

Adventure Based Education as a Potential Intervention for Disruptive School Behavior

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### **Abstract**

The purpose of this synthesis was to examine the existing body of knowledge on adventure education and its potential as an intervention for disruptive student behavior such as off task behavior, insubordination, and bullying. Previous research has identified low self-concept and low levels of social intelligence as predictors of disruptive behavior. Adventure education was examined for its ability to address these predictors. Common themes which emerged throughout the critical mass of adventure education research were positive effects on self-concept, social intelligence, relationships, resilience, and overall student behavior. The majority of the current body of knowledge examines adventure education programs in outdoor settings rather than the context of public school physical education classes. While previous research indicates that adventure education is an effective treatment for low levels of self-concept and social intelligence further research is needed to address the impact of this intervention on learners who display challenging behavior. Specifically future research should examine the critical characteristics that must be included in an adventure education physical education curriculum to make it an effective intervention.

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## CHAPTER 1 INTRODUCTION

Disruptive student behavior in schools is gaining national attention. One such form of disruptive behavior known as bullying, is reaching epidemic status. It is estimated that up to 160,000 children nationwide, miss school daily because they are afraid of being either attacked or intimidated by fellow students (Hunter, 2012). Parental disciplinary strategies have changed over time, as have social values. Compounding the issue is a greater educational emphasis being put on academic performance and meeting academic benchmarks, with less time and focus spent on character education. A lack of emphasis on character education may prove counterproductive to higher academic goals. Research indicates that students who exhibited higher incidents of disruptive behavior tend to show a lower performance in academics (Vandergriff & Rust, 2001).

Character education is vital to the social development of a child (Kiltz, 2003). Children do not just learn how to function in society without some guidance from educators in the social microcosm they most commonly function in. Elementary and secondary educational facilities are the social world that today's children learn, grow, and develop in. This synthesis will examine the links between known predictors of disruptive student behavior, and the treatment characteristics of adventure education which may act as rate limiters for said behavior. The author will then attempt to demonstrate how adventure education has been used to treat those predictors and ultimately improve disruptive student behaviors which are defined within this synthesis.

### *Disruptive Student Behavior*

Children do not turn into bullies and delinquent disruptive individuals over night. There are early signs that indicate a child may evolve into these types of behaviors (Bidell & Deacon,

2010; Forgan & Jones, 2002; Utely, Greenwood & Douglas, 2007; Vandergriff & Rust, 2001). Studies have been done to examine the causes for children to develop disruptive and defiant behaviors. Through this research bullying and other disruptive behaviors have been associated with a low self-concept and poor social skills (Bidell & Deacon, 2010; Forgan & Jones, 2002; Utely et.al, 2007; Vandergriff & Rust, 2001). In a study that evaluated the relationship between high school students' self-concepts and disruptive classroom behaviors (DCB), participants which exhibit DCB reported significantly lower levels of self-concept than their non-disruptive counterparts (Bidell & Deacon, 2010).

Existing research also supports the concept that children who do not have a good understanding of how to navigate social systems, may act out in the form of disruptive behaviors (Utley et al., 2007). In a study which examined the effects of the implementation of a social skills strategy on the disruptive problem behaviors of third and fourth grade African American students, findings indicated a connection between a lack of social development and disruptive behaviors (Utely et al., 2007). In light of this reality, it is vital that we address social development in our school systems. Schools are micro-social systems which provide an opportunity to teach functional social skills that are transferable to adult life in the real world. One curriculum model worth looking into is the Adventure Education curriculum for PE. Adventure based education has a central focus on character development and has been demonstrated to have a positive impact on students who lack social development (Schoel, Prouty, & Radcliffe, 1998). Given these characteristics adventure education may have merit as a treatment for disruptive student behavior.

