

## **Dissociation and Sleep-Related Experiences among Young Adults: Predicting Role of Personality Traits and Stress**

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Personality traits of young adults play an important role in their stress tolerance, which may encounter their daily functioning. The present study investigated the relationship between personality traits, stress, dissociation, and sleep-related experiences. It was intended to find out the mediating role of stress between neuroticism personality trait and sleep-related experiences and the predicting role of dissociation on sleep-related experiences. A purposive and convenient sampling technique was used to collect as sample of 657 young adults including 312 male and 345 female within the age range of 18-26. The Big Five Inventory (John et al., 1991), Perceived Stress Scale (Cohen et al., 1983), The Dissociative Experiences Scale-II (Carlson & Putnam, 1993), and Iowa Sleep Experiences Survey (Watson, 2001) were used to measure the study variables. Inter-Scale correlation showed significantly positive relationship between neuroticism stress whereas, significantly negative relationship between extraversion, agreeableness, conscientiousness, and openness personality traits. Regression analysis for mediation indicated that stress mediates the relationship between neuroticism personality trait and dissociation. While linear regression showed that dissociation significantly predicts sleep-related experiences among young adults. Thus, the present study helped in extending the research on the dimension of dissociation and sleep-related experiences among young adults.

*Keywords.* Personality traits, stress, dissociation, sleep-related experiences

People inevitably experience stress in life and their reaction to stressors varies depending on their persistent personality traits (Stamp, 2016). Individual's response to stress depends on personality in several ways that predispose them to the high and low level of stress tolerance (Martin, 1997). Scientific studies revealed that personality

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traits are a considerable predictor of an individual's ability to identify, respond, and deal with stressful events (Afshar et al., 2015). Numerous studies suggested that the big five personality traits are associated with stress: maladaptive traits (neuroticism) considered as positively correlated with stress whereas adaptive traits (extraversion, conscientiousness, agreeableness, and openness are considered as negatively associated with stress (Stamp, 2016). Hankin (2010) studied that people with neuroticism traits are at high risk of experiencing life events more stressful. Another study revealed that conscientiousness trait has negative correlation with stress (Besser & Shackelford, 2007); whereas agreeableness and openness are negatively related to stress (Ebstrup et al., 2011).

In this millennial era, young people are growing up in unprecedented economic upheaval where they face several challenges in the academic, social, interpersonal, financial, and occupational domain that account for high stress (Hobfoll, 2004; Wood et al., 2018). Mental Health Foundation (2018) estimated that 60% of younger people have a high level of stress to achieve success in life. Young adults who cannot cope with stressful life events may experience dissociation and sleep-related experiences (Soffer-Dudek & Shahar 2011). It has been found in the literature that dissociation is positively correlated with stress because continuous encounters with stressful events affect memory (De Wachter et al, 2006). Spindler and Elklit (2003) studied the association between dissociation and personality traits especially neuroticism in the general population. Watson (2001) suggested a strong connection between sleep-related experiences and personality traits in imagination, absorption, daydreaming, and fantasizing. Daily stress leads to general sleep experiences among highly dissociative young adults (Soffer-Dudek & Shahar, 2011).

Personality Traits referred as individual differences in characteristic patterns of emotions, thoughts, and behaviours including interests, self-concept, values, abilities, emotional patterns, and drives (American Psychological Association, 2015, p.782). McCrae and Costa (2003) define personality traits are the description of individuals behaviors, thought patterns and emotions. Gordon Allport and his colleague Henry Odbert's work provided foundation of the 4500 basic dimensions of personality (Vinney, 2018). Cattell and his colleagues reduced these dimensions to 16 personality traits in 1940 (Cherry, 2019). According to Lim (2020), several works of scholars including McCrae and Costa (2003) further reduced these 16 traits to five dimensions of personality, based on five-factor theory. Five-Factor Theory is a conceptualization of the personality phenomena that

explains how biology and culture play important role in the formulation of behaviors, emotions, beliefs, roles, attitudes, and relationships that express the individual's personality traits and contribute to personality functioning (McCrae & Costa, 2008).

