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Coping Style and Defence Mechanisms among Traumatized and Non-Traumatized Adolescents in Malaysia

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ABSTRACT

Background: Coping and psychological defence skills are frequently used when individuals experience trauma, stress, and anxiety.

Objective: To examine the roles of Coping and psychological defence skills in traumatized adolescents exhibiting post traumatic stress disorder (PTSD) symptoms.

Methods: A sample of 1016 adolescents aged 12 to 17 answered the Coping Style Questionnaire-3, Defence Style Questionnaire-40, Traumatic Event Checklist, Harvard Trauma Questionnaire and a socio-demographic questionnaire.

Results: Results showed that traumatized adolescents significantly used all coping styles: emotional focused, avoidance, rational, and detached. Similarly, adolescents with PTSD symptoms significantly used all the coping styles than those without PTSD symptoms: emotional focused, avoidance, rational and detached. Traumatized adolescents significantly used immature style, mature style than non-traumatized adolescents. Similarly, adolescents with PTSD symptoms significantly used immature defence style, mature style and neurotic style.

Conclusion: Traumatized adolescents demonstrate a greater use of avoidance coping style, whereas non-traumatized adolescents tend to use rational coping style. Improving coping skills might directly improve traumatized adolescents' daily functioning.

Key Words: Coping, Defence, Trauma adolescents, Post traumatic stress disorder

INTRODUCTION

Developmentally, adolescence is a period where individuals experience many life changes that require them to adapt to different values, attitudes, and social expectations so that their transition to adulthood would be more successful.[1] Adolescents are uncertain regarding their identity, aware of no longer being a child but not yet ready to be an adult. The developmental challenges become worse if adolescents experience potentially traumatic events such as road accidents, health-related injuries,[2,3] COVID-19 pandemic,[3] death of someone loved, sexual abuse and other negative life events. At this developmental stage, adolescents learn to independently solve their problems and become able to adopt positive thinking patterns. Therefore, adolescents may develop strategies to cope with much negative life challenges.[4]

The ability of adolescents to cope with life challenges can impact their mental[6]. Poor coping skills may lead adolescents to be more vulnerable in dealing with negative life events and stressors. For example, avoidance coping styles among adolescents were found to be significantly correlated with mental disorders.[4,5] However, before reporting any outcomes or conclusions regarding the effectiveness of different coping strategies, the role of defence mechanisms must be considered. This is because individual descriptions of their coping strategies and their descriptions of the outcomes are both influenced by defence mechanisms.[6]

According to the Diagnostic and Statistical Manual of Mental Disorders Fifth Edition (DSM-5), individuals are protected from internal or external dangers and stressors using their defence mechanisms and coping styles.[7] There are some overlaps between coping and defence mechanisms, but it is also clear that there are theoretical differences.[8-10] Coping

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process is conscious and used intentionally, whereas defence mechanisms are unconscious and non-intentional when responding to stress.[8,6]

Previous studies have shown that immature defence mechanisms such as avoiding stressors are strongly associated with mental illness.[9,10] Yet, when several studies were conducted to examine defence mechanism styles between traumatized (with Posttraumatic Stress Disorders or PTSD symptoms) and non-traumatized participants (without PTSD symptoms), there were no significant differences in their defence styles.[11-14] Some researchers have argued that any defence mechanisms, including mature, immature and neurotic defence mechanisms could be effective after traumatic events.[11,12]

There appear to be no studies as yet that investigate the type of coping styles and defence mechanisms adopted by adolescents with traumatic experiences among our population. Therefore, this study asks whether there are differences in the adopting of coping styles and defence mechanisms among traumatized and non-traumatized Malaysian adolescents.[15]

MATERIALS AND METHODS

Participants

A total of 1016 adolescents aged 12 to 17 (M_{age} = 14.9, SD =1.4; 378 male, 638 female) participated in this study. Participants were randomly selected from seventeen lower and upper secondary government schools (Grade 7 to Grade 11). Thirty-five per cent of the adolescents were Malays (34.6%), 31% are Iban, 15% are Chinese, 9% are Bidayuh, and 10 % are other ethnic minorities that include Indians, Kelabit and Melanau.

