

EFFECTS OF OVERNIGHT SUMMER CAMP

IMPACTS OF OVERNIGHT CAMP EXPERIENCES ON ADOLESCENT STRESS, SELF-  
ESTEEM, AND MENTAL HEALTH

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### **Abstract**

This study examined the impact of a seven-week overnight summer camp experience on the stress, self-esteem, and mental health in adolescents. Adolescent stress was measured using the Adolescent Stress Questionnaire-Shortened Version (ASQ-S), self-esteem was measured using the Rosenberg Self-Esteem Scale (RSE), and overall mental health was measured using the Mental Health Inventory-5 (MHI-5). The Camp Status Questionnaire (CSQ) was developed by the researchers to examine the expectations for and evaluations of camping experiences amongst adolescents who attended seven-week overnight summer camp. The continued use of this measure, or similar measures, is important in understanding campers' perceptions of their own individual camping experiences in different overnight camp environments. Results found no significant relationships across the variables, suggesting that overnight camp is neither a positive nor negative experience for adolescents during the summer break. Notably, the sample of adolescents that attended seven-week overnight summer camp was small ( $N = 25$ ). Thus, it will be important for future research to include a larger sample which may be more encompassing of effects.

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## **Impacts of Overnight Camp Experiences on Adolescent Stress, Self-Esteem, and Mental Health**

While adolescents experience stress in a variety of domains of life, research has identified school demands, in particular, as central stressors in the lives of adolescents (Östberg et al., 2018). Thus, it can be hypothesized that the summer break from school offers significant benefits to adolescents, particularly in reducing their overall stress levels. Interestingly, there have been several studies published in recent years that have assessed stress levels amongst the adolescent population. A small subset of these studies have been longitudinal, examining stress during the adolescent years, as well as looking at the effect of the summer break on the overall stress levels of adolescents. Specifically, studies that have examined the effect of camping experiences during the summer months have demonstrated that camping experiences in various settings and for differing amounts of time have been associated with increases in self-esteem amongst child and adolescent populations (Readdick & Schaller, 2005). Through their own research on camps that are American Camp Association (ACA)-Accredited, the ACA determined that the outcomes of camping experiences for children and adolescents include, but are not limited to, significant growth in self-esteem, peer relationships, independence, leadership skills, and overall confidence (ACA, 2005).

One study evaluated developmental outcomes at a free-choice oriented girls summer camp and found that many campers developed a stronger sense of self over the course of the summer camp experience. In fact, researchers found that the development of sense of self was most clearly seen through the process of campers realizing their own abilities, talents, and competencies while in a structured environment that promoted free-choice and the development of responsibility amongst campers (Schmalz et al., 2011). Specifically, by pursuing self-chosen

activities in the camp environment, campers are motivated to achieve goals they set for themselves and earn respect from other campers when those goals are met. The respect they earn fuels their determination to continue to achieve their goals, ultimately improving their sense of self (Schmalz et al., 2011).

Other research has focused on the effect of summer camp programming on the self-concept of children and adolescents with various physical health conditions as well as school-related challenges. With over five hundred camps specifically designed for children with various illnesses (Odar et al., 2013), a multitude of opportunities are created for these children to engage with peers facing similar challenges. These opportunities foster meaningful social interactions that can significantly benefit their overall mental health. For children who face physical health challenges, attending a summer camp with others who share similar experiences can boost their self-perceptions, specifically by enhancing self-concept and self-esteem through comparison with peers facing similar challenges. In fact, one meta-analysis that examined associations between camp attendance and changes in self-perceptions amongst children with chronic health conditions found that children and adolescents who attended disease-specific camps experienced small, yet significant improvements in self-perceptions after camp and at a point in time after the end of camp when researchers conducted an extended follow up (Odar et al., 2013).

At the same time, research examining self-esteem and self-concept in relation to learning disabilities has been extensive (Musetti et al., 2019; Bear et al., 2002; Shany et al., 2013). Some research has also studied the effects of summer camp programs for children with specific learning disabilities. For example, one study that explored the impact of a six-week overnight summer camp program on the self-concept and reading and writing skills of a group of dyslexic students found that campers experienced significant improvements in their self-concept both

generally and specifically in reading and academic skills (Westervelt et al., 1998). In a camp environment tailored specifically to foster improvement of reading and writing skills amongst dyslexic children, it can be expected that their self-concept would improve as a result of the improvement of their academic skills. However, the researchers also found that for campers who had comorbid diagnoses of attention deficit disorder (ADD) and attention deficit hyperactivity disorder (ADHD), the improvements in self-concept were minimal to none, while the campers without the comorbid diagnoses showed significant improvements in their general self-concept from the start to the end of the camp session. For these reasons, it is important to further understand the impacts of comorbid conditions on the gains made by adolescents over the summer months.

