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Managing Stress in 8<sup>th</sup> Grade: CBT and Relaxation Techniques in Small Group Therapy

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### Abstract

Stress and anxiety are rampant in school-aged youth and a majority of stress is being experienced beginning as early as middle school. Although anxiety is prevalent in a school setting, there is little to no intervention in place that decreases stress and anxiety as well as minimizes how much class time students are losing. This is especially important in high academic performing school where it is difficult to implement efficient anxiety-reducing interventions without taking students away from academic time. This paper aims to look at the combination of two different forms of therapy: CBT and Relaxation techniques in a small group of 8<sup>th</sup> grade students over the course of 5 weeks and the effectiveness in which the intervention decreases stress and anxiety in these students over a short amount of time.

### Managing Stress in 8<sup>th</sup> Grade: CBT and Relaxation Techniques in Small Group Therapy

Stress is prevalent in school-aged students, especially those who suffer from high amounts of anxiety. The amount of anxiety that students feel can be caused or worsened by stress. In fact, anxiety disorders are among the most prevalent childhood psychological disorders in children today (Buchler, 2013). This is especially true in a school setting, where school-aged students experience most of their stressors. In 2013, teens reported that their stress level during the school year far exceeds what they believe to be a healthy amount (Bethune, 2014).

The competition for the best grades in high school starts with pressure in middle school; particularly in 8<sup>th</sup> grade where many students are starting to take High School level classes. A further look at the literature on stress in adolescents in high performing High Schools include stressors such as concerns about academic achievement and future plans, pressures to be popular, and problems getting along with parents. School-aged students also report that sources of stress include being bullied, relationship issues, family conflicts, grief, and being over-scheduled (Bratsis, 2012). Also, 32% of teens named schoolwork issues, 25% cited appearance issues, and 30% reported other social issues such as fitting in, having friends, being judged, or being teased as some of their highest stressors.

A major source of friction between students and their parents was the difference in expectations for academic achievement. One study found that one of the greatest sources of stress for school-aged students may be the conflict they have with parents about their grades, homework, and future expectations (Mates & Allison, 1992). In other words, what students think they should be doing and what their parents think they should be doing are incongruent and cause disagreements which cause higher levels of stress. Also, Allen and Hiebert (1991) found that different reactions to stressful events are not according to the specific experience but to the

lack of resources available for dealing with the situation. It seems that youths who feel incompetent to deal with an experience are going to have higher stress levels compared to others who think they can handle it. In conclusion, as school-aged children get older their increase in stress may be caused by higher amounts of conflict as they start to disagree with their parents about academic issues and their perceived lack of ability or confidence to deal with these situations decreases.

Chronic stress has been linked to significant physical health consequences including gastrointestinal problems, headaches, acne, eczema, weight gain, and a weakened immune system (American Psychological Association [APA], 2009). Additionally, chronic stress has been shown to cause a host of mental health issues including irritability, moodiness, anxiety, panic attacks, smoking, substance abuse, and depression (APA, 2009). Stress specifically in school-aged students can affect their quality of life and their ability to benefit from school experiences (Tramonte & Willms, 2010). Anxiety manifests more intensely during stressful situations so long-term or repeated stressful situations that overwhelm a student can exacerbate these negative health effects.

Given the high frequency of stress in school-aged students, one can see the need for support in mental health services for school settings. One intervention that might be useful to combat stress in school-aged students is Cognitive-Behavioral Therapy (CBT). CBT is a type of psychotherapy in which negative patterns of thought are challenged in order to alter behavior patterns (Compton et. al. 2004). The benefits of CBT include the ability for the student to gain skills that gives them insight to their own negative thoughts and feelings which can lead to future stress prevention (Mendlowitz et. al., 1999). Also, CBT has been shown to be effective in treating a wide range of anxiety disorders which makes it a useful intervention to treat a group of

students who could potentially have different levels of stress (Wallace, 2016). The Coping Cat Programme is a successful CBT, evidence-based program that involves teaching new skills to school-aged students and provides an opportunity for the child to practice newly learned skills. This intervention has successfully been used on school-aged children to reduce negative thoughts and alleviate high stress levels (Kendall, 1990). *Cognitive-Behavioral Therapy (CBT)*

