Effect of childhood adversity experiences, psychological distress, and resilience on depressive symptoms among Indonesian university students

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ABSTRACT
This study examined the role of childhood adversity experiences, psychological distress and resilience on depressive symptoms. The sample consisted of 443 Indonesian university students. Participants’ age range from 17 to 21 (M = 18.60, SD = 0.61). Adverse Childhood Experiences (ACEs) Questionnaire, General Health Questionnaire-12 (GHQ-12), Connor-Davidson Resilience Scale (CD-RISC), and Beck Depression Inventory-II (BDI-II) were used to guide data collection. Path analysis results revealed the direct relationship between the childhood traumas with depressive symptoms and, had no direct relationship on resilience. In addition, resilience partially mediates the relationship between adolescents’ psychological distress and depressive symptoms but not to childhood trauma and depressive symptoms. These results indicate the importance of the influence of resilience and the importance of the development of university based programs aimed to promote resilience among Indonesian university students.

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Introduction

Students on undergraduate level around the world were prone to depressive symptoms. Such issues currently were reported in India (Deb et al., 2016; Kumar, Kavitha, Kulkarni, Siddalingappa, & Manjunath, 2016), Egypt (Fawzy & Hamed, 2017), Malaysia (Shamsuddin et al., 2013), Turkey (Sart, Borkan, Erkman, & Serbest, 2016), America (Beiter et al., 2015; Eck et al., 2014), Brazil (Costa, Santana, Martins, Melo, & Andrade, 2012), Ireland (Horgan, Kelly, Goodwin, & Behan, 2018), and Kenya (Othieno, Okoth, Peltzer, Pengpid, & Malla, 2014). In addition, a report by (Peltzer, Yi, & Pengpid, 2017) revealed that suicidal attempt among youth university students in 6 Southeast ASEAN countries (Cambodia, Indonesia, Malaysia, Myanmar, Thailand, and Vietnam) was significantly associated with childhood sexual abuse and depressive symptoms. In Indonesia, particularly, national basic health research from The Ministry of Health reported that depression appeared in 6% of the population (RI, Badan Penelitian dan Pengembangan Kesehatan Kementerian Kesehatan, 2013) and that was being the sixth cause of disability among Indonesian (Institute for Health Metrics and Evaluation, 2018).

Entering life as university students poses a challenges in which a transition into independent environment and coping with new responsibilities. In addition to academic pressures, they also face challenges such as financial hardship (Hiester, Nordstrom, & Swenson, 2009). Fawzy and
Hamed (2017) stated that depression, anxiety, and stress are common in university students. Although the core criteria and duration of symptoms for major depressive disorder was clearly explained in the DSM-V (Diagnostic of Statistical and Manual Mental Disorder-V), those symptoms in undergraduate students should be distinguished. It related, undeniably with negative coping regulation and attribution about self (Eck et al., 2014; Heffer & Willoughby, 2017; Keser, Kahya, & Akin, 2017), quality of life, parental support, social support (McInnis, McQuaid, Matheson, & Anisman, 2017) and perceived stress (Alpizar, Luciana, Scott, & Brian, 2017). Moreover, another examination showed the increasing odds of experiencing depressive symptoms were related to financial stress and poor relationship with parents (Andrews & Wilding, 2004; Horgan et al., 2018).

On the other hand, various difficulties experienced in childhood also contributed greatly in affecting the mental health of individuals (Nurius, Logan-Greene, & Green, 2012). Experiencing physical, sexual and emotional abuse, neglect, and having separated or divorced parents are some examples of difficult experiences experienced prior to the age of 18 years.

Research showed that childhood traumas will lead to long-term psychosocial problems (Hillis et al., 2004). These condition increased the risk of depression (Agorastos et al., 2014; Shanahan, Copeland, Costello, & Angold, 2011). Depression is a mental illness often seen specifically in university years (e.g., Eisenberg, Gollust, Golberstein, & Hefner, 2007). Childhood adversity was associated with symptoms of psychological distress (Corcoran & Mcnulty, 2018). This examination also depicted model explaining multiple mediation of depression and Adverse Childhood Experience (ACE) among university students which was revealed that ACE will be mediated to depression if there was avoidance and anxiety in the attachment from five relation domain (mother, father, general, partner, and friend). Problem in attachment with ‘mother’ and ‘father’ were higher mediated to depression than attachment with ‘general’, ‘partner’, and ‘friend’. Thus, depression can be seen from childhood adversity upon inclusion of the above mediators.