A similar study examined the impact of a five-day summer camp experience on psychosocial functioning, specifically self-concept and locus of control, for children and adolescents with rheumatic disease (Stefl et al., 1989). Examining the psychosocial functioning of adolescents in the context of a summer camp environment provides insight into the ways in which the camp experience specifically impacts aspects of functioning in real time. Researchers found that at the conclusion of the camp session, all self-concept scores improved for campers. This is significant, as the differences observed over the one-week period of camp participation suggest that the camp experience has a particularly strong and immediate impact.

Consistent with the findings from the Stefl et al. (1989) study described above, Readdick and Schaller (2005) examined the effects of summer camp on the self-esteem of economically disadvantaged school-aged children from New York's inner-city neighborhoods and found that children's overall self-esteem levels increased significantly between the beginning and end of camp. Many participants reported feeling more popular at the end of camp (Readdick & Schaller,

2005), indicating that their self-esteem levels and overall self-concept increased from the start to the end of the camping experience. Making and maintaining friendships is often related to stressors in the lives of children and adolescents, and when confronted with the act of establishing friendships, especially in a setting that is different than a stable, continuous setting like school during the school year, children may experience an increase in anxiety-related feelings. However, Readdick and Schaller (2005) found that when campers reconnected with old friends and formed new relationships in the camp environment, they experienced enhanced feelings of self-worth, indicating an overall boost in self-esteem.

On the other hand, other research has demonstrated that some summer camp experiences have a negative impact on the self-perception of adolescents. Kishton and Dixon (1995) examined the relationship between participation in a five-week long sports camp and changes in self-perception amongst economically disadvantaged children and adolescents in the United States. Researchers found that girls' scores on a measure of self-perception given at the beginning and end of the camp session declined over the course of the five weeks. Sports camps are often competitive in nature, and the researchers proposed that the competitive aspect of some of the activities may have been stressful enough to influence their overall self-perceptions over the five-week period. Other researchers have also found that enhancing self-esteem can lead to negative effects such as increased self-consciousness, self-attention, and preoccupation with oneself (Kishton & Dixon, 1995; Burr & Christensen, 1992).

Moreover, other research has highlighted the ways in which overnight camp experiences can have both positive and negative impacts on campers. For example, Smith et al. (2022) compared three different types of overnight camps that served marginalized groups: an experiential education camp (i.e., outdoor adventure program) where campers engaged in



wilderness activities (i.e., hikes, adventure activities, canoeing, backpacking), a recreational camp where campers engaged in daily activities (i.e., sports and recreation) along with religious prayer and discussion, and an integrated didactic and experiential camp where campers engaged in wilderness activities and received daily didactic lessons (i.e., respect and mindful communication, personal goals, perseverance, accountability, flexibility, etc.). Using self-report measures, the researchers found that adolescents who attended the experiential education camp experienced decreases in their life satisfaction and increases in negative affect. Individuals who attended the recreational camp reported decreases in their social skills, as well as improvements in their attitudes towards school. Lastly, adolescents who attended the integrated didactic and experiential camp reported experiencing decreases in their negative affect and slight increases in their life satisfaction. Overall, these results indicate that attending an overnight summer camp does not necessarily lead to positive or negative outcomes for marginalized youth. Rather, the structure of the overnight camp and the integration of educational aspects are key in understanding its impact (Smith et al., 2022).

The previous research provides some evidence of the effect of summer camp, but it is important to provide a more complete evaluation of the connection between stress levels, mental health, summer camp, and the summer break from school. With these connections, it is important for future research to examine stress, self-esteem, and mental health effects of overnight camp specifically. There are several important gaps in the literature addressing how adolescent stress and overall self-esteem are impacted by attending overnight summer camp during the summer break. Specifically, attending summer camp for pure leisure is an important area that lacks research. Further, research comparing youth who do attend overnight summer camp to those that do not is limited as well. However, there is clearly limited research on the ways in which

overnight summer camp specifically elicits changes in mental health and stress levels of middle and high school aged students. By examining the effects of overnight summer camp on the stress levels, overall mental health, and self-esteem of adolescent individuals, the existing research will be bolstered by another comparison group for further analysis. The present study was designed to examine several questions about how adolescent stress, self-esteem, and mental health are impacted by attending a seven-week overnight camp over the summer break from school, specifically looking at the ways in which overnight camp impacts self-esteem and overall mental health, as well as the ways it impacts stress incurred during the academic year. Based on the existing research, hypotheses were that adolescents' overall stress levels will significantly decrease as a result of attending a seven-week overnight summer camp and that adolescents who attend a seven-week overnight summer camp will experience greater improvements in their overall self-esteem compared to those who do not attend a seven-week overnight summer camp. It was also hypothesized that there will be significant improvements in the overall mental health levels of adolescents at the beginning of the camp season (June) and the end of the camp season (August) amongst adolescents who attend a seven-week overnight summer camp. The participant's baseline well-being and mental health in June was compared with the same measures in August for those who both did and did not attend overnight summer camp. Additionally, the current study compared whether the expectation of attending camp for those who attended a seven-week overnight camp was different from their reported experience at the conclusion of their overnight camping experience.