The overall goal of CBT is to teach youth to recognize the signs of unwanted anxious arousal and to let these signs serve as cues for the use of anxiety management strategies they are taught (Albano & Kendall, 2002) In the school setting, group cognitive-behavioral therapy is likely to be the treatment of choice for childhood anxiety because it is evidence-based and is a more efficient treatment than individual counseling (Thompson et. al., 2013). Studies consistently have shown group CBT to be effective in reducing the anxiety symptoms of children in treatment interventions, particularly in children over the age of 6 years (Barrett, 1998; Cobham, Dadds, & Spence, 1998; Car Cart-wright-Hatton, Roberts, Chitsabesan, Fothergill, & Harrington, 2004). Children with anxiety disorders showed more treatment gains from cognitive-behavioral therapy than from other forms of therapy (Nauta et. al., 2003). James MM Wallace M.D. (2016) stated that CBT therapy for anxiety helps school-aged children learn to use coping skills that will help them once they face anxious situations.

Specifically, certain aspects of CBT can be effective in targeting a younger, school-based population within a short amount of time. Aspects of CBT such as cognitive restructuring, psycho-education, and somatic management skills are relevant to the developmental stages of middle school children and can be taught relatively quickly (Thompson et. al., 2013). Cognitive restructuring involves identifying maladaptive thoughts and teaching realistic, coping-focused thinking. Psychoeducation provides corrective information about anxiety and feared stimuli.

Lastly, somatic management skills target autonomic arousal and related physiological responses (Albano, 2002). The reason for using these aspects of CBT with middle school children is that they can easily be implemented within a school. It involves no long-term planning, can be implemented in a shorter period of time, and these skills can be adapted to the development stage of the child.

Another strategy for combatting stress in school-aged students is using relaxation techniques. Relaxation techniques are activities that relieve muscle tension, induce a quiet body response, and rebuild energy resources. They may include deep breathing exercises, imagery, or meditation (Foret et. al., 2012). Relaxation techniques are easy to learn, and easy to implement over a short period of time, making them ideal for a school setting. Relaxation techniques are most effective when used in short-term therapy groups (Ergene, 2003). Rasid & Parish (1998) found that school-aged students who received training in progressive muscle relaxation, a relaxation technique, demonstrated significantly lower state anxiety scores than did those who had not received such training.

Relaxation interventions for stress management may help students increase resiliency to stress (Foret, Scult, Wilcher, Chudnofsky, Malloy, Hasheminejad, & Park, 2012). There are many benefits to using relaxation techniques in a school setting. For instance, instructing students on relaxation techniques can promote interpersonal skills and can help young people develop into healthy, competent adults (Forman, 1993). Certain skills in relaxation techniques such as progressive muscle relaxation and deep breathing are practical interventions that are not time-intensive, require minimal training, are cost-efficient, do not need any specialized equipment or music, and are easily learned (Buchler, 2013). Using relaxation techniques in a school setting is practical and has positive consequences on overall student well-being.

Progressive muscle relaxation (PMR) and deep breathing exercises are particularly useful in reducing anxiety on an immediate level (Foret et. al., 2012). The use of PMR may be helpful in a short-term therapy group because it is a technique that does not require a lot of time and students gain immediate results. Rasid & Parish (1998) found high school students who received training in progressive muscle relaxation and used these techniques in a stressful situation demonstrated significantly lower state anxiety scores than did those who had not received such training. However, deep breathing exercises may not hold the attention of middle school students in the same way PMR skills might. For instance, it may be possible that student maturity levels may not be high enough for them to sit still and quietly for a long enough time for the exercise to be effective.

Progressive muscle relaxation and deep breathing exercises could be easily used for middle school students during times of academic stress such as right before a test or a presentation because it helps to immediately alleviate anxiety (Foret et. al., 2012). Also, the techniques are easily learned and do not require a long time to teach. Furthermore, both techniques can teach students skills that they can use discretely within the school setting. This is important when working with middle school children in a highly competitive academic environment because teachers and parents do not want their child out of the classroom and missing too much instruction. Additionally, middle school students are hyper-sensitive to how they are perceived by their peers (Buchler, 2013). If school-aged students can acquire skills that do not make them look different from their peers but are effective in reducing their anxiety, they will be more likely to utilize them. When stressful situations arise it will empower them to take control over how they respond and potentially avoid more severe problems in the future.



