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Creative Thinking and Anxiety among Adolescents

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ABSTRACT

Every person will come to experience what everyone perceives as the most challenging stage in life – adolescence. Most adolescents have different perspectives on life in this stage, and they experience many transitions. These transitions can

naturally lead to anxiety. Experiencing anxiety is a normal part of adolescence. Excessive anxiety, however, frequently results in anxiety disorder. Individuals with this disorder often experience intense, excessive, and persistent worry and fear about everyday situations. Using a descriptive-correlational research design, this study aimed to determine the relationship between variables such as age and anxiety to creative thinking among 100 adolescents in a selected school in Batanes. The Creativity Styles Questionnaire (CSQ) was used to assess creative thinking and the Zung Self-Rating Anxiety Scale (SAS) for the respondents' anxiety. Results revealed the following: (1) There were no significant differences in anxiety between male and female adolescents; (2) A weak negative correlation between age and anxiety and; (3) A weak negative correlation between creative thinking and anxiety.

Keywords **—** Social Science, anxiety, creative thinking, age, gender, adolescents, descriptive-comparative-correlational research, Batanes, Philippines

INTRODUCTION

Adolescence is the developmental period between 13 and 19 from infancy to adulthood. During the preteen or "between" years, the physical and psychological changes in adolescence frequently begin earlier in ages 9 and 12. This stage is considered a very challenging phase in one's life. This can be a time of confusion and discovery. Zaky (2016) believes that adolescence is a transitional stage typically limited from puberty to legal adulthood in physical and psychological development. It is also a time of several transformation from one living condition to another, including schooling, training, jobs, unemployment, and transitions. During this stage, the risk of developing anxiety disorder rises significantly (Grant, 2013).

According to Adwas et al. (2019), anxiety disorders are the most common mental disorders and affect nearly 30 percent of adults at some point in their lives (American Psychiatric Association, 2021), with lifetime prevalence rates of up to 31% in the population (Grant, 2013). It is manifest in mood disorders, as well as in thought, actions, and physiological activity. Most generally, the concept of anxiety is characterized as a diffuse, uncomfortable, ambiguous sense of fear, frequently accompanied by autonomic symptoms such as restlessness, easily fatigued, difficulty in concentrating or mind going blank or irritability, muscle tension, and sleep disturbance (Munir et al., 2021). It was reported that the mean estimate for any anxiety disorders for adolescents was about 11% (Weems & Silverman, 2013).

A study conducted by Elflein (2020) revealed that in 2018, the United States of America had the highest number of cases of anxiety disorder with a rough estimate of 75.9 million. China followed with 44.5 million, Brazil with 42.6 million, India with 32.1 million, and Germany with 16.5 million. The study has also shown that Canada has the lowest number of cases with 2.5 million as of 2018. Globally, according to the World Health Organization (2017), the total estimated number of people living with anxiety disorders is 264 million, which comprises the following: African Region with 25.91 million (10%), Eastern Mediterranean Region with 31.36 million (12%), European Region with 36.17 million (14%), Western Pacific Region with 54.08 million (20%), Region of the Americas with 57.22 million (21%), and South East Asia with the highest number which is 60.05 million (23%).

Further, Bandelow and Michaelis (2015) believed that there is a standard view that anxiety is a distinctive aspect of modern times and that due to some political, social, economic, or environmental changes, the incidence of anxiety disorders has increased. Developmentally, adolescents have a higher risk for developing anxiety disorders due to numerous transitions and as they face complicated challenges, expectations, responsibilities, uncertainties, and influences in life (Grant, 2013). Moreover, in a study conducted on parent-child interactions and adolescent anxiety, Waite et al. (2014) revealed that parents' behavior has been associated with developing, transmitting, and maintaining anxiety in children and young people. Research has shown that parental engagement affects the actions and learning of children in many aspects of life (Negreiros & Miller, 2014).

On the other hand, Rector et al. (2016) emphasized how anxiety affects everyone. This includes the way an individual's body feels and works (physical), the way an individual acts (behavioral), and the way an individual thinks (cognitive). When someone experiences anxiety, his or her attention shifts immediately to the potential threat. The effect on a person's thinking can range from mild worry to extreme terror. However, implementing creative thinking techniques may lessen anxiety. According to Tabrizi et al. (2011), creative thinking is a skill that produces the power to discover and gain new insights. It also serves as a defense mechanism against anxiety.

