Using Adventure Therapy to Improve Self-Efficacy of Middle School Students

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Abstract

School counselors are encouraged to employ evidence-based practices to meet students' mental health needs, yet a scarcity of outcome research limits their access to adequately supported prevention and intervention resources (Griffith et al., 2019). To maximize their impact and time, school counselors should consider conducting group counseling with students. Specifically, school counselors should consider implementing Adventure Therapy (AT), a kinesthetically engaging form of group counseling that uses adventure activities to promote participation through collaborative problem solving, encourage responsible decision-making, and foster accountability among students (Christian et al., 2019). While literature supports the use of AT in schools, there is a dearth of outcome studies examining its efficacy with students. This study explored the impact of AT on 7th graders' self-efficacy (n = 19). The researchers measured Total, Academic, Social, and Emotional self-efficacy using the Self-Efficacy Questionnaire for Children at pre, mid, post, and follow-up. Results suggested AT groups were effective for increasing all types of self-efficacy for participants with males showing a greater increase. Implications for school counselors and future research are described.

Keywords: adventure therapy, school counseling, self-efficacy, adolescence, time series design

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The American School Counselor Association (ASCA, 2019) tasks school counselors with addressing the academic, career, and social/emotional needs of all students through the implementation of comprehensive and developmentally appropriate counseling programs. Although these programs are preventative in nature, school counselors are also responsible for implementing a variety of evidence-based individual and small group interventions (ASCA, 2019) and providing outcome data to support their use (Zyromski et al., 2018). Recent research indicates a dearth of outcome studies related to school counseling interventions (Griffith et al., 2019), making it more difficult for school counselors to implement the variety of interventions encouraged by ASCA. The purpose of this outcome study was to evaluate the effectiveness of Adventure Therapy (AT) on the self-efficacy of middle school students.

Adventure Therapy

Founding and Evolution of Adventure Therapy

Adventure therapy (AT) has deep roots in education, initially developing from Kurt Hahn's and Lawrence Holt's focus on teaching through wilderness immersion, a program created in 1941 that became known as Outward Bound (Flavin, 1996). Wilderness therapy gained popularity in the U.S. in the early 1960s following the formation of a North American chapter of Outward Bound. Nearly a decade later, Karl Rhonke and Jerry Pieh, public school educators and founders of Project Adventure, adapted Outward Bound concepts for the school setting to engage students and make adventure therapy more accessible (Fletcher & Hinkle, 2002; Schoel & Maizell, 2002). Project Adventure achieved Hahn's original intention of integrating Outward Bound into

schools (Fletcher & Hinkle, 2002; Schoel & Maizell, 2002). Over the past 49 years Project Adventure has become an industry leader and pioneer in training educators and counselors to use AT in schools.

Adventure Therapy Concepts and Application in Schools

Gass et al. (2012) described AT as the "prescriptive use of adventure experiences provided by mental health professionals, often conducted in natural settings that kinesthetically engage clients on cognitive, affective, and behavioral levels" (p. 1). AT facilitators use specific techniques to promote participation through collaborative problem solving, encourage responsible decision-making, and foster accountability (Christian et al., 2019). Challenge by Choice (CBC) empowers students to select their level of participation and practice healthy decision-making when engaged in the adventure activity (Schoel & Maizell, 2002). A Full Value Contract (FVC) establishes group norms that encourage students to value and acknowledge one's ideas and the ideas of others (Christian et al., 2019). The FVC promotes responsibility and accountability for individual and group actions rather than requiring the group facilitator to enforce order. The FVC can be pre-determined by the facilitator, co-created by the facilitator and the students, or created solely by group members with the goal of having all participants committed to creating safe groups where they can challenge themselves emotionally and behaviorally (Folan, 2012). Project Adventure (2007) offers the six preset norms of *be here*, *be safe*, *be honest*, *set goals*, *care for self and others*, and *let go and move on*.

The Adventure Wave integrates a modified version of Kolb's (1984) Experiential Learning Cycle (ELC) and consists of three phases: briefing, action, and processing

(Christian et al., 2020). The briefing phase prepares students for the activity by informing them of rules and expectations. They also review FVC and CBC. The briefing is a time for students to set appropriate individual and group goals. The action phase is where the adventure wave merges with the ELC and is characterized by students engaging in the activity. During the final phase, processing, the AT facilitator moves the group through the final three debriefing stages of the ELC: recreational, educational, and developmental (Folan, 2012). The recreational debrief encourages students to reflect and share their concrete experiences. The educational debrief allows students to process what they learned from the activity. The developmental debrief empowers students to conceptualize how they can apply newly learned information and insights to other areas in their life (Christian et al., 2019). At this stage, the AT facilitator has students set specific and concrete goals for transferring knowledge and newly acquired skills to everyday life, a concept referred to as spiral goals (Christian et al., 2020; Schoel & Maizell, 2002).

AT facilitators use spiral goals to help students make connections to the outside world. It is important to ensure students are ready to establish spiral goals and that those goals are carefully established and closely monitored, otherwise they become an unachieved wish list. The group supports, encourages, and provides accountability to students as they strive to meet their spiral goals. Through spiral goals, members learn how to set, work toward, and carefully monitor their goals, a healthy habit that should become a lifelong tool (Schoel & Maizell, 2002).

