SHORT ARTICLE

# Assessment of coping strategies for stress and depression among adolescents in Udupi taluk, Karnataka

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## Abstract

**Background:** Adolescent is the age between 10-19 years and prone to develop stress and depression. They learn coping strategies to overcome stress and depression which shape their future. **Aims & Objectives**: To assess the coping strategies adopted by adolescents to overcome stress and depression in Udupi taluk, Karnataka. **Material and methods:** This cross-sectional study was conducted among adolescents from class 9th to 11th. Two stage stratified random sampling technique was used. Stratification was done into government, aided and private schools in first stage and proportional allocation was done among study participants in second stage. The total sample size was 1058. Brief cope inventory was used to collect data. Data was analyzed using SPSS 16.0. **Results:** Most common coping strategy used were active coping, use of instrumental support, planning and positive reframing. Least used coping strategies were humor, behavior disengagement and substance abuse among adolescents. Age of adolescents, type of school and classes were statistically significant with coping strategies. **Conclusion:** Commonly used coping strategies were positive ways of coping but still some adolescents used negative coping strategies as well which might have an impact in life or shape them in developing their behavior.

## Keywords

Coping; Stress; Depression; Adolescents

## Introduction

There are approximately 1.2 billion adolescents in the world and around 243 million are living in India. Adolescents is a critical stage of life associated with crucial stressors like puberty, behavior and emotional conflicts, hormonal changes, gender etc. (1,2) Stress is the reaction of one's body and mind to something that causes a change in the balance. Stress is a common aspect of different emotions like anxiety, anger, worry, frustration, sadness, fear and despair. Students face many social, emotional and physical and family problems which may affect their learning ability and academic performance during the course of time. (3,4) Depression is a common mental health problem and its prevalence among adolescents is around 40% in a study conducted in Chandigarh. (5) Globally, the number one cause of disability and illness is depression and suicides ranked at number 3 for maximum deaths among adolescent. Around 10-20% of children and adolescents are estimated to be affected by mental health issues which accounts for about 15-30% of disability-adjusted life years lost in first thirty years

of life. (6) Inadequate mental health can affect many outcomes like physical fitness, school dropouts, moods, abuse and behaviour problems. Previous literature shows that the prevalence of stress and depression among adolescents is 40% and 30% respectively which is relatively high for their respective age. (7) With the increasing amount of stress and depression among adolescents in daily life, it is always important for them to learn coping strategies to deal with stress and depression. Coping can serve as a protective factor against the potentially harmful consequences of stress and depression. Coping evolves over the course of development as adolescents learn new strategies and refine old strategies to handle stress and depression. There has been a great amount of research and variability on the relation between coping and depression in adolescents. Some studies reported that the use of emotion focused coping has been linked with greater depressive symptoms and some reported that sports, music and hanging out with friends were common coping strategies among students. (8,9,10).

## Aims & Objectives

To assess the coping strategies for stress and depression among adolescents in Udupi Taluk, Karnataka

## Material & Methods

**Study setting:** This study was conducted in Government, Aided and Private schools in Udupi taluk, Udupi, Karnataka. Study population includes the students of 9th, 10th, 11th, 12th class. Data was collected from 1058 participants from selected schools.

**Study design:** This cross-sectional study was conducted in Government, Aided and Private schools between January 2015 to July 2015. Category-wise list of all 122 schools (Government schools- 42, Aided schools- 39, Private schools- 41) in Udupi Taluk was obtained from the Deputy director of public instructions. Multi stage sampling technique among type of schools. In first stage- stratified sampling technique was applied, and 24 out of 122 schools were selected in which 7 are aided, 8 are Private, 9 are government schools. According to the proportionate sampling technique, 300 students from aided school, 340 students from Private school and 375 students from government schools were included in the study. In second stage, approximately 50 students were selected randomly from each school in consultation with school principal and teacher.

**Sample size estimation:** For this study, the anticipated prevalence of psychological disorder and use of coping strategies was taken as 23% (11), with relative precision of 18%, keeping z at 1.96, design effect of 2.5. The approximate sample size thus obtained was 1000.

