic and 94.7% as non-Hispanic. Most (77.6%) identified as white, whereas 12.9% identified as Black/African American, 7.0% as Asian, 4.4% as Latino/a, 1.5% as Native American or Aleut, 0.3% as Arab, 0.1% as Native Hawaiian/Pacific Islander, and 1.1% as having other racial identities.[3]

With respect to education, 21.5% had a high school diploma or less, 6.7% had a vocational or technical school diploma, 12.4% had an associate degree, 39.4% had a baccalaureate degree, and 20% had a graduate degree. Participants came from 49 of 50 U.S. states and the District of Columbia. At the time of the study, most (59.0%) were married or in a significant long-term relationship, whereas 28.1% were unmarried, 10.4% were divorced, and 2.5% were widowed. Most of the participants (87.1%) identified as heterosexual or straight, whereas 5.0% identified as bisexual, 2.1% as gay, 2.1% as asexual, 1.4% as queer, 1.2% as lesbian, 1.0% as pansexual, and 0.3% as having another sexual orientation.

An a priori power analysis (G*Power 4; Faul et al., 2009) indicated that the target sample size of 750 provides in excess of 95% power to identify a small effect size (f^2 = .02), using a multiple regression analysis and assuming a .05 probability level.[4]

Measures

Affectionate communication (McDonald's ω = .96)[5] was measured with the 16-item Trait Affection Scale (TAS; Floyd, 2002). TAS asks participants to report how demonstrative they generally are of their affection for others and how much affection they generally received from other people by indicating their level of agreement with statements such as "Anyone who knows me would say I'm pretty affectionate," "I am always telling my loved ones how much I love them," and "People are always telling me that they like me, love me, or care about me." Level of agreement was assessed on a 9-point scale anchored with 1 (*strongly disagree*) and 9 (*strongly agree*). TAS has been extensively validated and evidences multiple forms of psychometric adequacy (for extended discussion, see Floyd, 2019).

Depressive symptoms (ω = .92) were assessed with the Iowa Short Form (Kohout, Berkman, Evans, & Cornoni-Huntley, 1993) of the Center for Epidemiological Studies Depression (CES-D) scale (Radloff, 1977). The 11-item measure asks participants how frequently they experience symptoms such as loss of appetite, changes in sleep patterns, or self-dislike.

Stress (ω = .93) was measured with the 14-item Stress Scale developed by Cohen, Kamarch, and Mermelstein (1983). Items ask participants how often, in the past month, they have experienced stress, nervousness, anger, difficulty coping with irritations, and difficulty dealing with changes, among other things.

Adverse childhood experiences were measured with the ten-item Adverse Childhood Experiences (ACE) Questionnaire (Felitti et al., 1998). The questionnaire,

Table 1 *Descriptive Statistics and Intercorrelations of Study Variables* (N = 727)

	High	Low	*M*	*SD*	1	2	3
1. Affectionate comm.	9.00	1.00	5.56	1.83	–		
2. Depression	8.70	1.00	3.77	1.82	–.28*	–	
3. Stress	8.90	1.00	3.99	1.82	–.28*	.87*	–
4. Adverse childhood exp.	10.00	0.00	1.99	2.14	–.07	.30*	.24*

Notes. Affectionate communication, depression, and stress were measured on 9-point scales; ACE was measured on a 10-point scale. In all cases, higher scores index greater levels of the variable. *p < .01 (two-tailed).

designed to document traumatic events experienced in childhood (i.e., prior to the age of 18), asks a series of yes/no questions related to whether participants feared for their safety, were insulted or psychologically abused, were sexually abused or threatened with abuse, experienced parental separation or divorce, experienced the incarceration of a family member, and related traumas. Each affirmative answer is coded as "1" and each negative answer is coded as "0," and the responses are summed to generate a total ACE score.

Descriptive statistics and intercorrelations of study variables appear in Table 1.