### **Method**

**Participants**

The sample size included 41 adolescent participants between the ages of 11 and 17. It was important to obtain a sample that included participants that were representative of both the seven-week overnight summer camp group and the group of adolescents who did not attend a seven-week overnight camp to successfully compare the two groups after data was collected. At the conclusion of data collection, there were 25 participants who attended a seven-week overnight summer camp, and 16 participants who did not attend a seven-week overnight summer camp.

Consent was obtained from parents at the beginning of this study, prior to collecting data. Participants were recruited through online parent groups on a popular social media site, Facebook, and through professional websites for psychology. On the consent form, parents were asked to voluntarily provide their emails, as well as their child's email, to allow researchers to distribute the survey. The follow-up survey that was sent in August was sent to the same emails that were provided on the consent form in June.

**Measures and Instruments**

Five measures, each providing specific information about overall self-esteem, mental health, and stress, were used in this study. An intake form designed to examine specific events that occurred over the past year in the life of the adolescent was used to determine whether factors other than the camp experience would be potential confounds that could account for changes in stress levels over the summer months. As the responses collected in June did not indicate an excessive number of adverse events for any participants in the 12 months prior to the study, this measure was not analyzed further.

The Rosenberg Self-Esteem Scale (RSE; Rosenberg, 1965) is a well validated and normed 10-item scale designed to measure global self-esteem. This scale is useful in determining

adolescents' overall levels of self-esteem and determining whether an overnight summer camp experience plays a role in changing adolescents' self-esteem over a seven-week period. This measure asks individuals to respond to each statement with a 1, 2, 3, or 4, each corresponding with whether they strongly agree, agree, disagree, or strongly disagree with the statement. Some statements are more positive in nature (i.e., "I feel that I have a number of good qualities"), while others are aimed at evaluating whether the respondent feels more negatively about themselves (i.e., "All in all, I am inclined to think that I am a failure"). The mixture of both positively and negatively framed statements is particularly beneficial for adolescents in fostering the identification of feelings that are potentially confusing for them.

The Mental Health Inventory-5 (Veit & Ware, 1983) is another well validated and frequently used measure of mental health. This measure reflects the general mental health of adolescents in the moment in time in which they take the questionnaire. Administering the MHI-5 before the summer provides a baseline to which the end of summer survey can be compared to. The items that are a part of this survey provide six different answer choices for the adolescents to choose from, and examining the answer choices they choose at the beginning and end of summer can highlight smaller incremental differences in the overall mental health of the participants. The questions on the MHI-5 encourage participants to reflect on how much of the time they were a happy person, how much of the time they have felt calm and peaceful, how much of the time they have been a very nervous person, how much of the time they have felt downhearted and blue, and how much of the time they have felt so down in the dumps that no one can cheer them up. The six answer choices for each question include: all of the time, most of the time, a good bit of the time, some of the time, a little of the time, and none of the time. Further, the MHI-5's questions are framed to encourage the adolescent to reflect on the past month. This is particularly

important in understanding fluctuations due to the camp environment, as in June, participants are reflecting on their school experience, and in August, participants are reflecting on their summer experience.

The Adolescent Stress Questionnaire-Shortened Version (ASQ-S; Anniko et al., 2018) is a measure used to assess levels of stress adolescents are experiencing in their lives, particularly measuring adolescent stressor experience in a variety of domains. The stressor domains that the shortened version aims to measure include home life, school performance, school attendance, romantic relationships, peer pressure, teacher interaction, future uncertainty, school/leisure conflict, and financial pressure. This measure is meaningful in assessing various stress levels in differing domains across the lives of adolescents and successfully captures a large picture of stress that adolescents may be experiencing.

Finally, the Camp Status Questionnaire (CSQ; Yeshion, Diamond, & Learmonth, 2022) is another measure used in this study and has been developed by the researchers to measure adolescents' expectations for camp and their overall evaluation of their camp experience at the conclusion of the camp season. This questionnaire is only included in the surveys that participants who attend a seven-week overnight summer camp complete. In June, the CSQ questions are framed to encourage the adolescent participants to evaluate their expectations for their seven-week camping experience. In August, the CSQ questions encourage participants to reflect upon their seven-week camping experience and evaluate the experiences they had throughout the summer.

## **Procedures**

Using a pre- and post-test design format, data was collected twice over the summer period: once at the beginning of the summer (June) just after the school year ended, and once at

the end of the summer (August) before school began again. Data was collected over two summers (Summer 2023 and Summer 2024) to maximize participant enrollment for the study. This pre- and post-test design format was useful in identifying changes in overall self-esteem, mental health, and stress levels that adolescents experienced over the summer break. The data was collected through two different Qualtrics surveys that participants completed online: one survey for participants who indicated they were attending a seven-week overnight summer camp, and one for those who were not attending a seven-week overnight summer camp.