McCrae and Costa (2003) proposed that the Big Five Model is a widely used model to understand different personality traits, which consist of extraversion, openness to experience, neuroticism, agreeableness, and conscientiousness (Lim, 2020). The Extroversion trait is characterized by pronounced interaction with the external world (Cherry, 2019). Extroverts are seen as full of energy, fun loving, passionate, enjoy engaging with others, and appear dominant in a social setting (McCrae & Costa, 2003). They are out-going, enthusiastic, confident, excitement-seeking, friendliness, assertiveness, and action-oriented individuals (Mitchell & Kumari, 2016). Neuroticism trait is marked by emotional instability, self-conscious, vulnerable, worrying, self-pity and negativity (McCrae & Costa, 2003). They are moody, anxious, fearful, envious, frustrated, self-critical, jealous, sensitive to criticism, and loneliness (Costa & McCrae, 1992; Goldberg, 1993; Watson et al., 1994). Eysenck's (1967) theory of personality proposed that neuroticism trait linked with a low tolerance for stress or aversive stimuli. Individuals with high neurotic traits experience more negative life events, as they perceived even an ordinary situation as more threatening and express negative emotions in it (Jeronimus et al., 2014; Matthews et al., 2003). Openness to experience is referred to as an individual's tendency to think intellectually and abstractly (Costa & McCrae, 1992). People with openness traits tend to be intellectually curious, open to emotion, creative, imaginative, and adventurous (Smillie, 2017). Conscientiousness trait reflects hard-working, well organized, punctual and goal-directedness (McCrae & Costa, 2003). Individuals with conscientiousness trait tend to be efficient, organized, dutiful, Cautiousness, easy-going, self-disciplined, careful, and systematic (Thompson, 2008). They exhibit planned behavior and generally dependable (Roberts et al., 2014). Agreeableness is characterized by lenient, generous compliance, trusting and soft hearted (McCrae & Costa, 2003). Individuals with agreeableness traits are kind, trustworthy, friendly, compromising, cooperative, calm straightforwardness, generous, trusting and willing to helpful others (Cherry, 2019).

Several studies suggested that young adult's personalities are best described by big five personality traits (Soto & Tackett, 2015). The big five personality traits such as extraversion, agreeableness, neuroticism, conscientiousness, and openness are mostly formulated

or change in young adulthood (Soto, 2018) due to socialization and career demands (Hudson & Roberts, 2016). Neuroticism trait has found to considerably increase from late adolescence to young adults (Leikas & Salmela-Aro, 2015).

“Stress is the physiological and psychological response to internal and external stress which involves, a sense of being overwhelmed, worry, destruction, press, exhaustion, and lethargy” (The American Psychiatric Association, 2015, p.1036). It is a feeling that individuals have when they cope with challenging situations related to work, finance, daily responsibilities, relationships, life changes, traumatic events, and other situations (National Institute of Mental Health, n.d.). Studies suggested that individual differences influence stress response, if an individual assesses an event stressful out of proportion to the actual threat, then the level of stress will be subjectively encountered by the individual whereas if an individual does not perceive the event as stressful unlikely to experience stress (Kazmi et al., 2009; Leger et al., 2016; Spielman et al., 2020).

Lazarus and Folkman’s (1984) Transactional model of stress proposed that personality influence appraisals of stressful events and determine the effectiveness of individual ability to cope with the stressful event (Altmaier, 2019). According to The Interactional Model of Stress (1982) individual’s perception of a stressor is the most important factor because is not the event itself that induces stress, but how the event is interpreted by the person based on certain personality traits (Romas & Sharma, 2017).

Kotov et al. (2010) study reflects that neuroticism trait is associated with negative emotion and stress-related condition such as depression and anxiety (Uliaszek et al., 2010). Individuals high on neuroticism ignore positive stimuli in the environment and evaluate stressors as highly threatening (Abbasi, 2011). Extraversion trait of big five personality trait has negative relationship with stress, as the extraversion trait is linked with emotional stability, a higher sense of control, and more positive feeling (Penley & Tomaka, 2002). Individuals high on extraversion traits have characteristics of being social, energetic, cheerful assertive, and warmth so they do not perceive a stressful event as threatening and easily cope up with the stress (Jackson & Schneider, 2014; Leger et al., 2016). Conscientiousness has a negative correlation with stress response as they have ability to deal with stress (Bartley & Roesch, 2011; Chen et al., 2017). They tend to be careful about taking actions and are associated with cognitive restructuring (e.g. divert their attention towards positive thoughts from negative thoughts (Connor-Smith & Flachsbart, 2007; Leszko et al., 2020). Agreeableness and openness to

experience traits have a low tendency to experience stress, anxiety, or depression (Ervasti et al., 2019; Koorevaar et al., 2013). Agreeable individuals have cooperative tendencies and avoid interpersonal conflict and experience a low level of stress (Bono et al., 2002; Leszko et al., 2020). Openness to experience trait is related with creativity, positive reappraisal and problem-solving strategies and less prone to experience stress (Carver & Connor-Smith, 2010; Xin et al., 2017). A tremendous increase in stress not only effect the daily functioning of young adults but also cause a disturbance in the functioning of consciousness, identity, memory and perception of environment (Rathee & Kumar, 2018).