**Data collection and study tools:** Data was collected through interviewer-administered questionnaire from adolescent who were in class 9th to 12th through validated tool (Brief Cope inventory). Parental consent was sought from each adolescent for this study two days prior to data collection. Brief COPE inventory (12) assesses a broad range of coping responses, several of which have an explicit basis in theory. This scale includes 14 domains which are active coping, self-distraction, denial, substance abuse, use of emotional support, use of instrumental support, venting, humour, positive reframing, planning, acceptance, behaviour disengagement, religion, self-blame. The response ranges of all domains are from 1 (I haven't been doing this at all) to 4 (I've been doing this a lot).

**Inclusion criteria**- Adolescents within the age group of 14-17 years.

Students who were present on the day of data collection and have signed parental consent.

**Exclusion criteria**- Students with visual, hearing and cognitive problems.

Data Analysis: Data was analyzed using SPSS version 16.0 (SPSS Inc., Chicago IL). Coping scores were calculated under 14 domains. Coping scores were summarized by mean and standard deviation with 95% confidence interval. Independent t-test and Analysis of Variance (ANOVA) was used to find out the association between coping strategies and sociodemographic variables.

**Ethical considerations**: The study was approved by Institutional ethical committee of Kasturba medical college, Manipal, IEC number- KMC IEC 26/2015.

## Results

Based on the mean score of the coping domains- adolescents selected active coping (mean-6.07), use of instrumental support (5.81), planning (5.72) and positive reframing (5.56) as their commonly used coping strategies. These coping strategies were followed by use of emotional support (5.49), self-distraction (5.34), denial (4.43), venting (4.43) whereas humor (4.02), behavior disengagement

(3.77) and substance abuse (2.18) are the least used coping strategies. There was no significant difference in between gender and coping strategies (Table 1).

Using ANOVA among different age groups and coping strategies, result shows that there is a statistically significant difference in between age and self-distraction (p<0.0001), active coping, denial, substance abuse, use of emotional support, use of instrumental support, behavior disengagement, venting, positive reframing, planning and humor with p value of <0.05. (Table 2)

We also found that there is a statistically significant difference between the type of schools and coping strategies by using ANOVA test. Result shows that denial (p=0.006), use of emotional support (p=0.028), use of instrumental support (p=0.001), venting(p=0.001), positive reframing (p=0.039) are statistically significant with the type of schools as their p value is <0.05. (Table 3)

Using independent t test among board & non-board classes, result shows the statistically significant difference among board & non-board classes with substance abuse (p=0.028), behavior disengagement (p=0.027) and humor (p=0.013) as their p value is <0.05 (Table 4)

## Discussion

Coping strategies refer to the specific efforts, both psychological and behavioral, that individual employ to master, reduce tolerate or minimize stressful events. 'Active coping' means taking actions or exerting efforts to remove the stressor, 'acceptance' means accepting the fact that the stressful event had occurred and is real while 'planning' consists of thinking about how to confront the stressor and planning one's coping efforts. 'Positive reframing' means making the best of the situation by growing from it or seeing it in a more positive light, 'denial' is an attempt to reject the reality of the stressful event while 'behavioral disengagement' means giving up or withdrawing efforts from the attempt to attain the goal with which the stressor is interfering. (12)