Results

Preliminary and Descriptive Analyses

Prior to testing the hypotheses, potential demographic control variables were identified. Depressive symptoms did not differ as a function of gender, but were negatively associated with age, r (725) = −.34, p (two-tailed) < .001. Women (M = 4.13, SD = 1.87) reported higher stress than did men (M = 3.83, SD = 1.74),[6] Welch's t (717.67) = 2.62, p (two-tailed) = .024, Cohen's d = .17.[7] Stress was negatively associated with age, r (725) = −.36, p (two-tailed) < .001. Neither depressive symptoms nor stress varied as a function of race or ethnicity.

For descriptive purposes, the frequencies of each of the ten ACE categories were computed. The most frequently reported adverse childhood experience, at 35.6%, was separation or divorce of parents; the least frequent, at 4.8%, was incarceration of a household member. These frequencies appear in Table 2.

ACE scores were negatively associated with age, r (725) = −.09, p (two-tailed) = .02. Women (M = 2.40, SD = 2.30) reported significantly higher ACE scores than did men (M = 1.47, SD = 1.83), Welch's t (692.52) = −6.04, p (two-tailed) < .001, d = .45. There were no significant differences in ACE scores as a function of race or ethnicity.

Table 2 Percentages of Individual Adverse Childhood Experiences

Item	Yes (%)	No (%)
Were your parents ever separated or divorced?	35.6	63.3
Did a parent or other adult in the household often or very often swear at you, insult you, put you down, or humiliate you? OR act in a way that made you afraid that you might be physically hurt?	29.3	70.2
Did you often or very often feel that no one in your family loved you or thought you were important or special? OR your family didn't look out for each other, feel close to each other, or support each other?	28.2	71.3
Was a household member depressed or mentally ill, or did a household member attempt suicide?	28.2	71.3
Did you live with anyone who was a problem drinker or alcoholic or who used street drugs?	26.5	72.9
Did a parent or other adult in the household often or very often push, grab, slap, or throw something at you? OR ever hit you so hard that you had marks or were injured?	15.1	84.5
Did an adult or person at least 5 years older than you ever touch or fondle you or have you touch their body in a sexual way? OR attempt or actually have oral, anal, or vaginal intercourse with you?	13.9	85.7
Was your mother or stepmother often or very often pushed, grabbed, slapped, or had something thrown at her? OR sometimes, often, or very often kicked, bitten, hit with a fist, or hit with something hard? OR ever repeatedly hit for at least a few minutes or threatened with a gun or knife?	8.5	91.2
Did you often or very often feel that you didn't have enough to eat, had to wear dirty clothes, and had no one to protect you? OR your parents were too drunk or high to take care of you or take you to the doctor if you needed it?	8.3	91.2
Did a household member go to prison?	4.8	94.8

Notes. When percentages of affirmative and negative responses do not sum to 100, some data were missing.

Depressive Symptoms Hypotheses

The hypotheses predicted that affectionate communication is inversely associated with depressive symptoms (H1a), ACE scores are positively associated with depressive symptoms (H2a), and affectionate communication moderates the association between adverse childhood experiences and depressive symptoms (H3a). To explore

Table 3 Regressions Predicting Depression and Stress from ACE, Affectionate Communication, and their Interaction

	Depression	Stress
Covariates		
Participant age	-.04**	-.04**
Participant gender		.34**
Predictors		
ACE (X)	.21**	.14**
Affectionate communication (W)	-.24**	-.25**
Interaction		
X × W	.04*	.04*

Note. Values in table are unstandardized regression coefficients from PROCESS model 1. *$p < .05$; **$p < .01$

the depressive symptoms hypotheses, a regression was constructed using model 1 of Hayes's (2017) PROCESS. This model specified ACE score as the independent variable, affectionate communication as the moderator variable, and depressive symptoms as the dependent variable. Participant age was added as a covariate, $R = .51$, $R^2 = .27$, $F(4, 716) = 61.79$, $p < .0001$ (see Table 3 for complete regression results). As predicted by H1a, affectionate communication exerted a significant negative effect on depressive symptoms, $B = -.24$, $p < .001$, and as predicted by H2a, ACE exerted a significant positive effect, $B = .21$, $p < .001$. Thus, depressive symptom scores were higher for those who were less affectionate and who had more adverse childhood experiences. H1a and H2a are supported.

