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# The association between negative life events, neuroticism and aggression in early adulthood

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ABSTRACT

*Background:* Aggression is gradually becoming a public health problem worldwide. Early adulthood is a critical transition period, during which teenagers become part of society. There are few studies on the associations between negative life events (NLEs), neuroticism, and trait aggression in early adulthood, and on neuroticism's mediating effects on trait aggression.

*Method:* The sample consisted of 306 college students. The Adolescent Self-Rating Life Event Checklist (ASLEC), the neuroticism subscale of the NEO Five-Factor Inventory, and the 12-item aggression questionnaire (AQ-12) were used.

*Results:* There were positive correlations between NLEs, neuroticism, and trait aggression ($rs = 0.403$–$0.491$, $p < 0.01$). NLEs partly mediated the relationship between neuroticism and trait aggression, and neuroticism partly mediated the relationship between NLEs and trait aggression; the mediation effect ratios were 26.05% and 31.29%, separately.

*Conclusion:* Multiple psychosocial factors are associated with trait aggression, and a neurotic personality and stressors may contribute towards trait aggression among individuals in early adulthood. Neuroticism and NLEs were found to predict trait aggression. When individuals with a higher level of neuroticism face more NLEs, they are more prone to behaving aggressively. Efforts such as mindfulness training, which may decrease individuals' perceived NLEs and influence neurotic personality.



## 1. Introduction

Aggression is generally regarded as an angry or violent feeling or behavior that involves the intent to inflict harm on others (Anderson & Bushman, 2002). There are three aspects of aggression, for which individuals may differ; these consist of thoughts (e.g., hostility), emotions (e.g., anger), and behavior (e.g., verbal and physical aggression) (Webster et al., 2014). In recent years, fighting among college students on campuses has become prevalent. College education is an important period in the transition to early adulthood. One study indicated that one third of college students had moderate aggressive ideation/behavior in Hebei, China (Guo & Zhang, 2011). In another report, more than half of male college students (54.3%) reported having engaged in physical aggression at least once in that school year in Awassa, Ethiopia (Gelaye et al., 2008). This issue requires attention.

Anderson and Bushman (2002) combined many previous theories in their development of the General Aggression Model (GAM). In this model, trait aggression is influenced by multiple factors (DeWall, Anderson, & Bushman, 2011) originating from a combination of inner and environmental factors, such as individual differences (e.g., personality; Barlett & Anderson, 2012), situational factors (e.g., watching violent behavior, playing violent games; Mitrofan, Paul, Weich, & Spencer, 2014), or experiencing negative life events. Monroe and Simons (1991) developed the diathesis-stress model to explain the mutual effects between diathesis and stress. The diathesis-stress model posits that in some people, diathesis suppresses stress. The model describes the stress source and suppressive factors, and their relationship has been used to explain mechanisms of mental health. Regarding aggression, we hypothesized that diathesis is an individual-differences factor (e.g., personality), and stress is a situational factor (e.g., a series of life events).

College students' exposure to many life stressors (e.g., the transition to adulthood, academic overload, and pressure to succeed) has been widely recognized (Tosevski, Milovancevic, & Gajic, 2010), and excessive levels and negative perceptions of stress could negatively affect academic performance and health. In one study (Baste & Gadkari, 2014), the percentages of students with mild, moderate, and severe stress

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were 45.6%, 7.7%, and 1.1%, respectively. There exist links between NLEs and psychopathology (Liu & Tein, 2005). NLEs are trigger points that can predict emotional and behavioral problems, such as depression (Mandelli et al., 2015), impulsive (Lovallo, 2013), or violent behavior (Gelaye et al., 2008). In view of this, many studies have reported associations between aggressive behavior and life events among adolescents (Herts, McLaughlin, & Hatzenbuehler, 2012). When individuals face more NLEs, they are more prone to behaving aggressively. However, other authors have reported that regression analysis revealed no main effects of serious life events on aggression, but an interactive effect with genes (Hygen et al., 2015). The current study aimed to determine the relationship between NLEs and aggression in early adulthood. We hypothesized that NLEs will directly predict aggression in early adulthood.

Furthermore, although the etiologies of aggression are multifactorial, personality is one of the important characteristics that may be hypothesized to predict aggression. As shown in some studies, of the Big Five personality traits, trait aggression often positively correlates with neuroticism (Gardner, Boccaccini, Bitting, & Edens, 2015), which is a high-order personality. That is, high levels of neuroticism can predict more aggression. Aggressive behavior can be seen as the externalized form of the personality spectrum (Donahue, Goranson, McClure, & Van Male, 2014). Considerable evidence has shown that the association between neuroticism and aggression is related, in part, to an increase in aggressive emotions (Barlett & Anderson, 2012).

What would happen if we combined NLEs, neuroticism, and aggression based on the evidence above? From one perspective, Bolger and Zuckerman (1995) proposed that personality, especially high neuroticism, could increase both exposure and reactivity to stressful events. Within that framework, they demonstrated that daily hassles or conflicts could mediate the relationship between neuroticism and negative emotional reactions (Hutchinson & Williams, 2007), such as anger, depression, and anxiety. In addition, anger is a domain of aggression, and aggression can be seen as a kind of external performance. Therefore, we infer that NLEs may mediate the relationship between neuroticism and aggression.