### *Adventure Education/Therapy*

There is a large body of knowledge on adventure education. Many studies exist which examine the team building aspects of the model. Over the years many have attempted to use adventure education as a therapy. This therapy goes by many names such as, Wilderness Therapy, Adventure Education Therapy, and Outdoor Behavioral Health treatment (Richards, Carpenter, & Harper, 2012). Adventure therapy is a program which includes activities with a wide range of emotional and physical risk. Activities may range from requiring no equipment, and no elements for group challenges, to high ropes course climbing activities. Group sizes may be as small as 2 and as large as twenty plus (Grout & Hall, 2007). The program comes in many shapes and sizes but they all have the same core values and basic characteristics. Adventure therapy has been becoming more prevalent since 1997; however its roots can be traced back to the work of Loughmiller beginning in the mid 1940's (Natural, 2007). Loughmiller was a pioneer in the field of working with at risk youth in outdoor settings (Natural, 2007). According to Loughmiller's son Grover, he believed that every young person possessed the strength and desire to make positive changes. It was Loughmiller's perspective that if troubled youth were put in situations where they had to learn to get along with many personality types and depend on each other they could build bridges across their problems and differences and achieve harmony (Loughmiller, 2007). Loughmiller set out to accomplish this through what he referred to as "therapeutic camping". It did not support existing therapy models which utilized punitive strategies to change behavior. Loughmiller's brand of therapy was grounded in a holistic approach that provided youth with daily, real-life, group experiences requiring them to overcome problems by depending, on and trusting in each other. A critical element in their program was in respecting the dignity, personalities, and rights of all other individuals. This included the adults

showing these courtesies to the troubled youth they worked with (Loughmiller, 2007). These principles are foundational to all forms of adventure therapy.

Natural (2007) performed a case study on a troubled youth group program which combines the strategies of Campbell Loughmiller with the Re-Ed philosophy of Nicholas Hobbs (1994). This program places students in new environments that are physically and emotionally secure but still very challenging. It puts them in settings that are unfamiliar to them. The program is operated with the understanding that many of the behavioral problems possessed by its participants grew out of a lack of socialization training in their lives (Natural, 2007). Key principals of the program included a stable structure, value-based standards, democratic practices, natural consequences, teaching for competence in the affective and cognitive domains, trusting relationships, and respectful discipline. It was the position of the program that authority by force yields only temporary effects therefore they centered their focus on addressing the problems rather than the symptoms or behaviors. This was accomplished through effective group initiatives in which the group is a microcosm of a democratic society. In this society the goal is a positive peer culture through adult leadership (Natural, 2007). The goal of this method is to provide positive social experiences in an environment in which the best interests of all individuals of a group are valued (Natural, 2007). These principles have been put into practice in adventure therapy and adventure education programs. Character education and group social experiences have become the foundation of adventure education while also teaching lifetime activity skills.

### *Scope of Synthesis*

The purpose of this synthesis is to examine the research regarding adventure education and its potential as an intervention for disruptive student behaviors including bullying. This

synthesis will examine the ability of the adventure based treatments to improve self-concept and social function. It will then draw conclusions as to whether this is a viable intervention in the school PE setting. Finally it will culminate with suggesting special considerations for implementation in the PE program structure that would be necessary to provide an effective school wide treatment.

### *Definitions*

For the purposes of this study *disruptive student behavior* will include off task behavior, insubordination, and bullying behaviors (American Academy of Pediatrics, 2012). *Off task behaviors* can be further defined by any behavior that is not consistent with the instructions of the teacher and/or distracting to others. *Insubordination* refers to defiantly disobeying teacher instruction and/or displaying disrespectful behaviors toward teachers and staff (Farlex, 2013). *Bullying* will include any actions that are verbally or physically aggressive, or intended to be demeaning or degrading toward other individuals (Farlex, 2013).

*Self-Concept* is synonymous with self-image. It refers to one's perception of themselves with regard to strengths, weaknesses and social status (ITS Tutorial School, 2005). *Social intelligence* is defined as an individual's ability to form meaningful positive relationships with others (Farlex, 2013). *Social Development* encompasses social and emotional development. Specifically it refers to how one learns how to interact with other groups or individuals and within society as a whole. Part of social emotional development involves developing an understanding of one's own emotions and developing the capability to control them (ITS Tutorial School, 2005). *Personal growth* is a broader term that also includes how one develops personal goals and ambitions, as well as reflective skills (Goldenberg & Soule, 2011). *Resilience*

as it is used in this synthesis is defined as the ability to recover from or resist adversity and withstand difficult situations (Farlex, 2013).