Present study found that the adolescent commonly use adaptive coping strategies or problem and emotion-focused coping strategies i.e. active coping, use of instrumental support, planning and positive reframing as discussed in the two-category model given by Cooper et al. (13) Two category model categorized the coping strategies into 3 sub-groups. First category is emotion- focused strategies which includes use of emotional support, positive reframing, acceptance, religion, humor. Second category is problem focused strategy is active coping, planning and use of instrumental support. Third category is dysfunctional coping strategy which includes venting, denial, substance use, behavior disengagement, self- distraction and self-blame. Another model given by Meyer et al define the coping strategy into adaptive and maladaptive coping strategy- Adaptive coping strategy includes active coping, planning, use of instrumental support, use of emotional support, positive reframing, planning, religion and humor. Maladaptive coping strategy includes venting, denial, substance abuse, behavior disengagement, self-blame and self-distraction. (14) Previously, study conducted by Yusoff MBS among secondary school students also conclude that the top five coping strategy that frequently used by students were religion, active coping, positive reframing, planning and use of instrumental support (15) which is in line with the findings of this study. It is also evident from the previously conducted studies that despite using these coping strategies, prevalence of stress and depression among adolescents is quite high (7,11) than the normal population. Therefore, it will be interesting and important to generate more evidence further in upcoming studies to understand the bottlenecks of using coping strategies and high prevalence of stress and depression.

This study also reports that very less proportion of adolescent uses dysfunctional coping strategy or maladaptive coping strategies as given by Cooper et al and Meyer et al. (13,14) Also, findings of the study conducted by the Sreeramareddy et al (16) among undergraduate medical undergraduates shows the substance abuse, behavior disengagement and humor are the least used coping strategies (16) which is also evident in current study as well. However, we could not rule out the under reporting of such behavior through adolescents themselves even if the confidentiality is maintained throughout the study. For the constructive growth of the adolescents, it is important for them to practice more adaptive or positive way of coping from stress and depression as this is the crucial period for developing and maintaining social and emotional habits.

This study also reports that there is a significant difference among adolescents of different age group and all coping strategies except denial and substance abuse which show that the adolescents learn

adaptive or positive coping strategies as they grow more through their experience and learnings. Similar findings can also be seen in the studies conducted by the Reeves et al. and Seiffge-Krenke I et al. (17,18) among adolescents which concludes that the emotion and problem-focused coping strategies mostly emerged in middle adolescence and will be more with schooling years and support the findings of this study.

One of the interesting finding shows that there is a significant difference in government, aided and private schools with some of the coping strategies. This difference might be because of peer pressure, school structure, education system, infrastructure and availability of resources/services. Previous literature also shows that adolescents from different type of school faces variable amount of stress (19) which in turn lead to practice different coping strategies among different type of schools.

We have also seen in this study and in some of the previously available literatures that the adolescents of board classes face more stress and depression than non-board classes (7,20) which makes it more important to study the coping behavior of board class students as they are more prone to develop stress and depression which might be because of assessment pressure.

## Conclusion

Maximum coping strategies used by adolescents were positive coping strategies or healthier way of coping like active coping, planning, use of instrumental support and positive reframing. But still some negative coping strategies were still used by adolescents like self-blame, behavior disengagement and substance abuse which can be harmful for them in the later phase of life or act as a hurdle in learning positive behavior. There is also a significant association between age and positive coping strategies which shows that they can learn more positive coping strategies as they grow more

## Recommendation

Mental health activities can be introduced as an extracurricular activity where adolescents learn more better ways of coping from stress and depression. Counselling sessions can be conducted on regular intervals especially before exam time for adolescents to cope up with strenuous situations. Qualitative studies can be done to understand the factors which can be beneficial for coping with stress and depression among adolescents

## Limitation of the study

This study had adolescents from schools only and didn't include school drop outs

## Relevance of the study

As with the increasing level of stress and depression among adolescents, this study will help the larger community and society to learn more about coping strategy for common mental health issues.

## Authors Contribution

VA: Conceptualizing, designing, literature review, data collection and analysis, manuscript preparation and finalization.