As predicted by H3a, affectionate communication interacted with ACE to predict depressive symptoms, $B = -.04$, $p = .01$. Examination of simple slopes showed that, at low levels of affectionate communication (16th percentile), the effect of ACE on depressive symptoms is positive and significant, $B = .28$, $p < .0001$, 95% CI [0.21, 0.36]. At high levels of affectionate communication (84th percentile), the effect of ACE on depressive symptoms is also significant but not as strong, $B = 0.14$, $p = .002$, 95% CI [0.05, 0.22]. H3a is supported. A graph of the interaction appears in Figure 1.

Stress Hypotheses

The hypotheses predicted that affectionate communication is inversely associated with stress (H1b), ACE scores are positively associated with stress (H2b), and affectionate communication moderates the association between adverse childhood experience and stress (H3b). To explore the ACE-by-affection interaction on stress, a second regression was constructed using model 1 of Hayes's (2017) PROCESS. This model specified ACE as the independent variable, affectionate communication as the

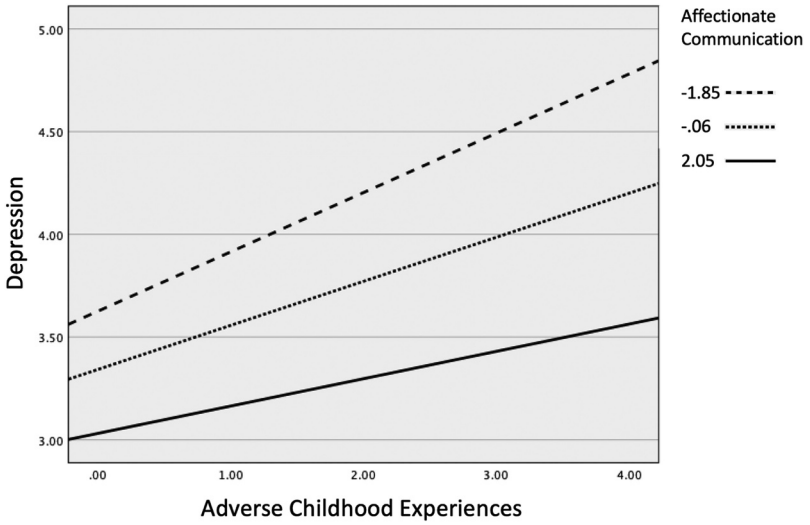


Figure 1 Affection-by-ACE Interaction Predicting Depression.

moderator variable, and stress as the dependent variable. Participant age and participant gender (dummy coded as 0 = male, 1 = female) were added as covariates, R = .50, R^2 = .25, $F(5, 714) = 48.45$, $p < .0001$ (complete results appear in Table 3).[8]

As predicted by H1b, affectionate communication exerted a significant negative effect on stress, $B = -.25$, $p < .001$, and as predicted by H2b, ACE exerted a significant positive effect, $B = .147$, $p < .001$. Thus, stress scores were higher for those who were less affectionate and who had more adverse childhood experiences. H1b and H2b are supported.

As predicted by H3b, affectionate communication interacted with ACE to predict stress, $B = -.04$, $p = .02$. Examination of simple slopes showed that, at low levels of affectionate communication (16th percentile), the effect of ACE on stress is positive and significant, $B = .21$, $p < .0001$, 95% CI [0.14, 0.28]. On the contrary, at high levels of affectionate communication (84th percentile), the effect of ACE on stress is nonsignificant, $B = 0.07$, $p = .11$. H3b is supported. A graph of the interaction appears in Figure 2.