Beesdo et al. (2009) suggested that the core challenge in this age span is developing developmentally more sensitive assessment methods. Identifying characteristics that could serve as solid predictors for onset, course, and the outcome will require prospective designs that assess a wide range of putative vulnerability and factors. This is important to improve early recognition,

differential diagnosis, prevention, and treatment. Therefore, an accurate understanding of the vulnerability factors and the features of anxiety disorder is essential to mental health professionals.

FRAMEWORK

Age, Gender, and Anxiety

A study by Rapee (2012) revealed that anxiety disorders in the general population are more prevalent in females than in males. Most demographic studies predict around 1.5 to 2 times as many females compared with males for most anxiety disorders. Females have a higher prevalence than males, and this difference gets accentuated with development and reaches 2-3:1 by adolescence (Costello et al., 2011). Moreover, children who show anxiety disorder during preschool age are 2 to 4 times more likely to meet the conditions for this kind of disorder by middle childhood, and this increased risk has been shown to continue at least into adolescence.

Adolescence is a period of significant change and identity creation, particularly interpersonally. This period experience high rates of anxiety during this formative time as they involve family pressure, peer relations, romantic relations, and pubertal and gender issues (Davila et al., 2010). This increased risk for the development of anxiety is likely due in part to the numerous transitions during this period.

According to Bhatia and Goyal (2018), anxiety is a normal human emotion that involves behavioral, affective, and cognitive responses to the perception of danger. It is a normal part of adolescent life and is considered the most common disorder. The prevalence of anxiety disorders ranges from 4% to 20%.

Depression, anxiety disorder, panic disorder, and post-traumatic disorder (PTSD) are the most common mental health issues. Consequently, over 100 million people in the Western Pacific Region, including the Philippines, suffer from mental disorders (Billote & Ponce, 2020). The World Health Organization (2001) reports that up to 20 percent of children and adolescents have a debilitating mental disorder. While mental health problems have been primarily understudied during adolescence, there is growing evidence that many teenagers face depression and anxiety and that these disorders have lasting adverse effects into adulthood. It is estimated that three-quarters of mental illnesses in childhood and adolescence remain untreated worldwide, and 90% are possibly untreated in developing nations. Between 44% and 70% of child and adolescent disabilities remain untreated in developed nations with well-organized health care systems (World Health Organization, 2003). In the Philippines, there are

only five government hospitals with psychiatric facilities, 84 general hospitals with psychiatric units, and only 2.0 mental health professionals per 100,000 people (Estrada et al., 2020). Although gender is comparable in the overall rates of mental health and behavioral disorders, there are apparent disparities in depression and anxiety between gender and age. Among women, anxiety and depressive disorders are more common. According to Hindin and Gultiano (2006), after puberty, gender differences in levels of depression appear during adolescence. One of the variables associated with mental illness in adulthood is increasingly shown to be the household atmosphere during childhood.

Genetics and Anxiety

The most reported cases of mental illness are often linked with familial or hereditary mental disorders. Research conducted by Olofsdotter (2017) has shown that the risk of anxiety is approximately five times greater among first-degree relatives of individuals with anxiety disorders than among those without an affected relative. Heritability levels of 30-50% have been identified for all anxiety disorders, indicating that 50-70% of the variation in anxiety could be due to environmental effects. It has shown that children of parents with at least one anxiety disorder have a substantially increased risk of anxiety disorder. However, the mechanisms underlying these associations remain unclear. Ahmadzadeh et al. (2019) pointed out that children of anxious parents can inherit genes associated with their parents' anxiety development (a genetic mechanism); anxious parents and children can behave in ways that promote anxiety in the other (environmental mechanisms), and both generations can simultaneously influence anxiety in adverse environments shared by both generations.

Creative Thinking and Anxiety

Creative thinking is an intellectually disciplined process of actively and skillfully conceptualizing, applying, analyzing, synthesizing, and evaluating information gathered from, or generated by, observation, experience, reflection, reasoning, or communication, as a guide to belief and action. The effectiveness of these thinking skills must examine psychological variables such as identity and health in adolescents. Parisooz (2010, as cited in Kargar et al., 2013) showed that creative thinking positively affects psychological health and academic achievements. Khandaghi (2011, as cited in Miraka & Tritsaroli, 2019) found a positive correlation between creative thinking and mental health. Results showed that the enhancement of creativity results in the improvement of mental health.