Since the inception of Project Adventure, schools have continued to increase accessibility of AT programs to address a variety of student outcomes. Numerous

articles present strong rationale for the use of AT in the school setting (Albright, 2016; Christian et al., 2019; Gibbons et al., 2018; Glass & Shoffner, 2001; Karoff et al., 2017; Portrie-Bethke et al., 2012; Wick et al., 1997). However, a majority of programs aimed to support school-age children occurs outside their daily environment. Durlak et al. (2011) performed a meta-analysis focusing on the use of after-school AT programs. The results identified 75 programs that appeared to increase students' self-perception, pro social behaviors, attitudes towards school, school performance, and attendance (Durlak et al., 2011). Overall, studies provide support and consideration for future studies to explore student outcomes such as self-efficacy, social development, resiliency, behavior, academic performance, and self-perception.

Self-Efficacy

Bandura (1977, 1997) described self-efficacy as the degree to which people believe that they can successfully execute behaviors required to produce specific outcomes. Previous research has linked higher levels of self-efficacy to increased academic achievement (Zimmerman et al., 2017) and motivation (Zimmerman et al., 1992), perceived social competence (Spence et al., 1999; Gaudiano & Herbert, 2007), self-esteem (Hajloo, 2014; Smith & Betz, 2002), resilience (Schwarzer & Warner, 2013), self-regulation (Bouffard-Bouchard et al., 1991), preparedness to succeed in college (Chemers et al., 2001), adult career attainment (Lent et al., 1986; Stajkovic & Luthans, 1998) and happiness (Judge et al., 1998). Self-efficacy is also linked to decreased substance abuse (Burleson & Kaminer, 2005), symptoms of depression (Ehrenberg et al., 1991; Muris, 2001), social anxiety (Gaudiano & Herbert, 2007), and negative self-evaluation (Mahone et al., 1993). Further, recent literature has linked self-efficacy and

growth mindset (Dweck, 2016), stating that "having high self-efficacy with a growth mindset can help a student navigate setbacks successfully because they continue to have the confidence that they can ultimately achieve their goal (self-efficacy) by increasing their effort and abilities (growth mindset)" (Transforming Education, 2020, p.11). Finally, the Collaborative for Academic, Social, and Emotional Learning (CASEL, n.d.) recognizes self-efficacy as a key characteristic of Self-Awareness, one of the five areas of competence for social-emotional learning.

Nine factors have been proposed to influence perceived self-efficacy (Bandura, 1977, 1997; Vealey et al., 1998). Those factors include level of mastery, prior demonstration of ability, mental/physical preparation, perception of self-presentation, social support, vicarious experience, teaching/leadership, environmental comfort, and situational favorableness. Mastery leads to increased levels of self-efficacy through repeated successful reproduction of a behavior. Demonstration of ability and self-presentation affects self-efficacy based on the type of feedback people receive when displaying their skills or expressing themselves. Preparation helps to remove the stress of the unknown and increase the belief that what has been learned has been retained and can be applied later.

Social support helps to maintain levels of self-efficacy. Vicarious experience impacts belief of success based on the observation of others' levels of success with demonstrated behaviors. Teaching/Leadership affects self-efficacy based on the levels to which the provider is perceived to be knowledgeable and trusted. Environmental comfort and situational favorableness affect self-efficacy in people through their perceived advantages or disadvantages given the contexts in which they are executing

behaviors. Given the impact of contexts, other people, and prior experiences on self-efficacy, it is important to describe the different aspects of self-efficacy that were investigated in this study.

Academic, Social, Emotional Self-Efficacy

Bandura et al. (1996) described academic self-efficacy as the degree to which students believe they can successfully perform on academic tasks in an academic setting. Honicke and Broadbent (2016) completed a meta-analysis of 59 studies on academic self-efficacy and found a moderate correlation between academic self-efficacy and academic achievement. They reported that "effort regulation, deep processing strategies, and goal orientations" (Honicke & Broadbent, 2016, p. 64) were connected to students' academic self-efficacy. Connolly (1989) described social self-efficacy as people's perceived abilities to engage effectively in interpersonal situations and receive desired responses from others. It is strongly influenced by social structure and culture (Gecas, 1989).

A study in Turkey found a significant correlation between communication and interpersonal problem-solving skills and high school students' social self-efficacy (Erozkan, 2013). Additionally, lower levels of social-self efficacy appear related to higher levels of depression with adolescents (Ahmad et al., 2014). Muris (2001) defined emotional self-efficacy as the perceived ability to cope with negative emotions and avoid negative emotional states. Adolescents with low emotional self-efficacy have a higher risk of contemplating or attempting suicide (Valois et al., 2015). Most students experience a positive correlative effect with academic and emotional self-efficacy and with social and emotional self-efficacy, but there is no definitive evidence that social and

academic self-efficacy have any significant correlation (Armum & Chellappan, 2016). More research is warranted in this area.

Sex Differences in Self-Efficacy

Research is mixed regarding differences between adolescent male and female levels of academic, social, and emotional self-efficacy. Muris (2002) found that males reported higher total and emotional self-efficacy than their female counterparts, but had similar levels academic and social self-efficacy. Additional research by Suldo and Shaffer (2007) found the same results. Landon et al. (2007) and Muris (2017) conducted a study and found that males had higher total self-efficacy than females. However, recent research evaluating the measurement of self-efficacy using a large (*N*=3,358), ethnically diverse sample of early and late adolescents in the U.S. found that females had higher social and academic self-efficacy than males (Minter & Pritzker, 2017). Due to its impact on adolescent mental health, its various forms, and the apparent differences that exist within and between sexes, school counselors need a specialized intervention to address academic, social, and emotional self-efficacy of male and female students. One such possible intervention is AT.