Using CBT and relaxation techniques together in a short-term therapy group could provide stress-reduction for school-aged students. No study has combined these two techniques before. In a school that promotes high academic success with little opportunity for students to miss class time, short-term therapy groups during the school day may be particularly beneficial. Also, combining two strong therapeutic interventions in a shorter period of time may be more effective in reducing stress than one intervention over a longer period of time. The purpose of this literature review is to determine the effectiveness of a small 5-week therapy group combining CBT and relaxation techniques on stress levels in middle-school students.

The Middle School in which this intervention was implemented is in a high-academic performing school district. The school is attempting to address stress and anxiety in middle school students through their 8<sup>th</sup> grade “Connectedness Survey”. This survey is a self-report, identifying (not anonymous) measurement of what students are worrying about during their school year. Counselors use this information to perform “check-ins” with students who are deemed at-risk for mental health issues such as eating-disorders, anxiety, and academic struggles. Also, students can select on the survey if they want to be a part of a group (i.e. Stress Group, Making Friends Group, Death of a Family Member, etc.) One strength of this sort of intervention is it helps the counselors identify students who are at-risk for stress and anxiety. Also, these students are self-selecting to seek help by asking to be part of a therapy group which gives the counselors leverage to confront these students about their issues. However, this intervention does not include a therapeutic focus which can hinder effectiveness of the small group to help reduce stress. There must be more to the intervention in place in order to successfully reduce stress and anxiety in the middle school.

As a school of high academic expectations, stress is rampant in the student population and manifesting through student “break downs” in the counseling center on a weekly basis. Some students are pulling all-nighters to finish class projects, some students are showing changes in eating patterns, and others are experiencing so much stress they refuse to talk during class. This school is home to a competitive environment and the intervention in place is not doing enough to address these issues. Also, students who are experiencing stress in school and want to be a part of a therapy group are hesitant to miss class and therefore refuse to participate. The intervention the school had in place took the students out of too much class time and therefore was not successful in reaching the students that needed the mental health support.

The literature does not mention how many sessions define a “short-term” therapy group. There is no concrete number of sessions that define a “short-term” therapy group. However, typical amount of sessions that psychologists and counselors use for short-term interventions, specifically for CBT and relaxation techniques, is at least 10 sessions. CBT therapy is most effective when participants are consistently practicing these skills over this period of time (Wallace, 2016). In other words, the most effective CBT-based interventions are done over a longer period of time, which may be due to higher retention of the skills when there is more opportunity to learn and practice them.

On the other hand, Lohaus and Klein-Hessling (2003) found that relaxation techniques can have a significant calming effect in children over fewer treatment sessions (5 sessions) as compared to more treatment sessions (10 sessions). This may be due to the fact that relaxation techniques have an immediate calming effect on the person using it and remaining in a calm state for too long has adverse effects. The purpose of relaxation techniques is to get the individual to a place where they can adequately perform. Experiencing acute levels of stress actually helps with

individual memory and academic performance (Kirby et.al., 2013). Therefore learning relaxation techniques for shorter amounts of time over a shorter period of time is most effective in reducing high levels of anxiety in stressful situations in order to get an individual to a performing level.

Stress was measured using the Spence's Children's Anxiety Scale (SCAS) and The Perceived Stress Scale (PSS). We hypothesized that students that participated in the intervention would show reduced rates of stress at the end of the intervention compared to their baseline stress levels.

## Method

### Setting

Research took place in a mid-sized suburban middle school with a class size of approximately 175 students per grade. Median household income for this school district is \$76,259 with a racial demographic of 93.7% White, 1.8% Hispanic, and 1.6% of two or more races.

### Participants

Youth adolescents (1 male, 1 female,  $M_{age} = 13.5$  years, age range: 13-14 years) were recruited from a pre-selected group of students who were participating in a Managing Stress group in the middle school counseling center. The male student was part of this pre-selected group and had self-reported in a survey distributed by the counseling department that he wanted to be a part of a Managing Stress group. The female participant was recommended by teachers to be a part of this group. Both students had agreed to participate in the group once the counselors asked if they were interested. Consent forms and cover letters explaining the research project were first sent home to the student's parents. Students whose parents returned a consent form were then called down to the counseling center and asked if they would give assent for their

information to be used in research. Only student information who had both a sign consent and assent form were used for data in this research project. Participants were not compensated for their participation.