The link to sign up to participate in the survey was posted in various Facebook parent groups and professional websites for psychology to gain participation in the study. Upon clicking the Qualtrics link to participate in the study, parents were directed to an informed consent page to provide consent for their child to participate. Parents were asked to provide their signature to give consent and were also asked to provide an email address to send the participant's survey to. Once the parent provided consent, the survey was emailed to the email address they provided.

Upon opening the survey, the adolescent was asked to provide their assent to participating in the study. Once providing their assent, they were asked to come up with a unique code that was a combination of their initials and favorite number. For example, if the participant's name was John Smith and their favorite number was 6, their code would be "JS6". The code was used to match the pre- and post-test surveys at the conclusion of data collection. Participants were also asked whether they were attending a seven-week overnight summer camp or not. Those that indicated that they were attending a seven-week overnight summer camp had the intake form, Rosenberg Self-Esteem Scale (RSE), Mental Health Inventory-5 (MHI-5), Camp Status Questionnaire (CSQ), and Adolescent Stress Questionnaire-Shortened Version (ASQ-S) included in the survey they were sent at the beginning of the summer. Those that indicated they

were not attending a seven-week overnight summer camp had the intake form, Rosenberg Self-Esteem Scale (RSE), Mental Health Inventory-5 (MHI-5), and Adolescent Stress Questionnaire-Shortened Version (ASQ-S) included in their survey.

At the end of the summer in August, participants received another email with a new survey to complete. The participants were again asked to enter their unique code that they created at the beginning of the summer, allowing for the matching of the surveys. Adolescents who did attend a seven-week overnight summer camp over the summer received a survey that included the Rosenberg Self-Esteem Scale (RSE), Mental Health Inventory-5 (MHI-5), Camp Status Questionnaire (CSQ), and Adolescent Stress Questionnaire-Shortened Version (ASQ-S), while the participants who did not attend a seven-week overnight summer camp received all the same questionnaires except for the CSQ.

#### **Inclusion Criteria.**

Adolescents between the ages of 11 and 17 who both attended and did not attend a seven-week overnight summer camp.

#### **Exclusion Criteria.**

Any individuals that were not between the ages of 11 and 17 years old.

#### **Informed Consent.**

The survey contained a consent form as outlined above for parents to provide consent before the survey was sent to the adolescent participants. An assent form for adolescent participants to sign prior to engaging in answering the short questionnaires was also included in the survey. Participants were required to agree to the assent form specifying that the risks were minimal and included possible discomfort of thinking about stressful experiences over the past year while answering the survey and the benefits were not direct to the individual, but there were

benefits to understanding the state of these stress levels in aggregate. Participants were informed that they may end the survey at any time or choose to not answer questions without penalty. All adolescent participants provided their assent on both the pre- and post-test surveys indicating that they understood that their data would not be connected to them in any way and would be completely confidential.

### **Data Collection and Storage.**

Adolescent participants were asked to provide their initials along with their favorite number (i.e., JS6) in order to connect their pre- and post-test surveys at the conclusion of data collection, and no attempt was made to track the participants. All questionnaires and survey data were collected through Qualtrics by the primary researcher.

To maintain the integrity of the data, the collection occurred at the very beginning and very end of the summer seasons. This way, we were able to compare the first wave of surveys with the second having some certainty that it represented a snapshot of the condition of our population of interest in both time frames (beginning and end of summer).

### **Results**

Data from 41 participants was collected for both pre (beginning of the summer) and post (end of the summer) surveys. Demographic information can be found in *Table 1*. As can be seen in *Table 1*, there were 31 female participants, 8 male participants, 1 gender fluid participant, and one participant that did not specify their gender identity. 22 female and 3 male participants attended seven-week overnight summer camp, while 9 female and 5 male participants did not. The participant that identified as gender fluid and the participant that did not specify their gender both did not attend a seven-week overnight summer camp. In terms of age, four 11-year-old participants attended camp, while one did not; four 12-year-old participants attended camp, and



one did not; five 13-year-old participants attended camp; two 14-year-old participants attended camp, while 4 did not; one 15-year-old participant attended camp; four 16-year-old participants attended camp, while two did not; and five 17-year-old participants attended camp, while eight did not.