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Addressing Self-Efficacy Through Adventure Therapy

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A growing body of research supports the use of AT to foster psychological and behavioral change in adolescents. A meta-analysis of 197 AT outcome studies—most of which were conducted outside of a school— yielded a moderate, positive, and significant (.47) effect size (Bowen & Neill, 2013). There is support for using AT to engage students in a school setting (Christian et al., 2019; Glass & Shoffner, 2001; Wagner & Elliot, 2014) and research indicating the effectiveness of using AT to increase

self-esteem in students (Wick et al., 1997). Because research has found a relationship between high self-esteem and high self-efficacy (Hajloo, 2014; Smith & Betz, 2002), AT has the potential to foster self-efficacy.

Theoretically, AT fosters self-efficacy and growth by requiring students to try new behaviors to complete unique and challenging adventure experiences. Kinesthetic activity has been found to be a strong indicator of positive levels of emotional self-efficacy in adolescents, as well as a bonding opportunity that can increase social self-efficacy (Dinç, 2011; Valois et al., 2008). Experiential activities have been shown to produce increased levels of academic self-efficacy when those experiences are intentionally generalized to academic experiences through processing (Widmer et al., 2014). The use of kinesthetic experiential activities as isomorphic metaphors for real life phenomena drives the therapeutic process (Gass et al., 2012). Walsh and Russell (2010) found accomplishing adventure tasks promotes increased self-efficacy in participants of a wilderness therapy program. Although research supports the use of AT to increase self-efficacy, additional research evaluating AT's impact on self-efficacy in a school setting and potential sex differences is needed.

Purpose of the Study

The purpose of this study was to explore how participating in AT impacted 7th grade students' levels of self-efficacy and whether AT had different effects on males and females. We hypothesized that students participating in the AT groups would experience an increase in self-efficacy. We tested our hypotheses by conducting a pre, mid, post, and follow-up measure of group members' perception of Total, Academic, Social, and Emotional self-efficacy using the Self-Efficacy Questionnaire for Children

(SEQ-C, Muris, 2001). Students were assigned to either a 10-week all female or all male group facilitated by their school counselor. We sought to answer the following questions:

RQ$_1$: Does participating in AT increase middle school students' self-efficacy?

RQ$_2$: Does participating in AT have different effects on the self-efficacy of female middle school students than male middle school students?

Methodology

Participants

Middle school students (N = 19) from a public school in the Northeast participated in this study. All participants were enrolled in the 7th grade for the first time and the average age was 12.3 years (SD =.48). Of the 19 participants, 10 were female and 9 were male and 6 (32%) were identified as socioeconomically disadvantaged. A majority identified as White (n = 18) and one identified as Asian American. The school counselor aggregated demographic data using the information management system and group demographics aligned with the school's population.

School Counselor Characteristics

The school counselor assigned to work with 7th grade students facilitated all AT groups. He holds a master's degree in school counseling and has over 10 years of experience counseling at the middle school level. He received intensive training in AT through Project Adventure and currently serves as a contract facilitator in Project Adventure's youth and college programs. Project Adventure is a non-profit organization that trains professionals in adventure-based experiential learning programs that can be educational and/or therapeutic in nature. Their trainings and publications range in focus

from physical education to substance use and abuse prevention/intervention to social/emotional development.

Instrumentation

The Self-Efficacy Questionnaire for Children (SEQ-C; Muris, 2001) was used to measure self-efficacy. The SEQ-C is comprised of 24 items students respond to using a 5-point Likert type scale ranging from 1 (Not at all) to 5 (Very well). The SEQ-C provides a Total self-efficacy score as well as three subscale scores: Academic, Social, and Emotional self-efficacy. Total self-efficacy is calculated by summing the three subscales and measures participants' belief in their ability to achieve a desired goal. Each subscale is comprised of eight items and scores are calculated by summing the answers for each item on the subscale. The Academic subscale measures participants' belief in their ability to accomplish academic tasks, the Social subscale measures participants' belief in their ability to establish and maintain social connections, and the Emotional subscale measures participants' perceived ability to regulate their emotions, particularly negative emotions. The SEQ-C was originally normed on 330 Dutch youth, yielding Cronbach's α of .88 for Academic self-efficacy, .85 for Social, .86 for Emotional, and .99 for Total self-efficacy (Muris, 2001).

The SEQ-C has also been normed on a sample of 697 middle and high school youths in the United States (Suldo & Shaffer, 2007) with reported Cronbach's α of .82 for Academic, .73 for Social, and .79 for Emotional self-efficacy, concluding that the SEQ-C was appropriate for use with American youth. For this study, Cronbach's α were .84 (Academic), .61 (Social), .73 (Emotional), and .86 (Total) at pre; .75 (Academic), .67 (Social), .87 (Emotional), and .86 (Total) at mid; .71 (Academic), .66 (Social), .82

(Emotional), and .80 (Total) at post; and .81 (Academic), .76 (Social), .88 (Emotional), and .91 (Total) at follow-up. Students completed the SEQ-C before group started, midway through the group, at the end of the group experience, and at the end of the school year to assess change throughout the group process as well as at follow-up.