### Materials

SCAS total scores were analyzed to assess the level of anxiety that each participant was experiencing in their life. Analyses focused on each participants' SCAS t-score as well as their six subscale raw scores for Separation Anxiety, Physical Injury Fears, Generalized Anxiety, Social Anxiety, Panic Attack, and Obsessive Compulsiveness. To protect anonymity, each participant was coded with the name KID1 and KID2.

Anxiety level was based upon the score of the Spence Children's Anxiety Scale (SPAS) (1994). The scale is completed by asking the child to rate on a 4-point scale: 'never', 'sometimes', 'often', or 'always' to indicate how often each of the items happens to them. There is no set time period over which the judgement has to be made. Out of the 44 item-scale, only 38 anxiety items are scored. The responses are scored: Never = 0, Sometimes = 1, Often = 2, Always = 3. This yields a maximum possible score of 114. The total score is the sum of items 1 through 44, excluding items 11, 17, 26, 31, 38, and 43; which are positive filler items and are not scored or included on the subscale scores.

SCAS consists of 6 subscales: Separation Anxiety, Social Phobia, Obsessive Compulsive, Panic/Agoraphobia, Physical Injury fears, Generalized Anxiety. *T*-Scores were developed to interpret test results to compare a young person's scores against norms from an equivalent age and gender group. A *T*-score of 10 above the mean of 50 represents a value of 1 standard deviation above the mean and could indicate sub-clinical anxiety. The SCAS should not be used as a diagnostic instrument. While a *T*-score of 60 as indicative of sub-clinical or elevated levels

of anxiety, further clinical assessment would be needed to indicate clinical diagnosis. Therefore, it is important to examine both the subscale scores and the total score.

Stress levels were assessed from scores from the Perceived Stress Scale (Cohen, 1988). The Perceived Stress Scale (PSS) is a 10-item scales that measures the degree to which situations in one's life are deemed stressful. Items were designed to measure how unpredictable, uncontrollable, and overloaded respondents find their lives. The questions ask about feelings and thoughts during the last month and respondents are asked how often they felt a certain way. Because levels of appraised stress should be influenced by daily hassles, major events, and changes in coping resources, predictive validity of the PSS is expected to fall off after four to eight weeks. Therefore, PSS is a reliable tool to assess stress every two weeks in a group that is only lasting 5 weeks.

Scores are obtained by reversing responses (e.g., 0 = 4, 1 = 3, 2 = 2, 3 = 1 & 4 = 0) to the four positively stated items and then summing across all scale items. The PSS was designed for use in community samples with at least a junior high school education. The items are easy to understand, and the response alternatives are simple to grasp. Moreover, the questions are of a general nature and hence are relatively free of content specific to any subpopulation group (Cohen, 1988).

## **Procedure**

### **IRB Process**

The counseling office at the middle school created small groups based on needs described in a Connectedness Survey collected from 8<sup>th</sup> grade students in December. By mid-February the Managing Stress Group was created. Full IRB proposal and approval was gained by the researcher approximately 2 weeks before the first day of the Stress Group started.

### Recruitment

Researchers sent out consent forms to parents/guardians of each participant in the Stress Group via email and slow mail. However, the need to obtain these consent forms before the group started was eliminated because the school was administering both the SCAS and PSS to the participants regardless. The researcher was only gaining consent to use the information obtained for research purposes. Only after both consent and assent were received by the researcher could the information from each participant be used in this research project.

Period for recruitment for the group began in December when the Counseling Department distributed a survey to all 8<sup>th</sup> grade students which asked specifically if they wanted to be a part of a therapy group. The data from that survey was collected in January and a list of 10 students was created to recruit for the group. Each student was called down to the Counseling Office by the School Counselor to ask to see if they were still interested during the month of January. A final list of students was created in early February. IRB approval was granted in late February after which the researcher began distributing consent forms via email and regular mail. The group ran for five weeks in starting after February break and ending before April break on the school calendar.

