Statistical analysis of Article

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The studies related to spreading and control of diseases use large samples. A large percentage of such studies suggest that nearly 90% of the US population has been vulnerable to one unexpected event. These events include accidents, disasters, and other critical happenings. This high exposure to such critical situations is alarming. There are serious long-term outcomes of such happenings including mental and physical health problems, structural and functional changes in the brain. Trauma is clearly related to the outcomes discussed but there are no mechanisms that can ensure a proactive attitude toward the traumatic conditions.

This study is significant because youth who is exposed to some traumatic happenings may react differently to stress as compared to those who has not been exposed to such traumatic issues in their childhood. A clear impact of trauma can be seen in the ways youth deals with the stress in their future lives. Exposure to trauma changes the way one deals with stress and make decisions (Howell, Kaplow, M.Layne, & A.Benson, 2015). People exposed to some sort of trauma sometimes overreact to situations involving stress. These individuals also find it difficult to implement coping strategies suggested by the practitioners. The exposure to stress coupled with trauma may result in the increased volume of the right amygdala. The more perceived threat will make the individuals withdraw from a certain situation rather than seeking advice from someone else. Trauma may result in a loss of working memory and control over diverting attention. This lack of attentional control will lead to poor coping strategies against stress. Living in a war zone may be considered one of the traumatic situations faced by some people. Involving people in some activity if their interest may result in relief from stress.

There is not much literature available to study the relationships between exposure to stress and poor psychological health. The study of this relationship can be improved by developing skills for better stress management which will decrease the likelihood of post-traumatic mental problems for the affected people. If the emotional and other factors are separated while studying coping behavior, they will be less effective to cater to the stress-related issues (A.Cohen, P.Mannarino, & Deblinger, 2016). It is required that the impact of coping strategies is studied on those individuals who have been exposed to some traumatic happening and those who have not faced any such situation. The relationship between trauma and coping mechanisms will also help in finding youth who are at risk of poor outcomes or they need some guidance regarding their problems.

There has been considerable work on various coping mechanisms and several frameworks have been proposed these behaviors. Coping is defined as an effortful response to stress. In the early development of coping mechanisms, a major focus was placed on individuals and the environment in which they lived. Emotion-focused coping and problem-focused coping techniques were evolved through early research on the subject. There was a difference of focus in the two proposed mechanisms. Emotion-focused coping focused on the internal state to reduce and manage stress whereas the problem-based coping focused on the external environment to cope with stress. Both types of coping fall under two major types namely engagement and disengagement coping. In engagement coping, the stressors are managed which are the emotions of a person. This also includes problem-focused coping and a part of emotion-focused coping including the development of humorist approach to the problem. In the current study, the authors have used the term positive emotion-focused coping strategies. The disengagement strategies include strategies such as avoidance or denial to avoid the stressors. These are referred to as negative emotion-focused coping because all the negative thoughts are used to determine the coping strategy. Since youth are going through various developments in their personalities, there are changes in their preference of coping strategies as well.

There have been a large number of studies that have seen the relationship between exposure to trauma and coping strategies. People who have been exposed to some traumatic situation are more likely to use negative emotion-based coping strategies. An example can be given about the youth involving in sexual trauma and those involving in non-sexual trauma condition (Mels, Derluyn, Broekaert, & Garcia-Perez, 2015). There has been a tendency of avoidance among those exposed to sexual-based trauma as compared to those who have been exposed to non-sexual based trauma. This avoidance affects the relationship between trauma and the symptoms shown thereafter. People who have been exposed to some traumatic situations more than once are expected to use negative emotion-based coping strategy. There has been less investigation concerning the problem based on coping. A small number of studies have concluded that the outcomes of problem-based coping are some positive psychological outcomes. The use of problem-based coping on the trauma affected people will hurt the required factors. There have been certain limitations to the past studies undertaken to see the changes in different individuals while coping with stress in life. Adaptive techniques of stress management include behaviors such as solving some problem or supporting the victims on some social platform. Maladaptive techniques include avoidance by people or an effort to indulge in some activity that drives their focus away from the stress creating factors. The subject needs further research to show the circumstances under which the three distinct coping strategies can be further divided into adaptive or maladaptive (Xia, Dung, & Hollon, 2015).