Discussion

Depression and stress are both formidable threats to public health and wellness, and both are significantly predicted in adulthood by adverse experiences during childhood. Just because adverse childhood experience *can* increase susceptibility to depression and stress, however, does not mean that it *must*. Positive social behaviors can buffer individuals against the deleterious effects of ACE, and the present study tested AET's prediction that affectionate communication exerts a stress-buffering

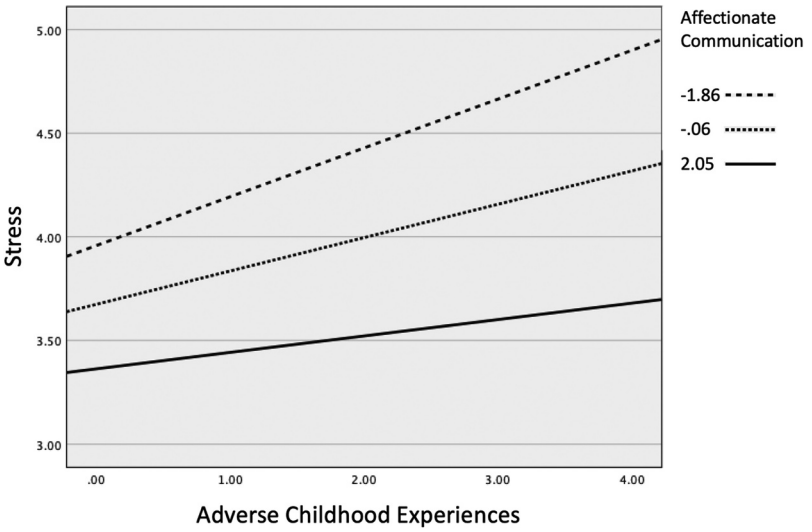


Figure 2 Affection-by-ACE Interaction Predicting Stress.

effect by moderating the association between ACE, depressive symptoms, and stress in U.S. American adults.

Previous studies have hypothesized on the basis of AET that affectionate communication exerts significant inverse associations with depressive symptoms and stress, and both predictions were successfully replicated here in the form of significant main effects. This study also replicated the hypotheses that ACE scores significantly predict depressive symptoms and stress on their own.

The critical contribution of the present study was to demonstrate that affectionate communication moderates the association of ACE with depressive symptoms and stress. Specifically, ACE scores are positively related to depressive symptoms and stress for those low in trait affectionate communication. For those high in trait affectionate communication, however, ACE scores are less strongly related to depressive symptoms and are unrelated to stress. That is, for highly affectionate adults, adverse childhood experience does not exert as strong a predictive effect on depressive symptoms and exerts no significant effect on stress in adulthood, in line with what a stress-buffering effect would predict.

Implications: Affectionate Communication as a Stress Buffer

The pattern of the moderating effect of affectionate communication on the associations between ACE, depressive symptoms, and stress demonstrates a stress-buffering effect. As several studies have demonstrated (e.g., Grewen et al., 2003; Pauley et al., 2015), higher affectionate communication attenuates the influence of a stressor on a deleterious outcome, such that the stressor is more problematic when affectionate communication is low (or absent) and is less problematic—either related at a lower

strength or unrelated altogether—when affectionate communication is more pronounced. In other words, high levels of affection tend to exert an influence on the *magnitude* of the association between stressors and outcomes, rather on the *direction* of the association.

These findings imply that when people are without the stress-buffering benefits of high trait levels of affectionate communication, their childhood adversities predict higher adult levels of stress and depressive symptoms. When people experience high trait levels of expressed and received affection, however, their childhood adversities predict depressive symptoms positively but less strongly, and do not predict stress at all.

Why would childhood adversity fail to predict the same degree of mental health impairment in adulthood for highly affectionate individuals as for non-affectionate individuals? One possibility, consistent with interpersonal psychotherapy (Weissman, Markowitz, & Klerman, 2017), is that affectionate individuals are more adept at building and drawing on supportive interpersonal alliances. In line with that contention, Floyd (2002) found that, compared to their less-affectionate counterparts, highly affectionate individuals were more socially active and less socially isolated, were more likely to be in a significant romantic relationship, and among those who were in a romantic relationship, were more satisfied with that relationship. These relational assets have the potential to lessen or render moot the effects of negative childhood experiences on adult functioning. For those lacking the stress-buffering benefits of affectionate communication, however, childhood adversity exhibits the typical deleterious influence on adult mental wellness.