Dissociation is “disruptions in the integration of consciousness, body representation, behavior, memory, emotion, identity, perception, and motor control” (American Psychiatric Association, 2012, p. 129). Dissociation refers to a variety of disruptions in an individual’s cognitive processes (i-e perception, consciousness, identity, or memory), that is sorted into two domains one is non-pathological form and second is pathological form. The non-pathological form of dissociation includes daydreaming, absorption, absentmindedness, emotional detachment and forgetfulness and pathological form of dissociation includes amnesia (inability to recall personal information), depersonalization (feeling of detachment from one’s self), derealization (feeling of detachment from the external world), and identity confusion (Holmes et al., 2005). Nijenhuis and Van der Hart (2011) reported in their study Pierre Janet was the first psychologist in the 19<sup>th</sup> century who gave the concept of dissociation; he explained dissociation as the consequences of an inability to integrate new information and believed that it was an effect of stress or trauma that some individuals experience. According to Post-Traumatic Model, dissociation is used as a defense mechanism to avoid stressful or traumatic experiences and help people to get escape from painful memories (Dalenberg et al., 2012; Spiegel et al., 2011). Van der Hart and Horst (1989) stated that once individuals learned to use dissociation as a defense mechanism, then they become habitual to use it as a coping strategy against stressors. Taxonomic model of dissociation reflects that non-pathological dissociation arises in daily life due to minor stress, for example, work, health, interpersonal conflict, relationships, and family stressor, but pathological dissociation occurs as a result of highly traumatic or very stressful event events like childhood trauma, adult rape, painful medical procedures, natural disasters and accidents (Spiegel et al., 2011; Waller et al., 1996). Giesbrecht et al. (2008) conceptualized dissociation as impairment in memory and attention and developed the

Dissociative Experiences Scale. High dissociative individuals suffer from more cognitive failures such as daydreaming, absorption, absentmindedness, and forgetfulness than low dissociative individuals (Özdemir et al., 2015).

Literature has found a strong connection between stress and dissociation that stress impairs attention, memory, concentration, which result in dissociative experiences (Cardena & Spiegel, 1993; De Wachter et al., 2006; Özdemir et al., 2015; Soffer-Dudek, 2017). Cencic (2020) suggested that dissociation occur due to extreme stress or intense worry because continuous encounter to stressful event affect the memory and individuals disconnects from thought, memory, feeling, or surroundings. Dissociation in reaction to stress or traumatic event disconnects individuals from the external environment and shifts their focus to the internal world (Andrews, 2018; Conner, 2016; Şar, 2017). Dissociation appears in a minor form (i-e daydreaming, absorption, absentmindedness, emotional detachment, and forgetfulness) and major form (amnesia, depersonalization, derealization and identity confusion) based on the severity of the stressful event (Butler, 2004; Holmes, 2005; Spiegel et al., 2011). Martin (1997) revealed that absorption and amnesia are the most common components of dissociation in the non-clinical population. De Wachter et al.'s (2006) study reported that stress that related to unemployed, work, health, and family problems caused non-pathological dissociative experiences in a non-clinical population, participants with a high level of stress experience more dissociation experiences than a participant with the low level of stress.

Sleep-related experience refers to nocturnal altered-consciousness phenomena which include General Sleep experiences (sleep paralysis, hypnagogic hallucinations, hypnopompic hallucination, waking dreams) and lucid-dreams (Watson, 2001). Sleep paralysis referred as "inability to speak or move just before sleep or upon awakening" (American psychological association, 2015, p. 988). Sharpless and Barber (2011) study findings revealed that sleep paralysis is frequent in the general population of about 7.6% especially in students that are 28.3%. Hypnagogic hallucination is "a transient, dreamlike image experienced while falling asleep" whereas Hypnopompic hallucinations is "an imaginary sensory perception occurring just before full wakefulness" (American Psychological Association, 2015, p. 512). There is 24.80% prevalence of hypnagogic hallucinations whereas 6.60% prevalence of hypnopompic hallucinations among young adults (García-Ptacek et al., 2013). Waking dreams is "an episode of dreamlike visual imagery experienced when one is not asleep" whereas Lucid dreaming is "a dream in which the sleeper is

aware that he or she is dreaming and may be able to influence the progress of the dream narrative” (American Psychological Association, 2015, p. 613). Saunders et al.’s (2016) study findings revealed that 55% people have lucid dreams once or more in life whereas 23% individuals have lucid dreams once a month or more.