### Administration

During the initial group meeting, the researcher began the intervention by explaining to participants they will be completing two different surveys: an anxiety survey and a stress survey. They were only be asked to complete the anxiety survey once but were be asked after two weeks to complete another stress survey. Prior to handing out the assessment, the researcher marked each SCAS scale 1-5 and matched with a corresponding PSS scale, which were also marked 1-5

prospectively (i.e. a SCAS scale marked “1” was matched with a PSS scale marked “1”). Each group meeting lasts about 40 minutes.

Administering the SPAS scale takes about 20 minutes, while the PSS scale takes about 10 minutes. However, the participants were not timed on the assessment. The SCAS was only administered during the first group to determine levels of anxiety in each of the participants. The PSS was administered during the first, third, and final (fifth) group meeting to assess levels of perceived stress throughout the course of 5 weeks.

### Results

Descriptive statistics were run for PSS scale responses at week 1, week 3, and week 5. Mean, median, mode, and the standard deviation were determined for each week and compared to the total SCAS score as well as each of the subscales. The SCAS total t-score for KID 1 was 64 which falls under the ‘elevated’ anxiety level range (see Table 1). Further analysis of each of the SCAS subscales show that KID 1 anxiety was highest in Social Anxiety (15) and Generalized Anxiety (12). As listed in Table 1, mean PSS scores for KID 1 were 1.8, 1.9, and 1.9 for weeks 1, 3, and 5 respectively. This indicates that KID 1 has a high level of perceived stress in his/her life, and that (he/she) showed an increase in perceived stress over time.

The SCAS total t-score for KID 2 is 55 (see table 1). A t-score of 55 falls within the ‘normal’ range for levels of anxiety. However, Table 2 shows that KID 2 had PSS mean scores of 1.7, 1.9, and 1.9 for week 1, 3, and 5 respectively. These scores indicate that this student was not only experiencing high levels of perceived stress throughout these five weeks, but their amount of stress also increased over time.

Table 1: SCAS scores

	KID1	KID2
SCAS Total Raw score:	49	24
T-score:	64	55
Separation Anxiety:	9	3
Physical Injury Fears:	7	3
Generalized Anxiety:	12	5
Social Anxiety:	15	9
Panic Attack:	1	1
Obsessive-Compulsive:	5	3

Table 2: PSS scores

WEEK 1	<i>KID 1</i>	WEEK 2	<i>KID 1</i>	WEEK 3	<i>KID 1</i>
Mean	1.8	Mean	1.9	Mean	1.9
Median	2	Median	2	Median	2
Mode	2	Mode	2	Mode	2
Standard Deviation	0.918937	Standard Deviation	0.875595	Standard Deviation	0.567646

WEEK 1	<i>KID 2</i>	WEEK 2	<i>KID 2</i>	WEEK 3	<i>KID 2</i>
Mean	1.7	Mean	1.9	Mean	1.9
Median	2	Median	2	Median	2
Mode	2	Mode	2	Mode	2
Standard Deviation	<b>0.948683</b>	Standard Deviation	<b>0.316228</b>	Standard Deviation	<b>0.994429</b>

### Discussion

The purpose of this study was to see if combining CBT and Relaxation techniques during a 5-week small group would reduce stress levels in 8<sup>th</sup> grade students. However, results indicate that there was no significant change in stress levels from week 1 through week 5. Additionally, both SCAS scores indicated that Social Anxiety was their highest stressor.

It is interesting to note the indirect relationship of time spent teaching skills in CBT Therapy, which requires consistent cognitive practice, and relaxation techniques, which are



easily implemented and more successfully used in shorter periods of time. This may be a potential limitation to using both of these interventions at the same time in a short-term group. However, the most effective treatments appear to be those that combine skill-focused approaches with behavior or cognitive approaches (Ergene, 2003). Therefore, the combination of CBT as a cognitive approach along with relaxation techniques as a skill-focused approach should be identified as a possible effective treatment even if it's within a short-term group.

There are several explanations for these insignificant results. First, students in the study could have had stressors going on in their lives that called for more intensive interventions. This stress group only focused on basic CBT skills and simple relaxation techniques which may not be appropriate for more intense stress. Furthermore, it's possible that the students didn't buy into the intervention or apply the things that they learned in their lives. Young adolescents are heavily influenced by social norms and fitting in (Buchler, 2013). It could be that the techniques learned in the intervention were not perceived to be helpful because it would make them look different to their peers if they were using them. Also, the intervention took place during a stressful time of the year, when final grades and projects were due. It might have been difficult for the students to be mentally present and engaged, especially since it took place in a small office which is not ideal for relaxation.