From another perspective, a longitudinal analysis (Middeldorp, Cath, Beem, Willemsen, & Boomsma, 2008) indicated that having experienced adverse life events might lead to an increase in neuroticism. Another longitudinal study, consisting of an urban sample, demonstrated that extremely adverse life events can change personality traits (Lockenhoff, Terracciano, Patriciu, Eaton, & Costa, 2009). The participants in that study showed increases in neuroticism. NLEs can be regarded as stressors and, when they emerge, personality is very important in people's ability to cope with them. Personality is not always stable and may be related to symptoms of aggression. In addition, the mediating role of neuroticism in the association between NLEs and resilience has been confirmed (Sarubin et al., 2015). Accordingly, we infer that neuroticism may mediate the relationship between NLEs and aggression.

To the best of our knowledge, studies on the associations between NLEs, neuroticism, and aggression in early adulthood are scarce. Moreover, the mediating effect of neuroticism on the associations between NLEs and aggression, and the mediating effect of NLEs on the relationship between neuroticism and aggression have not been previously explored. Prompted by this fact, we developed the following hypotheses: (1) NLEs and neuroticism directly, positively predict trait aggression; (2) NLEs mediate the relationship between neuroticism and trait aggression; and (3) neuroticism mediates the relationship between NLEs and symptoms of aggression, and both NLEs and neuroticism mediate each other.

## 2. Material and methods

A quantitative cross-sectional survey was used to explore aggression's associations with NLEs and neuroticism, and the mediation of these relationships.

### 2.1. Participants

The study participants completed questionnaires as part of a cross-sectional study conducted in a college in Shandong province of China from September 2013 to December 2013. A total of 306 healthy college students participated in the study. All the students were undergraduates in a five-year program. Only third-year students at the college were recruited for participation in this study. The exclusion criteria were a history of psychiatric or neurological disorders, and currently or having previously taken psychotropic drugs. The participants completed a battery of questionnaires in a fixed order (see Section 2.2). Two assistants were always available to provide assistance and to ensure the confidentiality and independence of the participants' responses. The sample included 106 males (34.6%). The participants' mean age was 21.31 years ($SD = 0.80$), with a range of 19 to 26. The frequencies of socio-demographic variables can be found in Table 1.

### 2.2. Measures

#### 2.2.1. Demographics

A self-report questionnaire was used to obtain the participants' demographic characteristics, including age, sex, and college grades, among others.

#### 2.2.2. Adolescent self-rating life event checklist (ASLEC)

The ASLEC (Liu et al., 1997) was used to measure participants' experiences of NLEs within the past 12 months. For each event that occurred, participants had to report its impact on their lives using a 5-point Likert scale, with responses ranging from 1 ("not at all") to 5 ("extremely severe"). Internal consistency of the ASLEC in this sample, as measured by Cronbach's alpha was 0.78. The total score was obtained as the sum of all item scores. A higher score on the ASLEC indicates greater negative life stress experienced.

#### 2.2.3. Neuroticism

Neuroticism was evaluated through a self-administered questionnaire consisting of 12 items obtained from the 60-item Neo Five Factor Inventory (NEOFFI; Costa & McCrae, 1992). The NEOFFI's items are rated on a 5-point Likert-type scale, ranging from "strongly disagree" to "strongly agree." The internal consistency of the subscale in this sample as measured by Cronbach's alpha was 0.83. The total neuroticism score represented the tendency of, or predisposition towards, experiencing negative affective states. The total score range was 5 to 60; higher total scores indicated higher levels of neuroticism.

#### 2.2.4. Trait aggression

A short, 12-item version of the Aggression Questionnaire (AQ-12; Webster et al., 2015) was used to assess psychometric and behavioral evidence of trait aggression (Webster et al., 2014). The AQ-12 consists

**Table 1**
Demographic characteristics and total aggression scores (N = 306).

| | N | Aggression total scores (M ± SD) | t/F | p |
|---|---|---|---|---|
| Age[a] (n, M ± SD) | 282 (21.31 ± 0.80) | | | |
| Sex[a] | | | 1.753 | 0.081 |
| Male (n, %) | 106 (34.6%) | 22.15 ± 6.75 | | |
| Female (n, %) | 198 (64.7%) | 20.82 ± 5.41 | | |
| College grade[a] | | | 0.798 | 0.451 |
| Below average (n, %) | 87 (28.4%) | 21.52 ± 6.08 | | |
| Average[b] (n, %) | 101 (33.0%) | 20.63 ± 5.51 | | |
| Above average (n, %) | 105 (34.3%) | 21.60 ± 6.40 | | |

Note. Below average indicates scores <80. Above average indicates scores more than 90.
[a] Indicates that the numbers/percentages do not add up to the total, due to missing data.
[b] Average indicates score in the range 80–90.