Procedure

Thirty invitation letters were sent to the local school systems, of which seventeen agreed to participate. Participation agreements were obtained from parents and legal guardians. Issues related to participant rights and confidentiality were described and addressed. Participants who exhibited PTSD symptoms were so advised and introduced to a psychiatrist and a clinical psychologist. This study was approved by the Faculty of Medicine and Health Sciences, Universiti Malaysia Sarawak Ethical Committee (reference number UNIMAS/NC-21.02/03-02.), the Malaysian Ministry of Education, and the Sarawak Education Department.

Measures

Socio-demographic questionnaire

This survey collected data on age, gender, ethnic group, parent's education and living situation: whether participants live with both parents, one parent, other relatives, or within an institution.

Traumatic events checklist

This checklist consists of 20 traumatic events and negative life events, such as traffic accident, severe childhood neglect and sexual abuse. Participants report direct and indirect traumatic events in their life. They also indicate if they experienced it personally, only witnessed it, or if people who were close to them shared the experience with them. Elklit[15] demonstrated that this checklist has good external validity.

Harvard Trauma Questionnaire[16]

HTQ has 30 items measuring PTSD symptoms. The first sixteen items list the three major clusters of Diagnostic and Statistical Manual of Mental Disorders Fourth Edition (DSM-IV) PTSD symptoms[17] diagnostic criteria. HTQ consists of 7 items describing symptoms of avoidance, 4 items describing re-experiencing symptoms and 5 items describing hypervigilance symptoms. Twenty-four items measure the impact of traumatic events on the individual's daily functioning. In DSM-5[7] additional DSM-5 PTSD that can affect the individual's cognition and mood were added. Symptoms include lack of daily life social interest, inability to remember the traumatic event, frequently having negative thoughts about self and life, persistently having self-blame about the trauma and inability to have positive feelings and emotion following the traumatic event. In HTQ, eight items were classified as cognitive and mood symptoms (for example, "Feeling detached or withdrawn from people", "Unable to show positive emotion", "Less interest in daily activities"). Participants who endorsed values of 2 or more on the Likert scale for at least one item in re-experiencing, two items in avoidance, two symptoms in mood and cognitive cluster and three symptoms in hypervigilance are categorized as having PTSD symptoms. Thus, analysis of PTSD symptoms is based on DSM-5 algorithm by using the total number of 24 items. The Cronbach alpha of HTQ in the current study was high (α = .94). Previous studies have reported that HTQ is a reliable and valid instrument to measure PTSD symptoms.[18-20]

Coping Style

Coping Styles Questionnaire (CSQ-320[18]): CSQ-3 is a 37-item questionnaire measuring participants' coping style. Participants record their reactions to stress using a Likert scale (never = 0; sometimes = 1; often = 2; and always = 3). CSQ-3 measures four coping styles; Emotion-focused, Avoidance, Rational, and Detached. Construct and convergent validity of CSQ-3 is acceptable, while internal consistency is high.[21,22]

Defence Style Questionnaire 40 (DSQ 40)

The version with a Likert scale of one to nine was used, consisting of 40 items measuring three psychological defence styles; mature, neurotic and immature.[23] The DSQ-40 was designed to discriminate between specific types of disorders used DSQ-40 to distinguish anxiety patients with abusive parents from other respondents.[23] Validity, reliability and

internal consistency were found to be acceptable in previous studies.[24] The Cronbach Alpha of DSQ 40 in the current study was significantly high (α = 0.82).

Translation and back-translation

In this study, all instruments were translated into the Malay language (Bahasa Malaysia) and were back-translated by two academicians who are experts in both English and Malay languages.