Lastly, there are not currently any CBT or relaxation techniques that are specifically tailored to middle school students, so the researcher had to take what was available and modify it. The resources available for CBT activities had to be adjusted creatively by the researcher to engage the students during the group. As an example, having students use CBT skills to reframe overgeneralizing statements, naming positive affirmations, and naming coping skills had to be incorporated into games in order for them to pay attention and engage in the skill. It may have

been more effective if there were specific middle-school stress-reduction interventions that have already been tested for use in this setting.

The results indicating that these 8<sup>th</sup> grade participants are have the most anxiety surrounding social issues are not surprising given the nature of the age and setting the participants are in. Research shows that middle school students are often worried about peers and how their self-image is perceived (Buchler, 2013). However, the fact that stress was not reduced using CBT is surprising given the effectiveness of CBT in reducing stress and anxiety in past research studies. For instance, one study compared CBT and supportive counseling in reducing acute stress disorder (ASD) and found that it was 75% more effective in reducing symptoms over the course of 5 sessions (Bryant et. al., 1998). The use of relaxation techniques has proven to be successful in reducing stress but may only be effective when subjects practice these techniques frequently (Carrinton et. al., 1980). This is unsurprising considering that it's possible that relaxation techniques did not work in the intervention to reduce stress because students did not practice or utilize the techniques that were taught. This could be due to the fact that relaxation techniques used are not age-level appropriate for middle school students.

Research shows that individuals who have high levels of anxiety have more frequent high levels of stress. Furthermore, individuals who experience high anxiety may be more sensitive to stress because they have less coping skills and resources available to tackle their stressors (Moitra et. al., 2011). These stress and anxiety scores do not indicate that this is true for these participants.

### Strengths

There were several factors that strengthen the validity of this project. For instance, I took multiple measures (at week 1,3, and 5) so I was able to track how stress levels were changing

throughout the course of the intervention. Also, I tailored the CBT and relaxation techniques to the age group of the students by using games and activities to engage and keep the students focused during the intervention.

Although there were no significant differences in stress levels, students did not have to miss as much class. If students had to miss more class this potentially could have increase stress levels. Also, participants learned skills, especially relaxation techniques, which could help them manage minor stressful situations in the future. Lastly, participants were exposed to the school counseling center and have already built a rapport with the counseling staff which may help them become more comfortable with the idea of seeking counseling services in the future.

#### Limitations

There were several limitations to this study. For instance, the focus and willingness of the students to participant was contingent upon the time of day in which the group was being held. The group rotated through different periods throughout the day each week to avoid students missing the same class.

The results from this study cannot be generalized to all 8<sup>th</sup> grade students. Considering that the participants were taken from only one male and one female student with varying levels of anxiety, the results of this study are not indicative of possible outcomes for all 8<sup>th</sup> grade students. Furthermore, the population would only be able to be generalized to a similar school district (i.e. a high academic achieving, middle-class, suburban middle school).

#### Conclusion and Implications for Future Research

Anxiety and stress in young adolescence is one of the most prevalent mental health issues in middle schools. Middle school students are specifically experiencing high amounts of social anxiety including fears of how they are perceived by their peers. Although CBT and relaxation

techniques are evidence-based practices for dealing with issues such as anxiety, further research is needed at the middle school level. Specifically, future research should examine therapeutic techniques that directly address aspects of social anxiety that middle students are typically facing. For example, social anxiety that was measured by the SCAS measured the stress level of presenting in front of a class, appearances, and fitting in. Although there are some interventions put in place addressing these issues, further research should be done on how effective these interventions are in reducing these types of anxieties in middle-school aged students.

Also, more research should be done regarding CBT activities that are more engaging for middle school students. The only resources regarding CBT lessons for young students were through workbooks with paper and a pencil. This was often not engaging enough for my middle school students and I had to get creative in implementing the CBT lessons by incorporating the skills into games and activities.

This study is important because it shows that therapy in schools is ineffective over a short period of time; especially when the therapy itself is only effective when it is implemented consistently and pervasively. Furthermore, this study shows that anxiety in middle school students is primarily felt in their social arena. This reaffirms findings from previous research on stress and anxiety in young adolescents.

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