Although there are no specific cut-offs determining what is considered high or low self-efficacy for the SEQ-C, there are a considerable number of articles referencing average scores. Initial mean scores provided by Muris (2001), calculated using a sample of 330 youth (140 males, 190 females), found Total self-efficacy scores were 76.8 (sample), 78.9 (males), and 75.3 (females); Social self-efficacy scores were 28.2 (sample), 28.5 (males), and 28.0 (females); Academic self-efficacy scores were 23.6 (sample), 23.9 (males), and 23.3 (females); and Emotional self-efficacy was 25.0 (sample), 26.5 (males), and 24.0 (females). A year later, using a normative sample of 596 youth (male = 278, female = 318), Muris (2002) reported full sample self-efficacy mean scores 69.9 for Total, 25.5 for Social, 22.4 for Academic, and 22.4 for Emotional. For males, means scores were 71.6 for Total, 25.4 for Social, 22.2 for Academic, and 24.0 for Emotional. For females, mean scores were 68.5 for Total, 24.9 for Social, 22.6 for academic, and 21.0 for Emotional. Suldo and Shaffer (2007) found mean scores of 23.51 for Social, 23.65 for Academic, and 24.84 for Emotional in a sample of 695 youth. In a second study, they found mean scores of 18.86 for Social, 25.22 for Academic, and 22.19 for Emotional in a sample of 315 youth. While male and female participants had similar Social and Academic self-efficacy scores in both studies, males scored significantly higher than females on emotional self-efficacy in both studies (Suldo & Shaffer, 2007). Using a sample of 3,000 youth (44% male, 52% female), Minter and

Pritzker (2017) found that females had higher mean scores for Academic (Males: 29.71, Females: 30.24) and Social (Males: 30.5, Female: 31.15). Other research has found differences between sexes including Landon et al. (2007, *N=100*) who found that females (82.64) had lower Total self-efficacy mean scores than males (84.51) and Muris et al. (2017) who also found that females (77.44) had lower Total self-efficacy mean scores than males (84.54).

Procedure

After receiving permission from the school district, the first author received university IRB approval to conduct the study on the campus. The school counselor identified 30 students considered to be at increased likelihood of experiencing academic failure due to attendance problems, displaying behavior disruptive to the learning environment, or performing below academic standards. Informed consent was received from all parents and each participant gave verbal and written assent to participate. Parents and students were informed that participation was voluntary and that students could discontinue the study at any time without consequence. Of the 30 potential participants, 19 were included in this study. All participants completed the SEQ-C before the groups began.

Intervention

Through collaboration, the school counselor and principal investigator created a 10-week AT group intervention. Participants were divided into a female only group (*n*=10) and a male only group (*n*=9). Groups met once a week for approximately 45 minutes over a 10-week period. Activities were sequenced according to suggestions by Christian et al. (2019) to ensure appropriate fit of activity to the groups' developmental

stage and to facilitate trust and cohesion. In this study, the facilitator and participants co-created a FVC during the first session. At the end of the 10-week AT intervention, both groups participated in a ropes course experience at the local high school as a capstone event. The two groups went to the ropes course on separate days but participated in the same activities during the capstone event. Thus, both groups received the same intervention throughout the course of the study. What follows is a list of the activities used throughout the AT group as well as a detailed description of a specific activity in each phase to serve as an example.

In the initial phase, the group engaged in activities such as Categories (Rohnke & Butler, 1995), Clumps (Collard, 2008), Me-You-You-Me (Collard, 2008), and Name Roulette (Rohnke & Grout, 1998) to build trust, connect with other members, and develop group norms. As the group progressed the school counselor used activities to address communication, group cohesion, and self-awareness. One of the first activities completed was Stepping Stones (Aubry, 2009) to address team work and communication amongst participants. The school counselor began this activity by creating a rectangle area with rope as boundaries, then set place-markers at random spots within the rectangle that were approximately three feet apart. The objective of the activity was for participants to maneuver their way from one end to the other by only stepping on the place-markers. If a participant touched the ground and not the place marker, the whole group started over. This activity promoted communication, goal setting, and self-awareness and allowed the school counselor to assess if participants were committed to the group experience and felt safe. Other activities completed during

this stage were Gotcha (Rohnke & Butler, 1995), Quail Shooter Delight (Rohnke, 2010), and Jump In, Jump Out (Folan, 2012).

In the next phase, the school counselor used activities to address decision making skills, self-awareness, and understanding emotions. Specific activities implemented were Natural Disasters (Aubry, 2009), Balloon Trolley (2009), and Knot or Not? (Ashby et al., 2008). In Natural Disasters (Aubry, 2009) participants were given a balloon on which they wrote a feeling with which they were struggling. Next, participants stood in two lines in front of each other and put the balloon between their chest and the back of the person in front of them. The goal was for participants to walk from point A to point B without dropping balloons. Each group created consequences for dropping balloons. Afterwards, the group processed how feelings can inhibit them reaching their goals. This activity allowed the school counselor to assess if participants felt safe enough to try new behaviors, share emotions with the group, and set goals. Next, the school counselor used activities to foster self-acceptance, strength identification, and teamwork. Specific activities utilized were Strength Bombardment (Aubry, 2009), Silver Lining (Ashby et al., 2008), Sonic 1-2-3 (Folan, 2012) and TP Shuffle (Rohnke, 2010). In Strength Bombardment (Aubry, 2009) each participant had 30 seconds to hear positive feedback from all other participants about strengths observed during group. This activity allowed participants to practice giving and receiving positive feedback.