Furthermore, anxiety may stimulate creativity when individuals are exposed to anxiety situation-related. They may be engaged in a focused problem-solving strategy that leads to creativity improvement.

Sigmund Freud's Psychoanalytic Theory of Anxiety proposed that anxiety is a form of stress resulting from birth separation and human experiences of biological fantasies (Tabrizi et al., 2011). Stimulating creative thinking helps to lessen anxiety disorder among adolescents. This is crucial because creative thinking is an ability that generates the power of discovery and new thinking. Creative thinking also helps to transform negative emotions into positive and enhances mental well-being in return when an adverse event happens. A study conducted by Sandmire et al. (2012) showed that activities involving creativity such as art-making, painting, collage making, still life drawing, and modeling with clay help treat anxiety.

Moreover, art as a therapy language, paired with verbal dialogue, uses all the individual's capabilities to find a more efficient approach to lessen anxiety. de Witte et al. (2020) also showed that music interventions are used for anxiety reduction in physiological and psychological stress experiences. Thus, creativity is vital in one's life as it is the key to everyday problem solving and planning.

OBJECTIVES OF THE STUDY

The main objective of this study was (1) to determine the relationship between variables such as age and anxiety to creative thinking among adolescents in a selected school in Batanes, and (2) to identify gender differences in terms of anxiety. Further, this study sought to increase knowledge and awareness about anxiety among adolescents, which will help professionals to develop preventive measures and interventions.

METHODOLOGY

Research Design

The approach used in this study is a quantitative research approach. It utilized a descriptive-comparative-correlational research design to identify gender differences in terms of anxiety and to examine the relationship between selected variables such as age and anxiety to creative thinking among adolescents in a selected school in Batanes.

Research Site

The study was conducted among 100 adolescents in a selected school in the Province of Batanes. The respondents consisted of 52 males and 48 females ranging from 16 to 19 years old. Of the respondents, 31 (31%) adolescents were 16 years old, 58 (58%) were 17 years old, 9 (9%) were 18 years old, and 2 (2%) were 19 years of age.

Data Gathering Tools

A three-part survey questionnaire was used to gather data in this study – Consent Form, Creativity Styles Questionnaire (CSQ), and Zung Self-Rating Anxiety Scale (SAS).

Consent Form. The consent form provided a brief background of who the researchers are, the purpose and objectives of their study, the study's significance, and the participants' permission to participate in the study voluntarily.

Creativity Styles Questionnaire (CSQ). The Creativity Styles Questionnaire (CSQ) was developed by Kumar and Holman (1989, as cited in Nori et al., 2018). The CSQ is a self-administered test that consists of 78 items, which was designed to provide information about an individual's creativity and problem-solving style. For each of the items in the questionnaire, answers are chosen based on the five (5) response categories given on the numerical scale. The choices are 1 (Strongly Disagree); 2 (Disagree); 3 (Unsure); 4 (Agree); and 5 (Strongly Agree). The internal consistency of the questionnaire as a whole is 0.92, and the median internal consistency for the CSQ scales is 0.78.

Zung Self-Rating Anxiety Scale (SAS). According to Dunstan and Scott (2020), the Zung Self-Rating Anxiety Scale (SAS) was designed to measure anxiety levels in individuals who have anxiety-related symptoms. The scale is a self-administered test that focuses on the most common general anxiety disorders. The SAS consists of 20 questions with 15 increasing anxiety level questions and five decreasing anxiety questions. For each item, answers are chosen based on the four (4) response categories given on the numerical scale. The choices are 1 (None or A Little of the Time); 2 (Some of the Time); 3 (Good Part of the Time); and 4 (Most or All of the Time). The scale's internal consistency is 0.80 (Ramirez & Lukenbill, 2008).

Data Gathering Procedures

The researchers submitted a letter of intent to conduct the study to the School Head. When the researchers were permitted to conduct the study, the

researchers then administered the survey questionnaires to the respondents.

Before administering the survey questionnaires, the researchers established rapport through self-introduction and statements about the purpose and nature of the study. The respondents were given sufficient time to complete the questionnaires. The researchers gave specific instructions for each part, asked them for their honesty in answering the items, and assured them of the confidentiality of the data collected.