Literature supports the connection between sleep-related experiences and dissociation such as imagination, absorption, daydreaming, and fantasizing (Fassler et al., 2006; Watson, 2001). Dissociative experiences correlated with sleep-related experiences such as lucid dreaming (Denis & Poerio, 2017), Sleep paralysis (Denis et al., 2018), nightmares, and waking dreams (Voss et al., 2009). Giesbrecht and Merckelbach (2004) observed a moderate positive correlation between dissociation and unusual nocturnal experiences. Kucukgoncu et al.’s (2010) study suggested that dissociation significantly predicts general sleep-related experiences in young adults. Fassler et al.’s (2006) study was evident that dissociation such as absorption, imagination, and fantasy accounted total 38% variance on general sleep-related experiences. Another study finding revealed that daily stress leads to general sleep experiences among highly dissociative young adults (Soffer-Dudek & Shahar, 2011).

Existing literature has highly focused on personality traits in response to stress whereas personality traits and stress received less attention in studying dissociation and sleep-related experiences. Either most of the studies had focused on personality traits or dissociation and sleep-related experiences with stress in the clinical and non-clinical samples but few studies focused on the combination of these variables. Secondly, few studies are conducted on young adults. Young adulthood is considered as a critical period of development as it is a period of maturation and changes so, individuals face great challenges related to social, educational, economic, health, and career demand, which may increase their stress level (Bonnie et al., 2015). In Pakistan, the study on a young adult with a combination of personality traits, stress, dissociation, and sleep-related experiences is not conducted before. The present study is designed for young adults to determine the overall relationship between big five personality traits with stress, dissociation, and sleep-related experiences because of scarcity of literature. It helped to identify how personality traits and stress predict dissociation and sleep-related experiences among young adults. So, that young adults get aware of their personality traits that are responsible to experience stress, which may further lead to dissociation and subjective sleep experiences. As it is, depend upon individuals’ personality that how they respond to a stressful life event, if they respond maladaptively

then their functioning may encounter in the form of dissociation and sleep-related experiences.

### **Hypotheses**

There will be a significant positive relationship between neuroticism personality trait and stress among young adults.

1. There will be a significant negative relationship between openness, conscientiousness, extraversion, agreeableness personality trait and stress among young adults.
2. Stress will mediate the relationship between Neuroticism personality trait and dissociation among young adults.
3. Dissociation will significantly predict sleep related experiences among young adults.
4. The male young adults with neurotic personality traits will experience dissociation and sleep related experiences than female young adults.

### **Method**

#### **Participants**

With the help of non-probability purposive sampling technique, participants were selected. Total 657 sample was collected from government and private university students of Rawalpindi and Islamabad, which include Quaid-i-Azam University, Foundation University, Arid Agriculture University, COMSATS University, SZABIST University, Fatimah Jinnah Women University, Bahria University, and Shifa College of Medicine. Young adults (University Students) within the age range of 18 to 26 were included in the sample, and young adults with any physical or mental disability were excluded for the sample. The following measures were used for the basic purpose of study: Demographic sheet, The Big Five Inventory, Perceived Stress Scale, The Dissociative Experiences Scale–II, and Iowa Sleep Experiences Survey.

#### **Materials**

These following measures were used:

##### ***Demographic Sheet***

Demographic details of participants including age, gender, birth order, education, family structure, socioeconomic status was obtained through demographic sheet.



***The Big Five Inventory (BFI; John et al., 1991)***

This scale was used to measure big five traits which include neuroticism, agreeableness, extraversion, conscientiousness, and openness to experience. It contains 44 items with responses of 5-point likert scale from strongly disagree (1) to strongly agree (5), higher the score on the scale will indicate high personality trait and vice versa. The alpha reliability coefficient was obtained from the sample, which was .73 for extraversion, .74 for agreeableness, .88 for neuroticism, .76 for conscientiousness and .62 for openness to experience (Benet-Martinez & John, 1998).

***Perceived Stress Scale (PSS; Cohen et al., 1983)***

The scale was used to measure the perception of stress. It contains 10 items with five-point likert scale responses ranges from very often (5) to never (1), high score indicates high perceived stress and vice versa. Test-retest reliability was .87 (Reis, et al., 2010).

***Dissociative Experience Scale-II (DES-II; Carlson & Putnam, 1993)***

The scale was used to measure dissociation experiences, which include absorption, daydreaming, emotional detachment, amnesia, derealization and depersonalization. the score of the scale ranges from never (0%) to always (100%), high score indicates high dissociation and vice versa. High Cronbach alpha reliability coefficient was obtained from the sample of this scale that is .93. Test-retest reliability was .84 (Saggino et al., 2020).