Toward the end of the groups, the school counselor used Armada and Traffic Jam (Folan, 2012) as a processing activity to apply communication, problem-solving skills, and self-awareness skills learned during the group. In Armada triangles were marked on the floor using rope, with one hula hoop in each triangle, and red, green, and

yellow fleece balls set outside of the triangles. The school counselor split participants into smaller groups and had each pick a "captain or medic" to lead the team. Each group was instructed that their goal was to get throw fleece balls near their triangle at the other teams. Players hit with a fleece ball or who step outside of the triangle must kneel and not move. They could continue to play, but not move until the "captain or medic" touched them. The game ended when the "captain or medic" was hit, a pre-determined time had expired, or an entire team was kneeling. After Armada, the school counselor used Traffic Jam (Folan, 2012) to process the activity. As participants identified behaviors, they picked up a red ball that represented behaviors that should stop, yellow for behaviors that were concerning, and green for behaviors that should continue. The school counselor used this activity to review the FVC at the end of the group and challenge participants to identify behaviors they could continue to improve outside of group, using the group experience as a catalyst for future growth.

Analysis of Data

To assess the impact AT has on students' perceived level of self-efficacy, we conducted four mixed between/within-subject ANOVAs (Tabachnick & Fidell, 2001). By using a mixed between/within design, we were able to address change over time as well as differences between the groups. The between-subjects variable was group (k=2), female or male, and the within-subject variable was time (k=4), pretest, mid-group, posttest, and follow-up. The Total self-efficacy and three self-efficacy subscales of the SEQ-C served as dependent variables for all analyses. In order to determine replicability and practical significance, we calculated effect sizes in the form of eta squared (η^2; Henson, 2006). We interpreted effect size estimates using the following

guidelines: small = .01, medium = .06, and large = .14 (Henson, 2006). We conducted

an *a priori* power analysis (Faul et al., 2009) and determined that using a

pretest/posttest, mixed between/within subjects ANOVA where *p* = .05, power equals

.80, and a medium effect size of .25 can be detected, a sample size of approximately 30

participants was necessary. A *post hoc* power analysis using the same parameters

indicated that with our sample size of 19, power had reduced to .70. Because the *post*

hoc result was close to Cohen's (1992) suggested power level of .80, we continued with

our planned statistical analyses and attempted to accommodate for any impact the

reduced power might have by reporting effect sizes for all results.

Results

To answer our research questions, we conducted four mixed between/within-

subject ANOVAs using group membership (female or male) as the between-subject

variable, time (pre-, mid-, post-, and follow-up) as the within-subjects variable, and the

four self-efficacy scores (Total, Academic, Social, and Emotional) as the dependent

variables. Table 1 contains the means, standard deviations, and sample size for each

time members completed the SEQ-C. Tables 2 and 3 contain the results of the mixed

between/within-subject ANOVAs.

Total Self-Efficacy

For Total self-efficacy there was a statistically significant effect for time, $F(3, 51)$

= 3.24, *p*=.03, and large effect size (η^2 = .14). There was also a statistically significant

difference between groups, $F(1, 17)$ = 10.79, *p* < .01, and large effect size (η^2 = .39).

Overall, participants in the AT groups reported a 6.2 point mean score increase from pre

to follow-up with male participants reporting a 7.5 point increase and females reporting

a 5.1 point increase. Using pairwise comparisons based on estimated marginal means, participants in the male group reported statistically significantly higher total self-efficacy scores mid group as well as at follow-up. Based on these results, female and male students who participated in AT groups reported a statistically significant increase in total self-efficacy, with males appearing to benefit more than females. Figure 1 represents the group means at each point of data collection.

Academic Self-Efficacy

For Academic self-efficacy, there was no statistically significant effect for time or group. However, there was a moderate to large effect size for time ($\eta^2 = .11$). Overall, participants in the AT groups reported a 2.2 point mean score increase from pre to follow-up with male participants reporting a 3.2 point increase and females reporting a 1.2 point increase. Based on the means and the moderate to large effect size, it appears that participating in AT groups did increase students' reported level of Academic self-efficacy with males appearing to benefit more than females. Figure 2 represents the group means at each point of data collection.

Social Self-Efficacy

For Social self-efficacy, there was no statistically significant effect for time with a moderate effect size ($\eta^2 = .07$). There was a statistically significant difference between groups, $F(1, 17) = 11.88$, $p < .01$, and a large effect size ($\eta^2 = .41$). Overall, participants in the AT groups reported a 1.6 point mean score increase from pre to follow-up with male participants reporting a 1.4 point increase and females reporting a 1.8 point increase. Using pairwise comparisons based on estimated marginal means, participants in the male group reported statistically significantly higher Social self-efficacy scores pre

and mid group as well as at follow-up. Based on the means and moderate effect size, participation in AT groups appeared to have a positive impact on social self-efficacy for all participants. However, a statistically significant difference between groups at pre-test makes it difficult to assess how the intervention affected Social self-efficacy differently for each group. Figure 3 represents the group means at each point of data collection.

Emotional Self-Efficacy

For Emotional self-efficacy, there was no statistically significant effect for time with a moderate effect size (η^2 = .09). There was a statistically significant difference between groups, $F(1, 17)$ = 15.93, $p < .01$, and a large effect size (η^2 = .48). Overall, participants in the AT groups reported a 2.4 point mean score increase from pre to follow-up with male participants reporting a 2.8 point increase and females reporting a 2.1 point increase. Using pairwise comparisons based on estimated marginal means, participants in the male group reported statistically significantly higher Emotional self-efficacy scores at pre, mid, post, and follow-up. Based on the means and moderate effect size, participation in AT groups appeared to have a positive impact on Emotional self-efficacy for all participants. However, a statistically significant difference between groups at pre-test makes it difficult to assess how the intervention affected Emotional self-efficacy differently for each group. Figure 4 represents the group means at each point of data collection.