The current study has three major aims to be achieved. Firstly, an examination was made to see if there is any difference in coping strategies for the current level of stress if the subject is exposed to different types of trauma. The first testing statement included that exposing to any kind of trauma will result in more negative emotion-focused coping. Due to the lack of literature, the direction of positive problem-focused coping skills was not tested. Second aim to see how the timing of exposure to trauma was associated with the choice of coping techniques and if there is a difference between people who have been exposed to traumatic conditions at an early age and those who are not. If a person is exposed to trauma at a very early age, he is expected to use negative emotion-based coping techniques. The last aim of the study is to analyze how the total number of trauma exposures were associated with the usage of various coping strategies. The test statement was that the increase in the number of traumatic exposures will result in greater usage of negative emotion-focused coping and less positive emotion-focused coping. In crux, there were three hypotheses for the current study.

 H01: The young people who are exposed to any form of trauma are more likely to use negative emotion-focused coping skills.

 H02: The young people who have been exposed to the first traumatic condition at a very early age are most likely to use negative emotion-focused coping techniques.

 H03: The more traumatic events a person faces, the more likely he is to use the negative emotion-focused coping techniques.

 This study uses data from the National comorbidity Survey Replication. This was the first study that provided data on mental disorders in English speaking US youngsters. The data was collected with the help of face to face survey from 10148 kids aged 13-18 years. Dual framed sample technique was used by the researchers. Historically, samples used in research in the US have used the area probability sampling and face to face interviews. More recently central telephone interviewing has replaced the traditional ways of sampling because they are more cost-effective and there will be lower response errors as the respondents and interviewers can be constantly monitored from a central place. One of the shortcomings of the telephone surveys is that there is a certain percentage of people who do not have the telephones available with them. This set of people are automatically excluded from the studies using telephone survey (Lee, Seo, & Lee, 2016). Certain characteristics of the population does not possess telephones, they are poor, young and living in the rural areas of the country. To overcome the non-coverage bias of single survey methods, researchers use a dual-frame method that retains the cost-saving characteristics of telephone interviewing and increases the coverage by using the area probability sampling. There is an area sample as well as s telephone sample. The mixed model mode conducts face-to-face interviews with the area sampling people and telephone interviews with those having telephones. The allocation of resources to both types of sampling will require an assessment of costs and errors associated with the individual methods. Certain parameters will have different values when different forms of dual-frame samples are developed. To assure that the dual-frame design is appropriate, accurate estimates of these parameters should be calculated.

 In the current study, there are two major frames used to conduct the research. One sample frame was collected involving the adults while the other sample frame included the adolescents. Several adults were 904 while that of adolescents was 9244.

There were 18 traumatic situations used in the CIDI (Composite International Diagnostic Interview) which is especially used all over the world to conduct studies involving disease spread and control. This kind of interview has all the characteristics that are required to extract relevant information from the respondents for the study undertaken. The responses were recorded against queries like whether the respondents have come across any traumatic situation. The next description was about the age at which they came across such an incident. There were four groups developed based on prior research. These were interpersonal violence, accidents, and injuries, social networks or witnessing events and other events. In consistence with the past studies, the adolescents were divided into three distinct age groups which were early childhood (0-5) years of age, middle childhood (6-10) years of age and adolescence (11-18) years of age. The structure of interviews was such that it helped the adults to recall every bit of information required to make the study more useful. The adolescents reported their ages accurately at the time of first traumatic experience. This is shown by the figure of correlation coefficient r= 0.81 in the original survey between the first traumatic experience age of the child as reported by parents and children themselves. This response of ages and exposure to trauma have helped the researchers to develop four independent variables. 1. Whether a person is exposed to traumatic conditions or not. 2. What types of trauma have been experienced by the individual? 3. Age at the time of first exposure to each trauma or trauma types and 4. A total number of traumatic incidents that have been reported and the total number of traumas across each type.

This study uses seventeen measures to identify the various coping styles used across the different age groups. These measures have already been used in some previous studies. The adolescents were asked to recall any incident that resulted in stress for them. They were then asked how they will cope up with this situation given the scale from 1 to 4 showing most likely to least likely. The problem-focused coping included comments such as identifying a problem and seek ways to make the situation better. Positive emotion-based coping has been represented by avoidance or by keeping your feelings to your self and to keep a sense of humor. The last set included negative emotion-focused coping that was represented by getting mad and break something, avoiding any social interactions and be alone for most of the time. The questions were designed similarly so that legitimate responses can be received from the respondents. Due to the usage of a similar scale, a higher score on the questionnaire will mean that more people have used a particular coping strategy. Internal consistency means that the items in a test which measure the same thing, produce identical results over time. This is judged by calculating the correlation between the different items used to measure the same construct (Vaske, Beaman, & Sponarski, 2017). The methods used in this study namely the COPE and WCQ have shown above-average internal consistency and test-retest reliability.