During the administration of the survey questionnaires, the respondents were free to ask any questions or clarifications about the items. After the administration of the survey questionnaire, the respondents were assured that they would receive the results of the research. Upon completing the survey questionnaire, the researchers screened the data to see which were possible for use in the study.

RESULTS AND DISCUSSION

Gender Differences in Anxiety

To compare the anxiety scores of male and female adolescents, the researchers used an independent-samples t-test. It shows that the significance level of Levene's test is 0.716, which means that the assumption of equal variance has not been violated. The result show that there was no statistically significant difference, t (98) = -1.565, $p > .05$, in scores for males ($\overline{x}$ = 2.0365, SD = 0.4086) and females ($\overline{x}$ = 2.1563, SD= 0.3509). The difference between the means is very small ($\eta 2$ = -0.0254). According to the t-test, there is no significant difference in the anxiety level of male and female adolescents. Therefore, it indicates that gender does not affect whether these adolescents are prone to anxiety.

The result supports the study conducted by Faleye (2010). The outcome of the t-test analysis showed that there were no substantial differences in Cognitive Test Anxiety (CTA) scores between male and female students. However, the result of this study contradicts the findings of Jalnapurkar et al. (2018) and the World Health Organization (2017), which have consistently been shown that females are more prone to have an anxiety disorder.

Relationship between Age and Anxiety

The study shows a weak negative relationship between age and anxiety among adolescents, r = -0.242, $p < .05$. Therefore, as the age increases, the lesser anxiety one will experience. This study supports the research conducted by

Khesht-Masjedi et al. (2019) that as an individual grows up, he/she experiences less anxiety. Consequently, as younger the adolescents are, the more anxiety they may experience. This is explained by the idea that people experience many changes in their early years, including several cycles of growth and development in their bodies and way of thinking. However, it is good to note that a study contradicts the results that indicate no significant relationship between age and anxiety (Tabrizi et al., 2011).

Relationship of Creative Thinking and Anxiety

The result of this study shows that there is a weak negative correlation between creative thinking and anxiety among adolescents, $r = -2.10$, $p < .05$. Therefore, it indicates that creative thinking will probably work at its best if one is less anxious. The result of this study supports the finding of Byron and Khazanchi (2011, as cited in Little & Wuensch, 2015), that found a negative relationship between anxiety and creativity. However, the result of this study contradicts the findings of Miraka and Tritsaroli (2019) that there is a positive relationship between anxiety and creativity. This has also shown that anxiety drives an individual to be more creative.

CONCLUSIONS

As child, anxiety is part of childhood, and every child goes through this phase. However, levels of anxiety, for many reasons, differ in each phase of life. Adolescents suffer from anxiety disorder due to various internal and external factors. This study concluded that creative thinking affects mental health.

The outcome of this research related to anxiety and gender showed no substantial difference in the degree or scores of anxiety among adolescents. Therefore, it indicates that gender does not affect whether these adolescents are prone to anxiety. Further, age and creative thinking have both a weak negative relationship when it comes to anxiety. Therefore, it indicates that one feels less anxious when one grows up and becomes more creative.

TRANSLATIONAL RESEARCH

The research can be a helpful guide to comprehending anxiety amongst adolescents considering age and gender. This can be a basis for how creative thinking helps adolescents overcome anxiety. Since creative thinking may help

reduce anxiety, the findings may help encourage scholars and practitioners, especially in the Philippines, to use creative learning methods to lessen anxiety.

The researchers recommend that further study be done to look at specific creativity techniques and their effects on anxiety. Some studies show a positive association between creative thinking, gender, age, birth order, and anxiety. Some studies also show negative correlations between these variables. Nevertheless, this indicates a need for more studies to confirm the relations and most importantly, studies that assess the factors that contribute to anxiety to reduce the incidence of anxiety. Furthermore, the researchers suggest the construction of questionnaires or tools that measures anxiety and creative thinking, which is culture-bound in the Philippine setting, so that results or findings can be more accurate. Due to the limited or small number of participants included in the study, the researchers recommend that future researchers increase the number of participants involved to make it a valid and accurate representative sample of the population being studied. The researchers suggest considering and conducting other studies aside from correlational studies that may contribute to literature about creative thinking and anxiety. Predictive studies may be considered to develop further and explain the relationship between creative thinking and anxiety.

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