Discussion

Regarding the first research question, AT appears to be an effective way to improve self-efficacy in middle school students. An increase occurred among all participants regardless of sex for Total, Academic, Social, and Emotional self-efficacy

scales. These findings are consistent with previous research (Davis-Berman & Berman, 1994; Kelley et al., 1997; Sheard & Golby, 2006; Sibthorp, 2003; Tucker et al., 2013) and theoretical literature (Shellman, 2014) indicating a positive link between AT and self-efficacy. In addition, the findings show there was not a significant correlation between social and academic self-efficacy, instead both males and females had higher social than academic throughout the study. This is consistent with the findings of Armum and Chellappan (2016), indicating that confidence in one's ability to navigate social situations does not seem to be connected to a higher sense of confidence in one's ability to perform academically, but AT appears to be effective for increasing both types regardless.

Regarding the second research question, results suggest there is a difference in self-efficacy for female students who participate in AT groups compared to their male counterparts. Males appeared to experience greater benefit from AT as evidenced by a larger increase in Total, Academic, Social, and Emotional self-efficacy scores than members of the female group.

Male Social and Emotional self-efficacy scores started and ended higher than female scores. Males were found to have statistically significant higher scores at pre, mid, and follow-up for Social self-efficacy and higher scores across pre, mid, post, and follow-up for Emotional self-efficacy. Although females showed an initial decrease in all scales except Academic self-efficacy from pre to mid, post and follow-up scores indicated an increase on all self-efficacy scales. Academic self-efficacy scores showed a constant upward trend throughout the female group. Based on the results, it appears that AT influences female self-efficacy at a different, albeit slower, rate than male self-

efficacy. These findings are consistent with research indicating adolescent boys report higher self-efficacy (Diseth et al., 2014; Gnilka & Nonakovic, 2017; Hadley et al., 2017; Landon et al., 2007; Muris, 2001, 2002, 2017), especially related to physical activity (Spence et al., 2010) and social behavior (Sonja et al., 2009).

One factor contributing to the drop in male self-efficacy scales at post (termination) could be due to the group ending. According to Benson (2009), as a group approaches termination or adjournment, members of the group tend to regress and react to the perceived loss of social support and relationships made through group engagement. This anxiety or loss emphasizes how members of the group might cope with the ending of group and separation, possibly through avoidance or denial. Although attributing the males' rebound at follow-up to the ropes course experience would be consistent with previous literature (Cordle et al., 2016; Wolf & Mehl, 2010), it also might be due to coming to terms with termination and finding ways to transfer learning to everyday life.

Implications for Practice

This study supports AT as an effective and feasible intervention school counselors can use to improve self-efficacy in middle school males and females. As middle school counselors work to address the needs of students, they should consider using AT as a fun and engaging way to increase self-efficacy. Results of this study suggest an AT group comprised of at least ten weekly sessions lasting approximately 45 minutes each with a capstone (i.e. local ropes course) event increases student's self-efficacy.

Although providing therapy of long-term counseling services to students is beyond school counselors' defined role, they are responsible for addressing social-emotional and mental health needs that impede students' ability to access their education (Christian & Brown, 2018). To do this, school counselors should attempt to maximize their impact and time by conducting group counseling (Christian et al., 2019). In this study, the school counselor who facilitated the groups was able to prioritize group meetings by creating a schedule that blocked off 45 minutes multiple times a week for 10 weeks. He had also established relationships with stakeholders such as teachers and administrators so that they understood the school counselor's role and the importance of addressing students' mental health needs. In addition, he and the first author presented a proposal for the research project that included previous research and literature supporting the use of AT in schools to the principal when asking for permission to conduct the groups and collect data. Following the ASCA (2019) national model's recommendation to advocate for the counseling profession and engage in the collection, analysis, and sharing of data with stakeholders, the school counselor and first author provided the principal and school board a summary of the study's results, leading to additional groups the following semester.

Implications for Research

Although we followed Project Adventure's guidelines for AT and sought to sequence activities in a manner that would align with group development while fostering growth, future research could seek to create a more specific treatment protocol. The dynamic and responsive nature of AT will make this more difficult, but an attempt should be made. Future research should also look at AT in more diverse schools with a wider

grade range to understand better the impact AT has on students from diverse backgrounds and at different developmental stages. Many school counselors feel overwhelmed by daily duties and might find it difficult to prioritize 45-minute group sessions at various points throughout the week over a 10-week span. Therefore, future qualitative research could explore the experience of the school counselor when facilitating AT groups and future quantitative research could look at different time combinations such as shorter meetings or meeting over fewer weeks. Because there was a dip at posttest and then an increase at follow-up after the capstone ropes course event for the males, future research could explore the effects of a culminating capstone event, such as the inclusion of the rope course, and the impact of group termination procedures on self-efficacy. Specifically, researchers could compare outcomes for participants in AT groups, AT groups plus a capstone event, and just a capstone event to better understand what part or parts of the AT process is responsible for change. Having a waitlist, control, or comparison group would also strengthen future research. Additional research focusing on the differences among self-efficacy scores and variables directly impacting Emotional, Academic, and Social self-efficacy scores will further expound upon conclusions made from this study. Finally, future research should evaluate mixed-sex AT groups at various developmental stages to gain a better understanding of how mixing male and female participants impacts group functioning throughout adolescence.