***Iowa Sleep Experiences Survey (ISES; Watson, 2001)***

The scale was used to measure experiences of nocturnal events. It consists of two subscales, general sleep-related experiences and lucid dreaming. Total items of scale are 24 with responses of 7-point Likert-type scale ranges from several time a week (7) to never (1) high score indicate high sleep related experiences and vice versa. The Cronbach alpha reliability coefficient was reported 0.88 for this study which is suitable for the population (Fassler et al., 2006).

**Procedure**

Pilot study was conducted prior to a full research project to evaluate duration, cost, feasibility and most importantly reliability of instruments. For this purpose, data was collected from 50 participants including 25 male and 25 female within the age range of 18-26 from

different universities of Islamabad and Rawalpindi. The participants took 15 to 20 minutes in filling the instruments. Reliability of questionnaires, descriptive analysis, correlation, and regression was run on data to test the hypothesis and objectives, after significant result main study was conducted. For main study data was collected from 607 participants including both male and female from same universities of Rawalpindi and Islamabad after taking official permission from head of department of universities.

Ethical codes of conduct recommended by APA were taken into account during main study. Study was conducted after getting approval letter from Institution Review Board and Ethics Committee. In order to collect data, official permission from head of departments was taken. Each participant was debriefed about the purpose of the study. Informed consent was signed from participants. After taking informed consent, complete instructions about filling questionnaires were given, and then the four questionnaires The Big Five Inventory, The Perceived Stress Scale, Dissociative Experience Scale – II and Iowa Sleep Related Experiences were administered along with the demographic form on each participant. Participant's queries were addressed immediately. Anonymity and confidentiality were ensured. The participants were also ensured that they will not be harmed either physically neither emotionally. They were allowed to withdraw from study any time. At the end, each participant was acknowledged.

## **Results**

The present research aimed at identifying relationship between big five personality traits, stress, Dissociation, and Sleep-related Experiences among young adults. It is divided in to two sections. First section comprises of descriptive statistics and psychometric properties. The second section includes the hypothesis testing that had been checked by various statistical analyses.

### **Section I: Descriptive Statistics and Psychometric Properties**

In first step, Cronbach alpha reliability was obtained to see the reliability of Big Five Inventory, Perceived Stress Scale, Dissociative Experiences Scale II, and Iowa Sleep Experiences. Descriptive analysis was used in order to check the mean and standard deviation of data.

Table 1

*Alpha Reliability Coefficients and Descriptive Statistics of Big Five Inventory, Perceived Stress Scale, Dissociative Experience Scale-II and Iowa Sleep Experiences Survey (N=657)*

| <i>Scale</i>      | <i>M</i> | <i>SD</i> | <i>Range</i> | <i>Cronbach's α</i> |
|-------------------|----------|-----------|--------------|---------------------|
| BFI               |          |           |              |                     |
| Extraversion      | 22.10    | 6.88      | 8-81         | .73                 |
| Agreeableness     | 32.40    | 6.11      | 9-45         | .74                 |
| Conscientiousness | 27.80    | 7.20      | 12-45        | .76                 |
| Neuroticism       | 30.60    | 5.13      | 8-40         | .88                 |
| Openness          | 35.70    | 7.65      | 21-83        | .62                 |
| PSS               | 24.50    | 7.65      | 5-40         | .87                 |
| DES-II            | 31.20    | 7.30      | 36-91        | .93                 |
| ISES              | 58.40    | 22.84     | 5-121        | .88                 |

*Note.* BFI = Big Five Inventory, PSS = Perceived Stress Scale, DES-II = Dissociative Experience Survey-II, ISES = Iowa Sleep Experiences Survey.

The Table 1 showed standard deviation, mean, range and alpha reliability coefficient of all scales and subscales of sample ( $N = 657$ ). The mean and standard deviation of extraversion was ( $M = 22.1$ ,  $SD = 6.88$ ), for agreeableness was ( $M = 32.4$ ,  $SD = 6.11$ ), conscientiousness was ( $M = 27.6$ ,  $SD = 7.20$ ), neuroticism was ( $M = 30.6$ ,  $SD = 5.13$ ), openness was ( $M = 35.7$ ,  $SD = 7.65$ ), PSS was ( $M = 27.6$ ,  $SD = 7.20$ ), DES-II was ( $M = 31.2$ ,  $SD = 7.30$ ), and ISES was ( $M = 27.6$ ,  $SD = 7.20$ ). It showed that distribution of test scores of majority of the study variables was found to be average. The alpha reliability coefficient of extraversion was .73, agreeableness was .74, conscientiousness was .76, Neuroticism was .88, openness was .62, perceived stress was .87, dissociation was .93 and sleep-related experience was .88. The result showed that used scales in study lies between high to excellent range except openness subscale of Big Five Inventory, which showed moderate level of reliability.