*Table 1*

*Sociodemographic Characteristics of Participants*

Baseline characteristic	Camp N	No camp N	Full sample N
<hr/>			
Gender			
Female	22	9	31
Male	3	5	8
Gender fluid	0	1	1
Not specified	0	1	1
Age			
11	4	1	5
12	4	1	5
13	5	0	5
14	2	4	6
15	1	0	1
16	4	2	6
17	5	8	13

*Table 1: Demographics.*

Descriptive statistical information can be found in *Table 2*. As can be seen in *Table 2*, the mean for the Adolescent Stress Questionnaire-Shortened Version (ASQ-S) pre-test group that attended a seven-week overnight summer camp is 65.48, while the mean for the post-test is 66.52. The mean for the pre-test group that did not attend a seven-week overnight summer camp is 61.81, while the mean for the post-test is 61.50. For the Rosenberg Self-Esteem Scale (RSE), the mean for the pre-test camp group is 17.76, and 18.44 for the post-test; the mean for the pre-

test no camp group is 20.75, while the mean for the post-test no camp group is 19.00. Notably, the standard deviations for the ASQ-S and RSE are large, indicating that the data are quite variable across both the camp and no camp group, and the pre- and post-tests. The mean for the Mental Health Inventory-5 (MHI-5) pre-test camp group is 23.00, while the post-test camp group mean is 24.04; for the no camp group, the pre-test mean is 22.56, and the post-test mean is 23.13. Across all measures, the means and standard deviations indicate no significant differences between the groups, and they are within the normal range for adolescents (RSE male adolescents  $M$  and  $SD = 31.26$  ( $M$ ),  $5.40$  ( $SD$ ) (Bagley & Mallick, 2001); RSE female adolescents  $M$  and  $SD = 28.31$  ( $M$ ),  $5.35$  ( $SD$ ) (Bagley & Mallick, 2001); MHI-5 mean score for adolescents = 23.86, standard deviation = 3.84 (Marques et al., 2011)).

*Table 2*

*Means and Standard Deviations of the ASQ-S, RSE, and MHI-5*

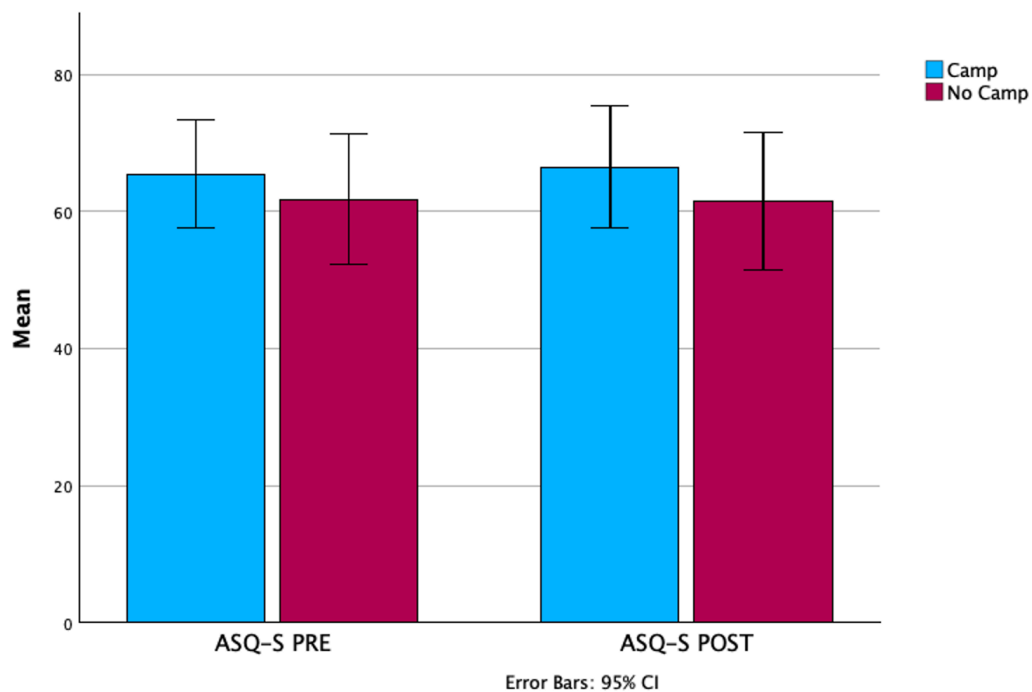
Measure	Camp		No camp	
	$M$	$SD$	$M$	$SD$
ASQ-S				
Pre	65.48	19.19	61.81	17.95
Post	66.52	21.50	61.50	18.84
RSE				
Pre	17.76	4.91	20.75	5.76
Post	18.44	5.32	19.00	4.86
MHI-5				
Pre	23.00	2.69	22.56	4.18
Post	24.04	3.43	23.13	3.28

*Table 2: Means and standard deviations for the Adolescent Stress Questionnaire-Shortened Version, Rosenberg Self-Esteem Scale, and Mental Health Inventory-5 at pre and post for adolescents who both did and did not attend seven-week overnight camp.*

### Adolescent Stress Questionnaire-Shortened Version

The results of a pre- and post-test design that examined the overall stress levels of adolescents ( $N = 41$ ) before the summer (June) compared with the end of the summer break (August) revealed no significant differences across groups. A mixed methods analysis of variance (ANOVA) was conducted to examine these effects. Specifically, the between subjects (i.e., participants that attended a seven-week overnight summer camp and participants that did not attend a seven-week overnight summer camp) by the within subjects (before the camp season and after the camp season) analysis was conducted. Results did not yield significant differences both between the groups or within the groups for overall self-esteem (see *Figure 1*).