Strengths and Liabilities

Chief among the strengths of the present investigation was the use of a Census-matched probability sample of U.S. American adults. Representative samples are rare in interpersonal communication research; indeed, interpersonal communication studies commonly overrepresent the perspectives and experiences of certain groups, such as white undergraduates (Afifi & Cornejo, 2020). The present sampling method ensured that the proportions of age, gender, ethnic, and racial categories in the study represented those of the U.S. adult population, and participants represented 49 of 50 U.S. states plus the District of Columbia. These characteristics substantially increase the likelihood that the findings generalize to the U.S. adult population.

However, the current sample was highly educated compared to the U.S. adult population, with approximately 60% of participants having completed at least a four-year degree. According to the U.S. Census Bureau (2021), only 34% of U.S. residents 18 years or older have attained the same, so the sample cannot be considered representative of the U.S. adult population on the basis of educational attainment.

Although adverse childhood experiences have been assessed in dozens of studies (see meta-analyses by Hughes et al., 2017; Petruccelli et al., 2019), the instruction to report on events from childhood makes the measure susceptible to memory bias,

which represents a potential limitation. In a systematic assessment of the validity of adult retrospective reports of childhood adversities, however, Hardt and Rutter (2004) reported that although ACE scales invite measurement error due to their retrospective nature—and to the sometimes-long period of time elapsed between the adversities and the reports—most such errors are false negatives (i.e., Type II errors). This results in underreporting of adverse childhood experiences. Hardt and Rutter indicated that false positive reports (Type I errors) are likely rare and that memory biases operative in ACE measurement are insufficient to invalidate their use (see also Colman et al., 2015).

Although representative of the U.S. adult population, the present sample is not generalizable to non-U.S. cultures. There is little reason to expect that the problematic effects of childhood adversity are limited to U.S. Americans; indeed, Oladeji, Makanjuola, and Gureje (2010) reported that ACE is a risk factor for psychiatric disorders in Nigerian adults (see also Malvaso, Delfabbro, & Day, 2019, for data from an Australian sample). Whether the stress-buffering effect of affectionate communication on ACE generalizes to non-U.S. cultures is an empirical question that must be deferred to future studies, but the present findings offer justification for pursuing that question.

Conclusion

Depression and stress can be debilitating, and a history of childhood adversity can contribute to their prevalence in adulthood. This is particularly true for those without the stress-buffering benefits of affectionate behavior. High trait levels of affectionate communication attenuate the positive association between ACE and depressive symptoms and render the positive association between ACE and stress nonsignificant. This is the first known study to identify such a finding, and as such, replication is warranted. Overall, however, these findings attest to the strength of the stress-buffering potential of affectionate communication in human relationships.

Disclosure Statement

No potential conflict of interest was reported by the author(s).

Notes

1. An anonymized version of the OSF preregistration is viewable at https://osf.io/53nsc/?view_only=c6e88f23bbcc4d4db2cdfb07c198657b
2. No participants completed the survey in less than two standard deviations below the average completion time, so no participants were removed from the data file for completing the study too quickly.
3. These percentages sum to >100 because participants could select multiple racial identities.

4. A post-hoc power analysis indicated that the reduced sample size of 727 still offered in excess of 95% power to identify a small effect size, using a multiple regression analysis and assuming a .05 probability level.
5. Cronbach's alpha is perhaps the most commonly reported measure of internal reliability, yet recent research has advocated substituting McDonald's omega (ω), which is Cronbach's alpha's parent measure (Hayes & Coutts, 2020). Unlike alpha, McDonald's omega does not assume essential tau-equivalence, which is the assumption that "each item measures the same latent variable, on the same scale, but with possibly different degrees of precision" (Graham, 2006, p. 934).
6. This analysis excluded seven participants who did not identify as either female or male.
7. Welch's *t*-test is preferred to the more widely known Student's *t*-test because it offers a more stable Type I error rate and is more robust to violations of normality and homogeneity of variance (Delacre, Lakens, & Leys, 2017). Moreover, Welch's *t*-test outperforms Student's *t*-test when sample sizes are unequal, and when data meet the homoscedasticity assumption, Welch's *t*-tests loses minimal robustness compared to the Student's *t*-test.
8. This analysis included only participants who identified as either male or female.

Notes on contributor

Kory Floyd is a professor of communication and professor of psychology at the University of Arizona.

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