Table 2 showed the demographic details of participants. Across gender, Female has high frequency and percentage (345, 50) than male. First-born have high frequency and percentage that was 331 and 48 across birth-order. Bachelors have high frequency and percentage that was 326 and 47.5 respectively across education. Joint family system has high frequency and percentage that was 515 and 74.5 across Family system. Finally, socioeconomic status has high frequency and percentage of 446 and 64.6 respectively.

Table 2  
*Socio-demographic Variables of Study Participants (N = 657)*

| Variables              | N   | %    |
|------------------------|-----|------|
| Gender                 |     |      |
| Male                   | 312 | 45   |
| Female                 | 345 | 50   |
| Birth order            |     |      |
| First-born             | 331 | 48   |
| Middle- born           | 100 | 14.5 |
| Last-born              | 226 | 32.8 |
| Education              |     |      |
| Intermediate           | 224 | 32.5 |
| Bachelors              | 326 | 47.5 |
| Masters                | 107 | 15.5 |
| Family system          |     |      |
| Joint                  | 142 | 20.6 |
| Nuclear                | 515 | 74.5 |
| Social economic status |     |      |
| Upper                  | 67  | 9.7  |
| Middle                 | 446 | 64.6 |
| Lower                  | 144 | 20.9 |

Note. f = Frequency; % = percentage.

## Section II: Hypotheses Testing

In this section, Pearson Correlation was computed to measure the nature and degree of relationship between stress and big five traits. Regression was performed to analyze the mediating role of stress between neuroticism and dissociation and to analyze the predicting role of dissociation on sleep-related experiences. Finally, *t*-test was performed across gender in order to check the mean differences between genders (male and female).

Table 3  
*Inter-Scale Correlation of Big Five Personality Traits and Stress (N = 657)*

| Variables         | 1 | 2     | 3     | 4      | 5      | 6      |
|-------------------|---|-------|-------|--------|--------|--------|
| Extraversion      | - | .23** | .21** | -.24** | .26**  | -.20** |
| Agreeableness     |   | -     | .28** | -.23** | .19**  | -.32** |
| Conscientiousness |   |       | -     | -.29** | .16**  | -.43** |
| Neuroticism       |   |       |       | -      | -.10** | .69**  |
| Openness          |   |       |       |        | -      | -.08*  |
| Stress            |   |       |       |        |        | -      |

\*\*  $p < .01$ . \*  $p < .05$ .

Table 3 showed the relationship between stress and big five personality which indicated that Neuroticism personality trait has highly significant positive relation with stress at  $p < .01$ , whereas extraversion agreeableness, conscientiousness and openness personality traits have significant negative relation with Stress at  $p < .05$ . Results show young adults with neuroticism personality trait are vulnerable to experience stress.

Table 4  
*Mediating Role of Stress Between Neuroticism and Dissociation*  
 (N = 657)

| Model   | S.E  | B     | t     | p    | 95% CL |      |
|---|------|-------|-------|------|--------|------|
|   |      |       |       |      | LL     | UL   |
| Constant                                      | 2.69 |       | 3.63  | .000 | 4.49   | 15.0 |
| Neuroticism                                   | .117 | -.050 | -1.03 | .303 | -.35   | .10  |
| Stress  | .110 | .454  | 9.31  | .000 | .80    | 1.24 |
| Total effect of X on and Y (path ab+c)        | .09  | .62   | 6.90  | .000 | .45    | .80  |
| Direct effect of X on Y (path c)              | .12  | -.12  | -1.03 | .30  | -.35   | .10  |
| Indirect effect of X on Y through M (path ab) | 0.35 | .31   |       |      | .24    | .38  |

Figure 1. Haye’s Process Macro model for mediation.