Moreover, Corcoran and McNulty also found that gender bias appeared in the experience of childhood adversity whereby females reported experiencing an ACE than males in mostly all categories, except parental separation/divorce, of the ACE (Adverse Childhood Experience Scale) constructed by (Felitti et al. 1998). A question raised research concern to the extent to which transition to university life and its attendant pressures contribute to increased level of student distress. One study has demonstrated psychological distress of homesickness bring depression among international students in Malaysia (Saravanan, Alias, & Mohammed, 2017) and England (Thurber & Walton, 2012). Although the prevalence of psychological distress and depression had been reported in a low percentage, (3.6%) and (1.9%) respectively, (Yusoff et al., 2013) giving some evidence that the association factors of psychological distress among undergraduate students were related to academic, non-academic, parent education and cultural background. This study also revealed that extracurricular activity was associated with stress-and-depression symptoms while academic performance in class was found solely associated with depression.

But not all individuals who experience unpleasant events in childhood will become troubled adolescence. People who demonstrate stable and healthy functioning levels and are able to adapt positively to the resilient individuals (Luthar, Cicchetti, & Becker, 2000). Resilience has tremendous significance in promoting health and wellbeing, especially when faced with adversity. Emerging from literature resilience has been found to play an essential part in decreasing depressive symptoms (Southwick & Charney, 2012) and trauma symptoms (Olatunji, Armstrong, Fan, & Zhao, 2014). Later, in other studies resilience played the mediator role between life hardship and emotional problems in adolescent (Arslan, 2016). Resilience is a dynamic process in which individuals exhibit effective adaptation despite traumatic events (Luthar et al., 2000).

The current study aimed to explore the relationship among childhood adversity experiences, psychological distress, resilience and depressive symptoms in Indonesian undergraduate students. We particularly focused on examining whether resilience mediated the relationship between childhood adversity experiences, psychological distress, and depressive symptoms.
Methods

Participants

A total of 452 undergraduate students from Diponegoro University, Indonesia were participated in this study. The data from 443 participants (98%) were selected because 9 participants (2%) did not complete the questionnaires. Of this sample, approximately 73.4% of the respondents were female. Participants ranged in age from 17 to 21 years ($M = 18.60$, $SD = 0.61$).

Procedures

This study conducted in Diponegoro University, Central Java, Indonesia. Prior to the commencement of the study, we sent the letter of asking to conduct research to the dean of several faculties at Diponegoro University. After approvals were obtained from the following faculties, we made coordination with the faculty academic vice dean about which class that we allowed to collect data. The participants fulfilled the questionnaires as classically after class accompanied with the researchers’ team.

Measures

Demographic information. Participants were asked to answer questions that assess their age, and gender, and student’s current Grade Point Average (GPA).

Adverse Childhood Experiences (ACEs). Experiences of childhood adversity were measured using the Adverse Childhood Experiences (ACEs) Questionnaire (Feliti et al., 1998). The ACEs assesses 10 types of childhood adversity they experienced prior to the age of 18. In detailed, this questionnaire addressing the areas of emotional and physical abuse, physical neglect, witnessing maternal abuse, living with a substance abuser, mental health disorder household member, parental divorce, and incarceration of a family member at home. Each type of ACEs was coded as a binary variable (occurred: ‘1’, did not occur: ‘0’). Thus, the total number of ACEs reported by participants represents the ‘total ACEs score’ (range: 0–10), which was used to assess the cumulative effect of multiple ACEs. Cronbach’s $\alpha$ in this study was 0.75.

General Health Questionnaire-12 (GHQ-12). Psychological distress was assessed by applying the General Health Questionnaire-12 (GHQ-12) (Goldberg & Williams, 1988). It has been widely uses as a self-report instrument for measuring psychological distress and for the screening of psychiatric disorders (Goldberg & Williams, 1991). Participants are asked if they have experienced on a range of symptoms within the last two weeks (e.g., sub subjective experiences of stress, tension, mastering of daily problems, degree of concentration, and self-esteem). Cronbach’s $\alpha$ in this study was 0.85.