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## Tables

### TABLE 1 MEAN, SD AND 95% CI OF THE COPING STRATEGIES FOR STRESS AND DEPRESSION AMONG ADOLESCENTS

| Coping strategies | Overall Mean (SD) | 95% CI | Males Mean (SD) | 95% CI | Females Mean (SD) | 95% CI | p value |
|---|---|---|---|---|---|---|---|
| Self-distraction | 5.34 (1.51) | (5.25,5.43) | 5.31 (1.54) | (5.18,5.44) | 5.38 (1.47) | (5.25,5.51) | 0.452 |
| Active coping | 6.07 (1.54) | (5.98,6.16) | 6.1 (1.51) | (6.01,6.27) | 5.99 (1.57) | (5.85,6.13) | 0.121 |
| Denial | 4.43 (1.42) | (4.34,4.51) | 4.4 (1.41) | (4.29,4.52) | 4.45 (1.43) | (4.32,4.58) | 0.597 |
| Substance abuse | 2.18 (0.67) | (2.14,2.22) | 2.1 (0.70) | (2.12,2.24) | 2.19 (0.65) | (2.13,2.24) | 0.861 |
| Use of emotional support | 5.49 (1.54) | (5.39,5.58) | 5.47 (1.57) | (5.34,5.61) | 5.5 (1.52) | (5.37,5.63) | 0.787 |
| Use of instrumental support | 5.81 (1.54) | (5.71,5.90) | 5.83 (1.54) | (5.70,5.95) | 5.78 (1.54) | (5.65,5.92) | 0.648 |
| Behavior disengagement | 3.77 (1.45) | (3.69,3.86) | 3.7 (1.45) | (3.76,3.64) | 3.79 (1.44) | (3.66,3.92) | 0.742 |
| Venting | 4.43 (1.55) | (4.33,4.52) | 4.46 (1.57) | (4.33,4.59) | 4.39 (1.54) | (4.26,4.53) | 0.495 |
| Positive reframing | 5.56 (1.62) | (5.46,5.66) | 5.52 (1.60) | (5.38,5.65) | 5.6 (1.65) | (5.46,5.75) | 0.383 |
| Planning | 5.72 (1.51) | (5.63,5.81) | 5.8 (1.45) | (5.68,5.92) | 5.64 (1.57) | (5.50,5.78) | 0.092 |
| Humour | 4.02 (1.71) | (3.92,4.13) | 4.01 (1.71) | (3.87,4.16) | 4.03 (1.70) | (3.88,4.18) | 0.851 |

### TABLE 2 MEAN OF THE COPING STRATEGIES AND TEST OF ASSOCIATIONS AMONG DIFFERENT AGE GROUPS

| Coping strategies | Age -wise mean (SD) and p value of coping strategies | | | | | |
|---|---|---|---|---|---|---|
| Age of participants (in years) | 14 | 15 | 16 | 17 | F stat | p value |
| Self-distraction | 5.02 (1.32) | 5.39 (1.45) | 5.61 (1.65) | 5.34 (1.58) | 6.402 | 0.000** |
| Active coping | 5.93 (1.57) | 6.24 (1.51) | 6.20 (1.52) | 5.83 (1.53) | 4.572 | 0.003* |
| Denial | 4.35 (1.39) | 4.49 (1.40) | 4.42 (1.41) | 4.42 (1.47) | 0.428 | 0.733 |
| Substance abuse | 2.20 (0.69) | 2.15 (0.61) | 2.16 (0.71) | 2.25 (0.71) | 1.138 | 0.332 |
| Use of emotional support | 5.31 (1.52) | 5.64 (1.46) | 5.64 (1.55) | 5.29 (1.64) | 4.191 | 0.006* |
| Use of instrumental support | 5.68 (1.51) | 6.08 (1.55) | 5.75 (1.48) | 5.58 (1.55) | 5.952 | 0.001* |
| Behaviour disengagement | 3.83 (1.47) | 3.76 (1.43) | 3.93 (1.45) | 3.58 (1.42) | 2.717 | 0.041* |
| Venting | 4.53 (1.61) | 4.58 (1.52) | 4.26 (1.41) | 4.24 (1.65) | 3.574 | 0.014* |
| Positive reframing | 5.34 (1.60) | 5.56 (1.52) | 5.86 (1.57) | 5.49 (1.81) | 4.417 | 0.004* |
| Planning | 5.69 (1.42) | 5.81 (1.43) | 5.83 (1.64) | 5.51 (1.57) | 3.223 | 0.019* |
| Humour | 4.09 (1.60) | 3.93 (1.56) | 4.25 (1.93) | 3.85 (1.77) | 2.642 | 0.048* |
| *p value is <0.05 **p value is <0.001 | | | | | | |