*Figure 1*



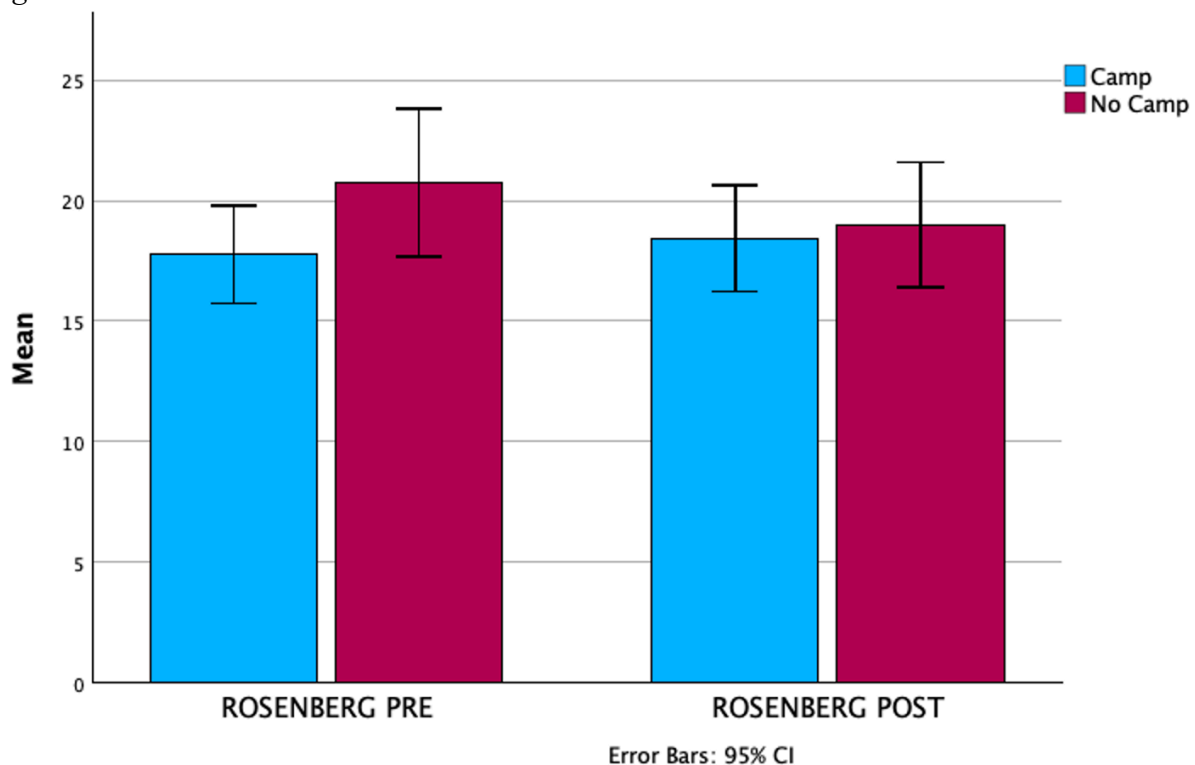
*Figure 1: Bar graph comparing the means of the Adolescent Stress Questionnaire-Shortened Version for the camp and no camp groups before the summer and after the summer.*

### Rosenberg Self-Esteem Scale

The results of a pre- and post-test design that examined the overall self-esteem of adolescents ( $N = 41$ ) before the summer (June) compared with the end of the summer break (August) revealed no significant differences across groups. A mixed methods analysis of variance

(ANOVA) was conducted to examine these effects. Specifically, the between subjects (i.e., participants that attended a seven-week overnight summer camp and participants that did not attend a seven-week overnight summer camp) by the within subjects (before the camp season and after the camp season) analysis was conducted. Results did not yield a significant difference both between the groups or within the groups for overall self-esteem (see *Figure 2*).