Connor Davidson Resilience Scale. Resilience was evaluated by the Connor-Davidson Resilience Scale (CD-RISC) (Connor & Davidson, 2003). The CD-RISC is comprised of 25 items, each rated on a 5-point Likert-type response format, from ‘not true at all’ (= 0) to ‘true nearly all the time’ (= 4). Higher scores reflect greater levels of resilience. Cronbach’s $\alpha$ in this study was 0.89.

Beck Depression Inventory-II (BDI-II). Depressive symptoms were assessed using the Beck Depression Inventory-II (BDI-II) (Beck, Steer, & Brown, 1996). The BDI-II consists of 21-item self-report inventory which asks participants to choose the one statement that best describes their feeling during the past two weeks. Cronbach’s $\alpha$ in this study was 0.83.

Data analysis

The data collected in the study was entered into the Statistical Package for the Social Sciences (SPSS) Windows Version 21.0. Path analysis was conducted with the help of analysis of a moment structures (AMOS version 7.0). Prior to path analysis, initial descriptive analyses were conducted to explore participants’ background characteristics. Second, correlation analyses were utilized to see
the relationship between the investigated variables. Then, path analysis were performed to explore the relationships of adverse childhood experience, psychological distress, and depressive symptoms as well as the mediating effect of resilience.

Results

Descriptive statistics and correlations

Demographics data of the sample are displayed in Table 1. Approximately 73.4% of the respondents were female. Participants ranged in age from 17 to 21 years (M = 18.60, SD = 0.61).

A t-test was conducted between the main variables of interest and gender. Male experienced more adversity in childhood than female (t = 3.14, p < 0.001). Further, no significant gender differences were observed across psychological distress, resilience and depression symptoms. An ANOVA was conducted to investigate any significant differences between students’ GPA on variables. Only adverse childhood experiences was found significant. In detailed, students with GPA lower than 2.50 experienced more adversity in their childhood compare than others (F(4, 438) = 2.97, p < 0.05).

Means, standard deviations, and correlations were computed for each scale and are listed in Table 2. The Pearson’s correlation revealed that adverse childhood experiences and psychological distress were negatively related to resilience and were positively associated with depressive symptoms.

Undergraduate students’ mean BDI-II score was 13.14 with a standard deviation of 7.06. Therefore, on average, participants reported a mild mood disturbance level of depression. Individual BDI-II scores were classified as follows: 184 (41.5%) were between 0 and 10, indicating normal, 134 (30.2%) were between 11 and 16, indicating mild depression, 64 (14.4%) were between 17 and 20, indicating borderline depression, 50 (11.3%) were between 21 and 30, indicating moderate depression, and 11 (2.5%) were between 31 and 40, indicating severe depression.

Examination of the mediating effect of resilience

Path analyses were conducted to test the mediating effect of resilience on the relationship between adverse childhood experiences, psychological distress, and depressive symptoms.

Table 1. Demographics of participants.

| Characteristics | Frequency (%) |
|-----------------|---------------|
| Gender          |               |
| Female          | 325 (73.4%)   |
| Male            | 118 (26.6%)   |
| GPA             |               |
| ≤ 2.50          | 8 (1.8%)      |
| 2.51–2.99       | 49 (11.1%)    |
| 3.00–3.49       | 185 (41.8%)   |
| 3.50–3.99       | 193 (43.6%)   |
| 4.00            | 8 (1.8%)      |

Table 2. Correlations, means, standard deviations (SD) and among study variables.

| Variable                    | 1       | 2       | 3       | 4       |
|-----------------------------|---------|---------|---------|---------|
| 1.  Adverse of childhood experiences |         | 0.25a   |         |         |
| 2.  Psychological distress  |         | −0.07   | −0.41a  |         |
| 3.  Resilience              |         |         | −0.31a  | −0.42a  |
| 4.  Depressive symptoms     |         |         |         | −0.22a  |
| p 4                          |         |         |         | 0.72a   |
| SD                           | 1.13    | 5.82    | 11.07   | 7.06    |