Statistical analysis

A descriptive analysis was conducted. Analysis such as frequency, means, and other socio-demographic characteristics, coping and defence styles measures were analysed. Pearson's Chi-square test was used to confirm the hypotheses and explore relationships with other sociodemographic variables (categorical data). Multivariate analysis, ANOVA and Pearson correlation were done to assess the association among the coping style, defence style and social support given to the adolescents. A p-level of 0.05 was interpreted as a significant result.

RESULTS

Coping Style Pattern

Of 1016 participants, 78% of the adolescents used avoidance coping styles, 65% rational coping mechanisms, 23.4% detached coping mechanisms and 21.9% emotional focused coping mechanisms.

Gender and Coping Style

Pearson's Chi-square analysis indicated significant association between gender and emotional focused, (X^2 = 8.85, p = .003) and avoidance (X^2 = 7.31, p = .007). However, gender is not significantly associated with rational coping style (X^2 = 0.04, p = .84) and detached coping style (X^2 = 2.57, p = .11). Females (24.9%, 81.5% respectively) used more emotional focused and avoidance coping styles than males (16.9%, 74.3% respectively).

Coping Style and Age

Age was related to all the coping styles: emotional focused (X^2 = 55.51, p < .001), avoidance (X^2 = 38.45, p < .001), rational (X^2 = 58.15, p < .001) and detached (X^2 = 9.75, p = .045). All the coping styles have a linear relationship with age except for detached coping style (21.8% for age 13, 18.4% for age 14, 27.4% for age 15, 23.5% for age 16 and 30.2% for age 17).

Coping Style and Ethnicity

Ethnicity was significantly related to emotional focused (X^2 = 12.83, p = .012), avoidance (X^2 = 20.74, p < .001), but not for rational coping style (X^2 = 9.18, p = .057) and detached (X^2 = 2.41, p = .661). Malay adolescents (27.3%) were among the ethnicities most frequently using emotional focused, followed by other minority groups (23.6%), Iban (19.7%), Chinese (19.1%) and Bidayuh (12.1%). Malays students (82.4%) were also the highest among the ethnic groups in using avoidance coping style, followed by Iban (81%), other minority groups (80.2%), Bidayuh (79.1%) and Chinese (65%).

Among the coping styles, only avoidance was related to parents' educational background (father's educational background: X^2 = 15.41, p = .009, and mother's educational background: X^2 = 15.81, p = .007). Living condition was not significantly related to any of the coping styles.

Defence mechanisms

Defence Style Pattern

Of 1016 participants, 63.2% applied mature defence mechanisms, followed by 23.8% neurotic mechanisms, 8.0% immature defence mechanisms and 5% with no obvious defence style.

Defence Style and Gender

Pearson's Chi-square showed no significant gender differences in all defence styles: mature, (X^2 = 2.26, p = .132), neurotic (X^2 = 1.74, p = .188), and immature (X^2 = 0.54, p = .464). When comparing the genders, males (neurotic: 25.4%; immature: 9.3%) generally had higher frequencies applying neurotic and immature defence styles than females (neurotic: 22.9%; immature: 7.2%).

Defence Style and Age

Age was related to mature (X^2 =27.75, p < .001), neurotic (X^2 = 11.05, p =.026) and immature defence mechanisms (X^2 = 21.68, p < .001). However, there was no linear relationship between the age and the defence mechanisms applied.

Defence Style and Ethnicity

Ethnicity was related to mature (X^2 =21.38, p <.001), immature (X^2= 11.05, p = .026), but not for neurotic defence styles (X^2 = 9.04, p = .06). Among ethnicities, Iban (68.5%) most frequently applied mature defence mechanisms, followed by Bidayuh (67%), other minority groups (64.2), Malays (62.8%) and Chinese (48%). Chinese (11.2%) most frequently applied immature defence mechanisms, followed by Malays (11.1%), Bidayuh (5.5%), Iban (5.4%) and other minority groups (2.8%). The Chinese (35.5%) were also the highest in applying neurotic defence mechanisms, followed by other minority groups (29.2%), Bidayuh (26.4%), Malays (20.2%), and Iban (19.7%). Parents' educational background and living situation were not significantly related to any of the defence styles.