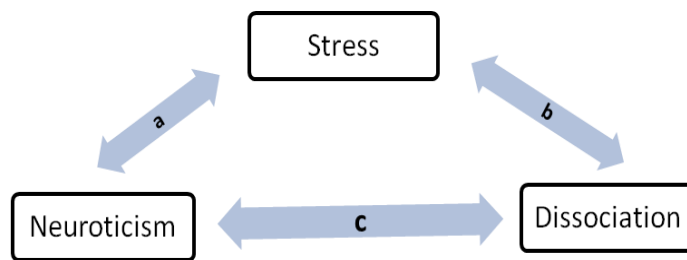


Table 4 showed mediating role of stress between neuroticism personality trait and dissociation. Process macro model 4 was used to test the mediation analysis. Results reveal that the value of regression

coefficient for neuroticism was ( $\beta = -.050$ ) and no significance relationship has seen between neuroticism personality trait and dissociation which shows full mediation. It was also seen that direct effect of neuroticism on dissociation was ( $\beta = .12, p = .30$ ), which was not significant whereas indirect effect of neuroticism on dissociation through stress was significant as both upper and lower limit was seen positive. Moreover Total effect of neuroticism with stress on dissociation was ( $\beta = .62, p = .00$ ), which is significant. Thus, it confirmed the mediating role of stress between neuroticism personality trait and dissociation among young adults.

Table 5

*Simple Linear Regression predicting sleep-related experiences from dissociation (N = 657)*

| Outcome                   | B   | S. E | B   | t     | p | R <sup>2</sup> | Adjusted R <sup>2</sup> | 95% CI |     |
|---------------------------|-----|------|-----|-------|---|----------------|-------------------------|--------|-----|
|                           |     |      |     |       |   |                |                         | UL     | LL  |
| Sleep-Related Experiences | .53 | .05  | .40 | 11.42 |   | .17            | .17                     | .44    | .30 |

Table 5 showed that dissociation is positively predicting the sleep-related experiences ( $\beta = .53, p = .000$ ). Dissociation was accounting 17% variance on sleep-related-experiences. The overall results revealed that dissociation significantly predicting sleep-related-experiences among young adults.

Table 6

*Gender Differences on Neuroticism Personality Trait, Stress, Dissociation, and Sleep-related Experiences (N = 657)*

| Variables                 | Male<br>(n = 312) |      | Female<br>(n = 345) |       | p   | t     | 95% CI |       | Cohen's<br>d |
|---------------------------|-------------------|------|---------------------|-------|-----|-------|--------|-------|--------------|
|                           | M                 | SD   | M                   | SD    |     |       | UL     | LL    |              |
|                           | Neuroticism       | 28.8 | 7.56                | 38.3  |     |       | 6.43   | .00   |              |
| Stress                    | 23.4              | 7.91 | 35.6                | 7.27  | .00 | -3.68 | -3.34  | -1.01 | .28          |
| Dissociation              | 30.4              | 18.3 | 32.0                | 16.26 | .23 | -1.19 | -4.27  | 1.03  | -            |
| Sleep-related Experiences | 58.0              | 22.3 | 60.0                | 23.22 | .07 | -1.84 | -6.79  | .203  | .14          |

Table 6 showed significant mean difference between the test score of males and females on neuroticism personality traits and whereas no significant mean difference seen between the test score of males and females on dissociation and sleep-related experiences. Mean values indicates that females score higher on neuroticism and stress. Moreover, the values Cohen's d indicates moderate effect size of gender on neuroticism than other variables.

## Discussion

The purpose of current research is to explore the role of big five traits and stress in causing dissociation and sleep-related experiences among young adults. The present study was helpful in extending the research on the dimension of dissociation and sleep-related experiences among young adults. It seemed to be more productive to find stress as a mediating factor between neuroticism and dissociation, secondly to find the dissociation as the predictor of sleep-related experiences.

Total 657 young adults within the age range of 14 to 18 years were included in the study. Demographic details of participants show that females have high percentage (50%) than male. Across the Birth-order, participants with first-born have high percentage that is 48%. Across education participant with bachelor's degree have high percentage that is 47.5%. Across family structure participants belongs to joint family system have high percentage that is 74.5%. The result of the present study supported the first hypothesis that neuroticism personality trait positively correlated with stress which can be supported with previous findings that neuroticism is positively related with stress (Stamp, 2016). This is because young adult high in Neuroticism traits are high in emotional instability, irritability, and negative emotionality, therefore such individual experience negative emotions (i-e., worry, anger, jealousy, guilt, frustration, fear, and loneliness) and are unable to cope stress (Hankin, 2010; Jackson & Schneider, 2014; Spindler & Elklit 2003). If we look evaluate the results from the lens of Asian Culture then family structure play a significant role in developing neuroticism in adults. In joint family system a lot of conflict arises due to several factor which are witnessed by growing adults and it puts influence on their personality (Nakao et al., 2000).