Subparts of the major variables are also studied to analyze whether there is a significant difference among groups when an association between exposure to trauma and coping responses to stress are considered. Gender differences were studied to know if the responses for males differ from females. Differences in regions and environments are also studied to account for the complex survey design.

The primary analysis in this study includes several regression models which have been developed after adjusting for the covariates. The regression analysis is prone to certain assumptions, variables considered in the regression analysis are assumed to have a linear relationship with each other. The linear relationship can be seen by making a scatter diagram involving a dependent and an independent variable. All variables that are included in regression analysis are assumed to be multivariate normal which can be checked with the help of a histogram or Q-Q plot. A goodness of fit test can also be used to check the normality of these variables. A model in which data is not normally distributed, some transformation should be applied to data e.g. log transformation. One of the most important assumptions is the existence of multicollinearity in the data. This means that the independent variables used in the data have strong relationships within themselves and such relationships do not allow the researcher to study the relationship between dependent and independent variables properly. To test for the presence of this problem, any of the three methods can be used. A correlation matrix is developed to see the correlation scores between all the independent variables in the form of coefficients. For a satisfactory result, scores on the correlation matrix should be very close to zero. The tolerance method measures if there is a significant influence of one independent variable on the other variables. If the tolerance score for any variable is less than 0.01, there is certainly some existence of multicollinearity. The variance inflation factor is the reciprocal of the measure of tolerance. A score of more than 100 in this measure shows that multicollinearity exists. To solve the problem of multicollinearity, some of the independent variables can be removed from the analysis. In the current study, all the three coping domains were weakly correlated to each other. The last assumption of the linear regression is the existence of homoscedasticity which means that there are equal residuals across the whole regression line.

Sensitivity analysis was undertaken to see if the existence of depressive episodes has any impact on the association between exposure to trauma and coping behaviors. There was a repetition of all primary data analysis excluding those adolescents who had not been reported for depressive episodes over the last year by the medical history. This strategy was implemented to analyze the robustness of the findings of this investigation. The strengths of the association between trauma and coping strategies were found to be low for all types of coping strategies. The main focus of sensitivity analysis was on the association between depression and negative emotion-focused coping because of r= -0.40.

 The results of the study show that 59% of the sample had been exposed to at least one traumatic event. Adolescents who were poor and belonged to the minorities reported more traumatic exposure. Adolescents did not use problem-focused coping only in special cases e.g. exposure to rape or witnessing fights at home or any other social trauma situation. There was no significant difference between those who were exposed to trauma and those who were not when the usage of positive emotion-focused coping is considered. There was a difference in usage of negative emotion coping techniques between the trauma affected and unaffected people. In different age groups, there was no significant difference when positive emotion-focused coping is considered. There was a use of negative emotion-focused coping at all age levels whenever adolescents were exposed to any form of trauma. Within age groups, there was a no different reaction to trauma when positive emotion-focused coping is considered while all age groups consistently show negative emotion-focused coping in all age groups in the first instance of trauma. At an accumulated level, there is no association between traumatic experiences and any form of coping (A.Vaughn-Coaxum, Wang, Kiely, R.Weisz, & C.Dunn, 2018)y.

 This study can be improved by analyzing the relationships between exposure to trauma and various forms of coping over a longer period. This study is based on the responses of adolescents whose responses cannot be considered reliable because they had to recall on certain past events. It may also happen that the excluded sample may also have been exposed to some traumatic events. A longitudinal study can be conducted so that any changes in coping behavior in response to trauma can be studied which will also provide a better understanding on the impact of age differences in the relationship between traumatic happenings and type of coping. There have been previous studies whose results have been reaffirmed by this study. Another missing aspect is the usage of drugs by adolescents as a result of traumatic events. The article uses primary data generated from interviews and surveys and the sample selection has been done with the help of the national surveys. The general quality of the data is good as suggested by the internal consistency and test-retest reliability. All the hypotheses developed have been accepted after thorough data analysis. This is an exploratory form of study that has tried to explore some form of relationships and associations. The regression analysis has been used to analyze the relationships between variables whereas the chi-square test was used to study the associations. If I was the author, I would have conducted a comparative study between a developed country and an underdeveloped country.

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