Traumatized and non-traumatized adolescents

Traumatic experiences and PTSD

Of 1016 participants, 83% experienced at least one traumatic event in the past, while 9.8% of traumatized adolescents reported PTSD symptoms.

Coping style

A coping style comparison was analysed using MANOVA and showed a significant multivariate result, Wilk's $\lambda = .976$, $F_{(4, 1009)} = 7.44$, $p < .001$. Univariate (Bonnferoni corrected) F tests showed significant differences between traumatized and non-traumatized adolescents for all the coping styles: emotional focused ($F_{(1, 1012)} = 18.83$, $p < .001$), avoidance ($F_{(1, 1012)} = 15.76$, $p < .001$), rational ($F_{(1, 1012)} = 6.83$, $p = .009$) and detached ($F_{(1, 1012)} = 13.34$, $p < .001$). MANOVA analysis was used to investigate coping style among adolescents with and without PTSD symptoms and showed a significant result, Wilk's $\lambda = .813$, $F_{(4, 1011)} = 57.99$, $p < .001$. Univariate (Bonnferoni corrected) F tests showed significant differences between adolescents with and without PTSD symptoms for all the coping styles: emotional focused ($F_{(1, 1014)} = 197.49$, $p < .001$), avoidance ($F_{(1, 1014)} = 116.37$, $p < .001$), rational ($F_{(1, 1014)} = 34.94$, $p = .009$) and detached ($F_{(1, 1014)} = 7.77$, $p = .005$).

Defence styles

There were significant differences between traumatized and non-traumatized adolescents for immature style ($t_{(1012)} = 3.24$, $p = .001$), mature style ($t_{(1014)} = 2.18$, $p = .030$ but not neurotic style ($t_{(1014)} = 1.69$, $p = .091$). Means and standard deviation values of each defence mechanisms were higher among traumatized adolescents than non-traumatized adolescents. A similar result was obtained in comparing adolescents with and without PTSD symptoms in relation to immature style ($t_{(1012)} = 11.95$, $p = .001$), mature style ($t_{(1014)} = 4.57$, $p < .001$) and neurotic style, $t_{(1014)} = 5.67$, $p < .001$).

Coping and Defence Style

Pearson's correlation also showed there were significant correlations between CSQ subscales and DSQ subscales ($p < .001$), but the strength of each correlation was not strong (r-value range from 0.130 to 0.519). This suggests that although there is some relationship between coping and defence style, coping styles and defence styles are two different scales that measure two different psychological constructs.

DISCUSSION

The consequences of trauma can be tremendous in the life of children and adolescents.[23-25] The present study found that female and male adolescents used coping styles significantly differently when they experienced trauma. Females used more emotional focused and avoidance coping styles than males. Similar gender differences have been found for coping with family conflict[3] and terrorism,[25] suggesting that emotional focused coping is more effective for girls because of their investment in social relationships and emotions.[26,27] Zhang et al.[27] commented that community preventions that could provide more social support were important especially for the girls.

There was no clear defence mechanism difference between genders, whether among traumatized or non-traumatized adolescents. Developmental psychologists have suggested that children's use of defence mechanism changes in a developmentally predictable pattern.[28-30] They suggested that more complex defences predominate during adolescence and young adulthood. For example, mature defence mechanisms that included sublimation, rationalization and anticipation only emerge relatively late in development.[31-34] Immature defence mechanisms such as isolation, denial and splitting on the other hand emerge typically early in development.[28]