The second hypothesis of the study is that openness, conscientiousness, extraversion, and agreeableness personality trait are negatively correlated with stress. The results are consistent with the literature extraversion, conscientiousness, agreeableness, and openness are considered as negatively associated with stress (Afshar et al., 2015). These results showed that extrovert young adults easily cope with stress easily because they are high in emotional regulation and stability (Jackson & Schneider, 2014; Leger et al., 2016; Penley & Tomaka, 2002). Adults with Conscientiousness personality style are organized in their life, show responsible attitude and live productive life which are used as protective factors against stress (Bartley & Roesch, 2011; Chen et al., 2017). Agreeableness and openness to

experience traits have a low tendency to experience stress, anxiety, or depression (Ervasti et al., 2019; Koorevaar et al., 2013).

The results of the study supported third hypothesis that stress mediate the relationship between Neuroticism personality trait and dissociation among young adults which consistent with the existed literature. Results suggest that young adults with neuroticism personality traits experience more stress, which effect their functioning in the form of dissociation. This finding is in line with the scientific evidence that individuals high on neuroticism ignore positive stimuli in the environment and evaluate stressors as highly threatening (Abbasi, 2011). Cenic (2020) suggested that dissociation occurs due to extreme stress or intense worry because continuous encounter to stressful event affect the memory and individuals disconnects from thought, memory, feeling, or surroundings. Dissociation in reaction to stress or traumatic event disconnects individuals from the external environment and shifts their focus to the internal world (Andrews, 2018; Conner, 2016; Şar, 2017).

The fourth hypothesis of the study is approved as dissociation significantly predicts sleep-related experiences among young adults, which suggests that those young adults who experience dissociation such as daydreaming, forgetfulness absorption, absentmindedness, and emotional detachment faced sleep-related experiences in their life. This finding was in accordance with Kucukgoncu et al. (2010) work, which suggested that dissociation significantly predicts general sleep-related experiences among young adults. Another study finding revealed that daily stress leads to general sleep experiences among highly dissociative young adults (Soffer-Dudek & Shahar, 2011). Dissociation such as absorption, imagination, and fantasy accounted for a total 38% variance on general sleep-related experiences (Fassler et al., 2006).

The last hypothesis is that there is a gender difference among neuroticism personality stress, dissociation, and sleep-related experience, which is not fully approved. Results suggested that there was a significant mean difference between the test score of males and females on neuroticism personality traits and whereas no significant mean difference was seen between the test score of males and females on dissociation and sleep-related experiences. Mean values indicate that females score higher on neuroticism and stress. This pattern of results consistent with previous literature that women scored higher in neuroticism and stress than men (American Psychological Association, 2011; Weisberg, et al., 2011). The results show no difference between males and females on dissociation and sleep-related experiences. Spitzer et al.'s (2003) study findings revealed that



men and women do not differ in dissociative experiences whereas a significant knowledge gap was seen in previous researches to study sleep-related experiences across gender.

### **Limitations and Future Directions**

The current study has four potential limitations concerning about results. First limitation concerns with the generalization of results as it depends on the nature of the study sample. The present study collected data only from university students of two cities (Rawalpindi and Islamabad) of Pakistan and there is no average percentage of male and female, thus the future research could replicate the current study with equally distributed sample from all over Pakistan in order get effective and more generalized results. The second limitation of the study is the cross-sectional correlational research design was used in this research, which gives brief picture of personality traits and stress tolerance among young adults, therefore the current study suggests longitudinal research design for getting better results. Third limitation is that the present study did not investigate the impact of social economic status, marital status, education and occupation on personality traits and stress thus it will be useful to extend the current study by examining the impact of these demographic variables on personality trait and stress. The last limitation is that the current study only considers neuroticism personality trait in order to study dissociation and sleep-related experiences, thus it is recommended for future researches to study other big five traits such as extraversion, agreeableness, conscientiousness, and openness personality traits with dissociation and sleep-related-experiences.

### **Conclusion**

The present study contributes to the concept of dissociative experiences and sleep-related experiences in non-clinical population. This study is designed for young adults to study the role of personality traits and stress in causing dissociation and sleep-related experiences. It is concluded that young adults with high neurotic traits are vulnerable to experience stress than other personality traits. Study depicted that stress mediates the relationship between neuroticism personality trait and dissociation, which shows that a high level of stress among neurotic young adults affect their functioning in the form of dissociation. Additionally, it is also found out that those highly dissociative young adults experience sleep-related experiences in their life. The implication of these findings is to give awareness among young adults that their personality trait is responsible for experiencing

stress, which further leads to dissociation and subjective sleep experiences.

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