Limitations

The limitations of this study are related to the sample, duration of the group, treatment protocol, and design. First, the sample was small (N=19) and only

representative of middle school students in a specific location in the northeastern United States. Second, the participants lacked diversity because it was a sample of convenience comprised predominantly of Caucasian students. Third, the groups only occurred once a week for 45 minutes, instead of the typical 90 minutes. Although a limitation, this was necessary in order to prioritize academics and make replication feasible for other school counselors. Fourth, like most AT research, transferability of these findings is limited in part by the lack of a common AT model (Norton et al., 2014). We sought to minimize this by following Project Adventure's guidelines for facilitating AT. Finally, this study lacked a control or comparison group and only used single-sex treatment groups.

Conclusion

School Counselors are charged with employing evidence-based practices to meet student needs, yet a scarcity of outcome research limits available resources. This study was a response to the call for more school counseling outcome research and specifically evaluated the effectiveness of Adventure Therapy (AT) on the self-efficacy of middle school students. Although there is support for using AT in school and research indicating its effectiveness for increasing self-esteem in students, additional research evaluating AT's impact on self-efficacy in a school setting was needed. The results of this study suggest that AT groups conducted in a middle school setting were effective for increasing all types of self-efficacy for male and female participants in single-sex AT groups with males reporting larger increase. Based on these results and previous literature, we recommend that middle school counselors consider using AT groups when working to increase students' self-efficacy.

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Appendix

Table 1

Mean Self-Efficacy Scores for Female and Male Students

		N	Pre		Mid		Post		Follow-up	
			Mean	**SD**	**Mean**	**SD**	**Mean**	**SD**	**Mean**	**SD**
<u>Total</u>										
	Female	10	63.8	16.25	62.0	9.63	64.7	12.61	68.9	13.00
	Male	9	77.2	11.41	84.3	9.38	74.1	11.60	84.7	12.05
	Total	19	70.2	15.40	73.6	14.72	69.2	12.75	76.4	14.64
<u>Academic</u>										
	Female	10	20.7	7.44	21.0	4.22	21.4	4.06	21.9	5.69
	Male	9	22.0	5.41	24.2	6.80	20.8	5.67	25.2	5.72
	Total	19	21.3	6.41	22.5	5.67	21.1	4.76	23.5	5.80
<u>Social</u>										
	Female	10	23.5	5.87	23.1	4.31	23.4	4.84	25.3	5.01
	Male	9	28.9	3.18	31.0	4.61	27.3	4.92	30.3	5.36
	Total	19	26.1	5.42	26.8	5.93	25.26	5.15	27.7	5.66
<u>Emotional</u>										
	Female	10	19.6	5.08	17.9	4.86	19.9	5.97	21.7	5.10
	Male	9	26.3	5.22	29.1	6.05	26.0	5.39	29.1	5.16
	Total	19	22.8	6.08	23.2	7.82	22.8	6.36	25.2	6.27

Table 2

ANOVA Summary Table for Female and Male Group Within-Subjects Effects

	Sum of Squares	df	MS	F	p	η²
Total						
Time	612.35	3	204.12	3.24	.03	.14
Time*Group	416.24	3	138.75	2.20	.10	.10
Error	3214.44	51	63.03			
Academic						
Time	75.22	3	25.07	2.38	.08	.11
Time*Group	49.53	3	16.51	1.57	.21	.07
Error	536.68	51	10.52			
Social						
Time	63.82	3	21.27	1.45	.24	.07
Time*Group	39.92	3	13.31	.91	.45	.05
Error	749.71	51	14.70			
Emotional						
Time	76.68	3	25.56	1.85	.15	.09
Time*Group	74.83	3	24.95	1.80	.16	.09
Error	705.80	51	13.84			

Table 3

ANOVA Summary Table for Female and Male Group Between-Subjects Effects

		Sum of Squares	*df*	*MS*	*F*	*p*	η^2
<u>Total</u>							
	Group	4396.82	1	4396.82	10.79	.004	.39
	Error	6930.60	17	407.68			
<u>Academic</u>							
	Group	61.77	1	61.77	.62	.44	.04
	Error	1683.39	17	99.02			
<u>Social</u>							
	Group	586.55	1	586.55	11.88	.003	.41
	Error	839.08	17	49.36			
<u>Emotional</u>							
	Group	1171.72	1	1171.72	15.93	.001	.48
	Error	1250.28	17	73.55			