**TABLE 3 COPING STRATEGIES AND TEST OF ASSOCIATIONS AMONG DIFFERENT TYPES OF SCHOOLS**

| Coping strategies | Mean (SD) and p value of coping strategies | | | | |
|---|---|---|---|---|---|
| Type of schools | Government | Aided | Private | F stat | p value |
| Self-distraction | 5.35 (1.58) | 5.37 (1.46) | 5.29 (1.48) | 0.277 | 0.758 |
| Active coping | 6.03 (1.53) | 6.14 (1.56) | 6.04 (1.54) | 0.602 | 0.548 |
| Denial | 4.53 (1.39) | 4.51 (1.44) | 4.21 (1.39) | 5.155 | 0.006* |
| Substance abuse | 2.18 (0.64) | 2.21 (0.78) | 2.16 (0.56) | 0.466 | 0.628 |
| Use of emotional support | 5.40 (1.63) | 5.62 (1.44) | 5.42 (1.57) | 3.942 | 0.028* |
| Use of instrumental support | 5.57 (1.52) | 5.98 (1.53) | 5.86 (1.54) | 6.860 | 0.001* |
| Behaviour disengagement | 3.75 (1.50) | 3.79 (1.35) | 3.79 (1.51) | 0.086 | 0.917 |
| Venting | 4.17 (1.42) | 4.54 (1.69) | 4.58 (1.49) | 7.329 | 0.001* |
| Positive reframing | 5.63 (1.63) | 5.64 (1.60) | 5.37 (1.63) | 3.439 | 0.039* |
| Planning | 5.64 (1.49) | 5.83 (1.56) | 5.68 (1.47) | 1.735 | 0.177 |
| Humour | 4.05 (1.79) | 3.96 (1.66) | 4.07 (1.67) | 0.403 | 0.668 |
| **p value is <0.05* | | | | | |

**TABLE 4 MEAN DIFFERENCE BETWEEN COPING STRATEGIES AND BOARD & NON-BOARD CLASSES**

| Coping strategies | Board classes Mean (SD) | 95% CI | Non-Board classes Mean (SD) | 95% CI | p value |
|---|---|---|---|---|---|
| Self-distraction | 5.39 (1.53) | (5.26,5.52) | 5.28 (1.48) | (5.15,5.41) | 0.229 |
| Active coping | 6.01 (1.63) | (5.87,6.14) | 6.14 (1.44) | (6.01,6.27) | 0.156 |
| Denial | 4.38 (1.41) | (4.26,4.50) | 4.47 (1.42) | (4.35,4.60) | 0.307 |
| Substance abuse | 2.23 (0.78) | (2.16,2.29) | 2.14 (0.53) | (2.09,2.18) | 0.028* |
| Use of emotional support | 5.41 (1.62) | (5.27,5.55) | 5.57 (1.46) | (5.44,5.70) | 0.096 |
| Use of instrumental support | 5.79 (1.57) | (5.65,5.92) | 5.83 (1.51) | (5.69,5.96) | 0.670 |
| Behaviour disengagement | 3.68 (1.42) | (3.56,3.80) | 3.88 (1.47) | (3.75,4.01) | 0.027* |
| Venting | 4.40 (1.63) | (4.26,4.54) | 4.46 (1.47) | (4.33,4.59) | 0.525 |
| Positive reframing | 5.52 (1.64) | (5.38,5.66) | 5.60 (1.60) | (5.46,5.74) | 0.456 |
| Planning | 5.65 (1.52) | (5.53,5.78) | 5.80 (1.50) | (5.67,5.93) | 0.122 |
| Humour | 3.90 (1.68) | (3.76,4.04) | 4.16 (1.72) | (4.01,4.31) | 0.013* |
| *p value is <0.05 | | | | | |