Although age is significantly associated with defence mechanisms, however, it does not show a significant percentage difference on applying specific defence mechanisms among different age groups. This study found neither a linear relationship between age and mature defence mechanisms nor an inverse relationship between age and immature defence mechanisms. This might be because the use of defence is associated with identity status rather than age.[29] In the present study, traumatized adolescents with a higher prevalence of PTSD symptoms adopted all coping styles more often than non-traumatized individuals. However, it also shows that there was no preference difference in adopting a specific coping style among the two groups which are inconsistent with previous studies. Compas et al.[2] suggested that avoidance coping efforts were typically associated with more serious mental health problems, while Schnider et al.[14] indicated that there was a significant relationship between coping and PTSD symptoms. Since the defence mechanism changes in a developmentally predictable pattern,[28,30] coping styles would also arguably change according to individual development. Although the present study did not show a specific preference of coping style among traumatized and non-traumatized adolescents, traumatized adolescents adopted some coping style more often than those without trauma exposure. Perhaps, following the traumatic event, adolescents were psychologically struggling and attempted to use all coping styles to deal with their emotional struggle.[34,35]

No significant difference in defence mechanism preferences was found. Individuals with clinically assessed psychiatric symptoms are more likely to use immature defences such as denial.[6,13,31] Therefore, when this group of people was asked to answer a self-report on their functioning, they might make use of their defence mechanisms and the results obtained

from the self-report might be biased under their preferred defence. Of the present adolescent sample, 83% have previous exposure to traumatic events and this might be the reason contributing to the non-significant result. Although the 83% prevalence of trauma exposure seems high, this finding is consistent with the previous study. For example, studies conducted by Frazier et al.[32] reported that 85% of university students had trauma exposure. They surveyed undergraduate students (N = 1,528) using TLEQ online surveys. Similarly, Kilpatrick et al.[33] reported that 89.7% of American adult populations (N = 2,952) had at least one trauma exposure in their lifetime. Perhaps further investigation should be conducted to study the use of defence mechanism among clinically diagnosed PTSD patients to see if the defence mechanism is used while they are struggling with their psychological trauma.

This study also found that although coping and defence styles have some points of overlap, theoretically these two were different psychological constructs in line with Cramer's study.[6] Both defence mechanisms and coping styles serve as protective mechanisms that prevent individuals from dangers and extreme stress and can be used to predict individual adjustment.[32] Nevertheless, a defence mechanism is an unconscious process whereas coping mechanism is a conscious process when dealing with stress.[6] Therefore, due to their independent contribution to predicting adjustment, both of the mechanisms were able to predict the development of PTSD symptoms among adolescents in the present finding, which concurs with previous studies.[34]

LIMITATIONS

The data obtained for the present study was only from one source, adolescents at school. Obtaining data on children from a single source can yield a data bias. Children's reports of their mental well-being such as stress or feeling blue or their coping style when they have stress be different from their parents' reports.[35,22] Therefore, multiple sources of data including the legal guardians, school teachers, and children are recommended.

CONCLUSION

In conclusion, traumatized adolescents demonstrate a greater use of avoidance coping style, whereas non-traumatized adolescents tend to use rational coping style. Coping style and defence mechanisms overlap at some point, but theoretically, they are different. Avoidance coping style and immature and neurotic defence mechanisms were good predictors for PTSD symptom development. Traumatized adolescents trained to use more positive coping skills and defence styles might be able to improve their daily functioning. Thus, assessment of other psychiatric problems with the use of coping styles self-report measures needs to take defence mechanisms into account, to provide more comprehensive findings and explanations for the cause of the disorders. This may subsequently be able to improve the quality of treatment and the social support given.

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The authors confirm contribution to the paper as follows: study proposal, conception and design: Siti Raudzah Ghazali, Ask Elklit.; data collection: Siti Raudzah Ghazali, Chen Yoke Yong; analysis and interpretation of results: Siti Raudzah Ghazali, Ask Elklit, Chen Yoke Yong; draft manuscript preparation: Siti Raudzah Ghazali, Ask Elklit, Chen Yoke Yong. All authors reviewed the results and approved the final version of the manuscript.

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