*Figure 2*



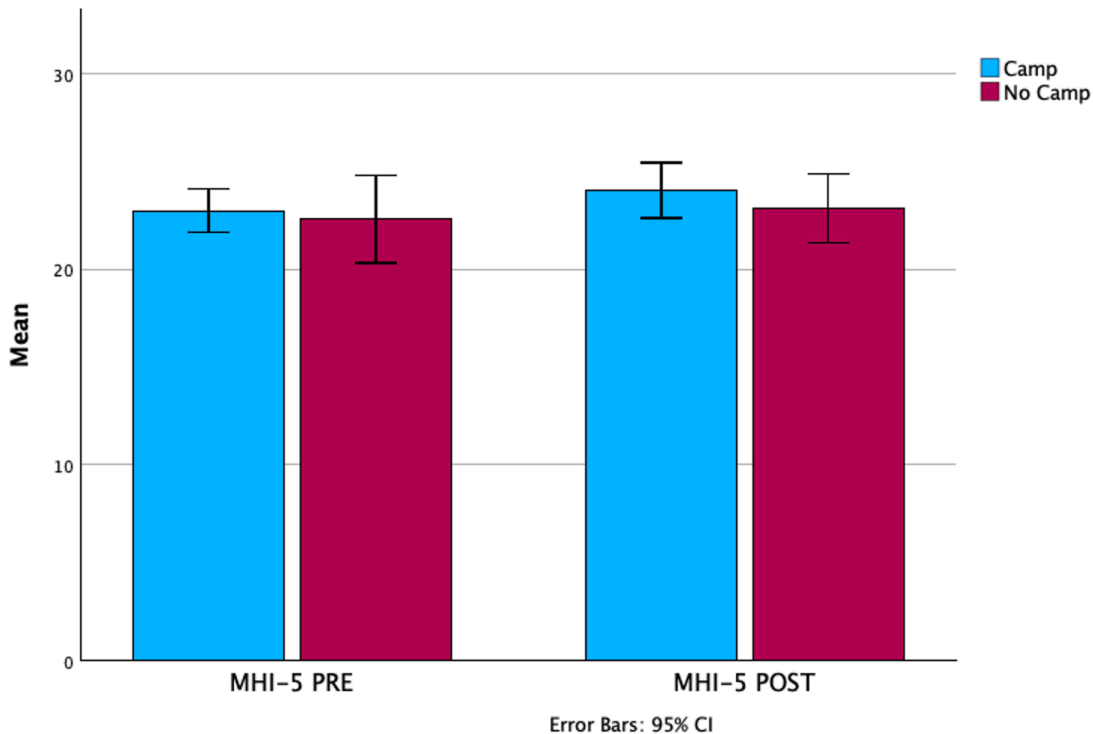
*Figure 2: Bar graph comparing the means of the Rosenberg Self Esteem Scale for the camp and no camp groups before the summer and after the summer.*

### **Mental Health Inventory-5**

The results of a pre- and post-test design that examined the overall mental health levels of adolescents ( $N = 41$ ) before the summer (June) compared with the end of the summer break (August) revealed no significant differences across groups. A mixed methods analysis of variance (ANOVA) was conducted to examine these effects. Specifically, the between subjects (i.e., participants that attended a seven-week overnight summer camp and participants that did not

attend a seven-week overnight summer camp) by the within subjects (before the camp season and after the camp season) analysis was conducted. Results did not yield a significant difference both between the groups or within the groups for overall self-esteem. (see *Figure 3*).

*Figure 3*



*Figure 3: Bar graph comparing the means of the Mental Health Inventory-5 for the camp and no camp groups before the summer and after the summer.*

### **Camp Status Questionnaire**

The Camp Status Questionnaire was used to examine adolescents' expectations for camp and their actual camping experiences. In examining the results of the pre-camp and post-camp responses of the adolescents that attended a seven-week overnight summer camp, campers tended to expect to have a good experience and reported having a good experience at the end of the summer (see *Table 3* below). There were no significant differences between pre- and post-camp responses for each question, indicating that campers expected to have a good experience, rating each question around an 8 on a 10-point scale before camp, and reported having a good

experience, rating each question around an 8 on a 10-point scale after camp concluded. Of note, one question that asked about campers' expectations for and reflections of demonstrating patience throughout the summer was approaching significant, however the number of participants ( $N = 25$ ) was too small to reach significant.

*Table 3*

*Means and Standard Deviations of the Camp Status Questionnaire*

	Pre-camp		Post-camp	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Q1: "I will be/I felt more satisfied after my camp experience this summer."	8.68	1.57	8.28	1.93
Q2: "I will feel/I felt calm and peaceful while at camp."	8.00	2.25	7.24	2.03
Q3: "I will have/I have a greater sense of self-worth."	7.80	2.33	7.64	1.91
Q4: "I will make/I made new friends."	7.96	2.11	8.80	2.06
Q5: "I will try/I tried new things."	8.00	1.94	8.48	1.83
Q6: "I will step/I stepped out of my comfort zone."	8.04	1.90	8.36	1.82
Q7: "I will act/I acted as a leader this summer."	8.40	1.78	8.20	2.52
Q8: "I will be/I was patient at camp this summer."	8.20	1.94	6.80	2.81
Q9: "I will be/I was less stressed at camp this summer."	7.76	2.54	7.28	2.92
Q10: "I will make/I made good choices at camp this summer."	8.84	1.37	8.64	1.55
Q11: "I will be/I was more flexible in tough situations at camp this summer."	8.32	1.41	7.76	1.98