ap < 0.01.
Goodness-of-fit indices for the model was obtained, with $\chi^2 (6, N = 443) = 7.93$, ns; CFI = 0.99; and RMSEA = 0.04. As shown in Figure 1, adverse childhood experiences had no direct effect on resilience ($b = 0.37$, SE = 0.437, $\beta = 0.04$, ns) but had a direct effect on undergraduate students’ depressive symptoms ($b = 0.14$, SE = 0.203, $\beta = 0.63$, $p < 0.001$). Psychological distress had a direct effect on resilience ($b = -0.81$, SE = 0.085, $\beta = -0.43$, $p < 0.001$) and depression symptoms ($b = 0.84$, SE = 0.043, $\beta = 0.63$, $p < 0.001$). Resilience had a direct effect on adolescents’ depressive symptoms ($b = -0.09$, SE = 0.002, $\beta = -0.15$, $p < 0.001$). Resilience partially mediates the relationship between adolescents’ psychological distress and depressive symptoms ($b = 0.065$, $p < 0.01$).

Resilience partially mediates the relationship between psychological distress and depressive symptoms ($b = 0.065$, $p < 0.01$), but not to childhood trauma and depressive symptoms ($b = -0.05$, ns). The model of resilience explained 17.4% of the variance. Lastly, these predictors all together explained 56% of the variance of depressive symptoms.

**Discussion**

Adverse Childhood experiences and classroom adjustment were significant predictors of depressive symptoms (Mondi, Reynolds, & Ou, 2017) and effect to non-suicidal injury (Baiden, Stewart, & Fallon 2017). A study examined indirect effects of individual, relational, and contextual resilience in the relationship between adverse childhood experiences had been proved that adverse childhood had a direct effect on depression but not individual or contextual resilience, with resilience as a mediator, the effect of childhood experiences on depression was no longer significant (Howell, Miller-Graff, Schaefer, & Scrafford, 2017).

In this study we found, psychological distress had a direct effect on resilience and depression symptoms. It is like the two headed coins can be explained by the theory of Biological Sensitivity to Context (BSC). (Somers, Ibrahim, & Luecken, 2017) explained that BSC may inform our understanding of why some children exposed to family adversity develop mental health problem in emerging adulthood whereas others demonstrate resilience. BSC models suggest that there are susceptibility factors that not only confer heightened vulnerability to adverse condition but also promote enhanced positive outcomes under supportive context. For instance, heavy depressive symptoms were associated with prehypertension (Peltzer et al., 2017) on the other hand transition to adulthood following a history of experienced adversity results personal resilience when individuals are being able to sharing personal problems with others were found to be associated with positive mental health (Deb et al., 2016). BSC is unique in offering a specific mechanism of context susceptibility; the magnitude of biological stress responses. Specifically, people with more reactive stress response are thought to be more susceptible to the effect of their environment. BSC theory’s central tenet, that highly physiologically reactive individuals who experienced environmental adversity are more likely to develop mental and physical health problems than their less reactive counterparts.

This highlights that the less individuals experience less distress the better they adapt in life. Entering university lives involves adjustment in various levels. They have to cope with diverse
unfamiliar situation like new relationship, new environment, and varieties of tasks while they have to adjusting also to the stress of itself.

Resilience had a direct effect on adolescents’ depressive symptoms. Resilience partially mediates the relationship between adolescents’ psychological distress and depressive symptoms but not to childhood trauma and depressive symptoms. In the current study, we found that resilience was negatively associated with depressive symptoms. Resilience looked as the ability of individual to navigate towards health-maintaining resources they needed in the context of adversity, and the capacity of negotiating for these resources to be provided by family and community and culture in ways that could enhance health (Ungar, 2006). Arslan pointed that adolescents who could better cope with adversity exhibited fewer psychological and behavioral problems like depression (Arslan, 2016), also they could adapt in stressful contexts which could buffer the effect of negative emotional experiences (Tugade & Fredrickson, 2004).

Also, we found that not all childhood adversities develop problem or psychopathology as adolescent (Collishaw et al., 2007). It may promote by resilience characteristics that protect them and present as long term recovery that engender adaptation after trauma exposure. On the other words, increasing individual resilience could help prevent depression (Kim et al., 2018). In addition, in Campbell-Sills, Barlow, Brown, and Hoffman (2006) study found that participant’s experience childhood trauma may contribute to their being less affected by stressors in adolescent and later adulthood. It strengthening that resilience is more than just the counterpart of adversity (Ong, Bergeman, Bisconti, & Wallace, 2006). Later, encouraging undergraduates to invest effort in achieving important goals may prevent the onset of depressive disorder (Piumatti, 2018).

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