Figure 1

Plotted mean scores on SEQ-C Total for female and male group participants

TOTAL SELF-EFFICACY

Female — 63.8 (PRE), 62 (MID), 64.7 (POST), 68.9 (FOLLOW-UP)
Male — 77.2 (PRE), 84.3 (MID), 74.1 (POST), 84.7 (FOLLOW-UP)
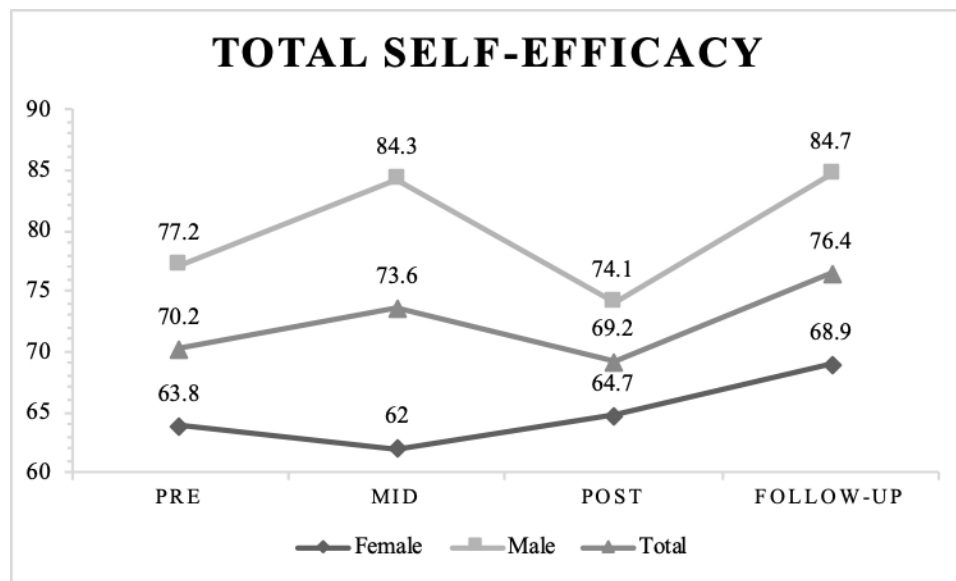Total — 70.2 (PRE), 73.6 (MID), 69.2 (POST), 76.4 (FOLLOW-UP)

Figure 2

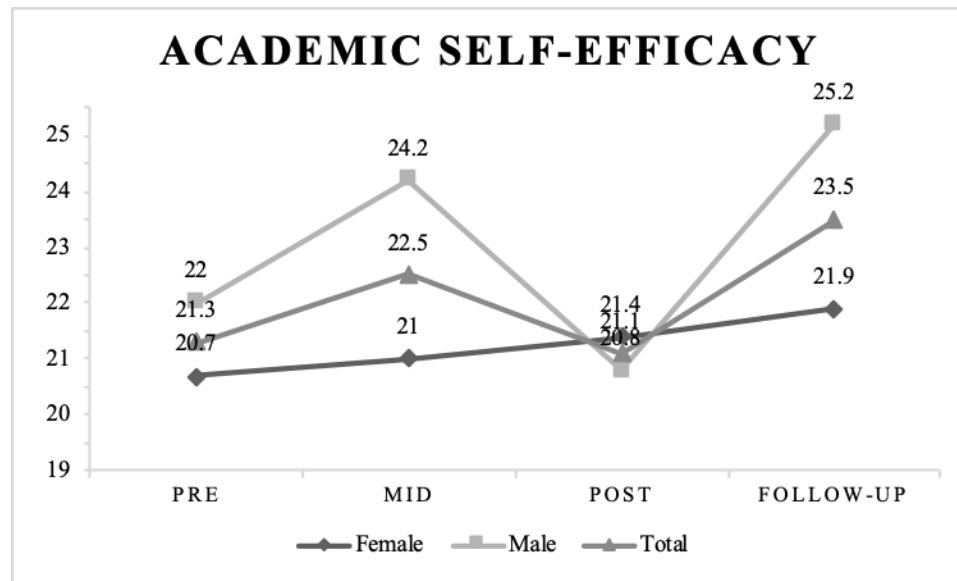*Plotted mean scores on SEQ-C Academic Scale for female and male group participants*

Figure 3

Plotted mean scores on SEQ-C Social Scale for female and male group participants
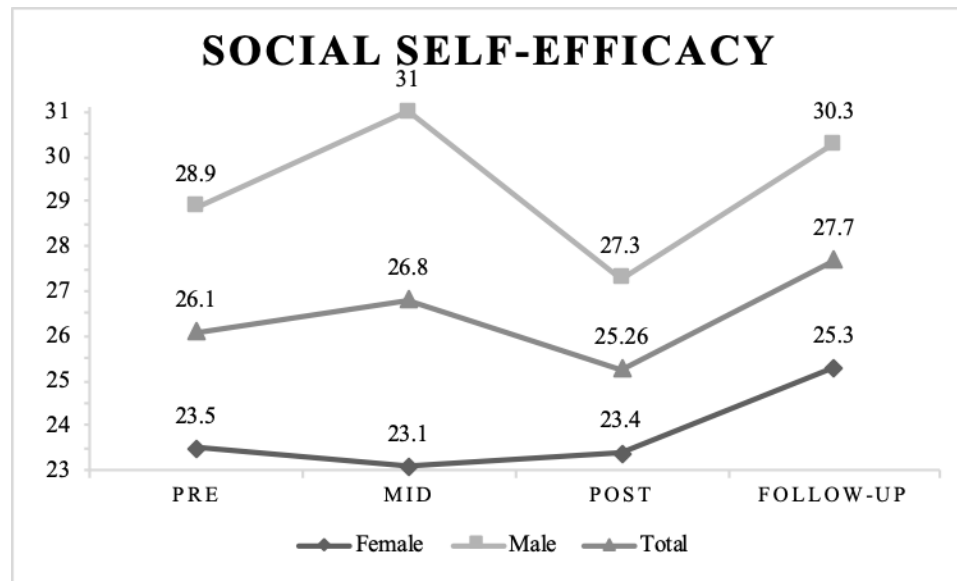
Figure 4

Plotted mean scores on SEQ-C Emotional Scale for female and male group participants