*Table 3: Means and standard deviations for each question of the Camp Status Questionnaire at pre-camp and post-camp that was completed by the adolescents who attended seven-week overnight summer camp.*

## Discussion

A growing body of research highlights the positive impacts that summer camp has on the development and well-being of youth. At the same time, other research has demonstrated some potential negative effects that summer camps have on the lives of adolescents who attend. For example, camps that are more competitive in nature (i.e., athletic camps) have demonstrated these effects. Understanding the impact of summer camp on the stress, self-esteem, and mental health of adolescent individuals is of crucial importance in evaluating specific ways in which the

summer break impacts child and adolescent development. Findings from this study indicate that adolescents who attended a seven-week overnight summer camp did not experience significant decreases in stress levels at the end of the summer break when compared with adolescents who did not attend camp. Furthermore, these findings suggest that a seven-week overnight summer camp experience did not lead to a bolstered sense of self-esteem amongst adolescents who attended or yield significant improvements in the overall mental health of those adolescents compared to those who did not attend a seven-week overnight summer camp. However, it is important that these results are interpreted with caution because data about the specific type of camp adolescents attended, as well as the activities that those who did not attend camp engaged in, were not collected.

The Camp Status Questionnaire was used to examine campers' expectations for camp before leaving for camp, as well as to examine their evaluations of their actual experiences after being away for the summer. For all 11 questions, campers tended to expect to have a good experience and reported having a good experience, with most ratings being around an 8 on a 10-point scale. Importantly, many of the individuals who attended a seven-week overnight summer camp indicated that they were 16- and 17-years-old. In the camping world, 16-year-olds and 17-year-olds transition from their camper years and step into counselor roles. It is possible that this new responsibility and different camping experience from the experience that these individuals had been accustomed to could have impacted their ratings on some of these questions. This is particularly relevant for question number 8, which read: "I will be/I was patient at camp this summer". The concept of patience when becoming a counselor for the first time, being responsible for and working with younger children, depicted a larger difference between individuals' expectations for camp, which most rated around an 8.2 out of 10, and their

evaluation of their actual experience, which was rated around a 6.8 out of 10. While this measure has not been standardized, it is important in continuing to use it as a tool to examine the ways in which campers perceive their own experiences in their individual, specific, and different camp environments.

As this was a preliminary study contributing to the literature on the effects of a seven-week overnight summer camp experience, there are some limitations. The sample size for this study included a small sample of adolescents ( $N = 41$ ). In the overall sample, there were many more female than male participants (i.e., female = 31, male = 8; see *Table 1*). In terms of age, there were a greater number of participants who identified as being 17 years old compared with individuals who were part of younger age groups. At overnight summer camps, these individuals may have been first-year counselors, which may have impacted their stress levels (i.e., potentially increasing overall stress due to a new responsibility of caring for youth throughout the summer), self-esteem, and mental health levels. Further, there were a greater number of adolescents who attended a seven-week overnight summer camp than those who did not (i.e., camp = 25, no camp = 16). This disproportion between groups combined with the small sample size could have had an impact on the sensitivity of the measures and their ability to detect differences between the groups. Lastly, in analyzing the data, it became evident that there was a wide variability in standard deviation for the Adolescent Stress Questionnaire-Shortened Version and Rosenberg Self-Esteem Scale. It is possible that this wide variability reflects a sex difference that was unable to be analyzed due to the small sample size. In particular, some research has indicated that there are sex differences in self-esteem during adolescence between boys and girls (Birndorf et al., 2005). Thus, it is possible that this sex difference could explain the reasoning for the data being variable.



Future research should focus on obtaining a larger sample size that includes a wider demographic of participants. Specifically, gathering more demographic data including income level and geographic location will be important factors to study in future research in order to understand potential significant differences between groups. To add to that, a larger sample size will help measures such as the ASQ-S, RSE, and MHI-5 to better detect differences between groups. It will be important for future research to include the use of additional measures to determine alternative potential benefits other than stress, self-esteem, and mental health that a seven-week overnight summer camp experience may provide for adolescents. Contrasting shorter overnight camp sessions (i.e., three- or four-week sessions) with longer, seven-week camp sessions, can also be useful in identifying differences in benefits that the lengths and specific types of overnight summer camps yield. Specifically, including surveys and questions that are focused on obtaining information about the type of camp the adolescent attends (i.e., sports camp, grief camp, diabetes camp, camp for leisure) can be used to group participants together based on the type of camp attended over the summer. Finally, understanding these differences in the context of the evolving societal climate over time will improve our understanding of the impact of the summer break on the stress, self-esteem, and mental health of adolescents.

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