### *Summary*

With the prevalence of disruptive behaviors and bullying on the rise, educators must re-evaluate how to improve the learning environment. Physical educators may be able to make a unique contribution through character building physical activity. Adventure education may have the potential to provide a positive behavior support intervention that can be implemented as a school-wide initiative to promote positive and productive learning environments. Utilizing PE as a means to improve the overall learning environment is an inspiring concept, but it brings up many questions. Finding these answers requires careful examination of previous research from several related disciplines.

## CHAPTER 2 METHODS

The search for articles cast a broad net that included data bases in multiple disciplines. The first goal was to identify common predictors of disruptive student behavior. To do this I searched the Psychology & Behavioral Sciences Collection data base was searched. The search progressed by investigating the characteristics of adventure education and adventure therapy, as well as examining adventure therapy treatment results. For this part of the search the Psychology and Behavioral Sciences collection, Social Sciences Full Text, Academic Search Complete, Education Full Text, Education Research Complete, Physical Education Index, Philosophers Index, Behavioral Sciences Collection, and ERIC data bases were used. All of these data bases were accessed through EBSCO Host. Aside from background information the search was limited to peer-reviewed journal articles published between 2000 and 2012. Search word combinations included disruptive student behavior and predictors, self-concept and adventure education, social development and adventure education, and adventure therapy and disruptive behavior. Each phase of the search involved limiting articles based on direct relevance to disruptive behavior predictors and rate limiters linked to adventure education. The critical mass was narrowed to 14 articles.

Articles were grouped based on the purpose of the study. Articles which examined predictors were compared. A coding table was made to compare significant findings in all of the studies. The table indicated all relevant areas of significance in each study of the critical mass. The findings comparison was then examined for common links. Articles were also grouped based on what they examined and cross-compared with significant findings.

## CHAPTER 3 RESULTS

The following section will provide a brief description of the results found in the critical mass. The results are organized into common themes found within the research. These themes begin with the relationship between self-concept and disruptive student behavior as well as the relationship between social intelligence and disruptive student behavior. Common themes which developed in the adventure therapy section include an effect on self-concept, social intelligence, relationships, resilience, and overall student behavior.

### *Self-concept*

It is believed that self-concept is directly related to disruptive behavior (Bidell & Deacon, 2010; Larson, 2007). In a quantitative study which evaluated the relationship between high school students' self-concepts and disruptive classroom behaviors (DCB), findings indicated that high school students who exhibiting DCB reported significantly lower levels of self-concept on the Self-Description Questionnaire II (SDQII). The areas of self-concept which were found to be significantly lower were their perceptions regarding physical ability, appearance, personal relationships, and emotional life (Bidell & Deacon, 2010). The study included a treatment group of 28 students as well as a control group of 64 non-DCB students. Limitations in this study pertain to generalizability of the results. The limited ethnic scope of the study along with the lack of random selection of participants limits the application of results to other populations. This study examined only secondary level students further limiting the ability to apply the findings to other age groups. However, these results are extended by the work in a previous study conducted by Vandergriff and Rust (2001). This study examined a similar relationship

between self-concept and classroom behavior in 104 second grade students. Researchers in this study employed the McDaniel-Piers Young Children's Self-concept Scale (MDPYCSS). Teachers rated students using the Student Role Behavior Rating Scale (SRBRS). According to the MDPYCSS and the SRBRS results indicated a significant relationship between self-concept and student behavior at an alpha level of  $p=.025$  (Vandergriff & Rust, 2001).

### *Social intelligence*

According to a study completed by Utley et al., (2007), implementing a social skills strategy improved appropriate and on task student behavior in African American students at an urban school (Utley et al., 2007). This study highlights the use of punitive or reactive types of policies and their lack of long term effectiveness. When implementing punitive disciplinary strategies we are treating the symptoms rather than the problems. This study utilized a social skills strategy which employs proactive strategies in teaching social skills and positive reinforcement through verbal praise. As a result of the treatment on task performance and socially appropriate behaviors of African American students increased (Utley et al., 2007). Teachers also increased their level of praise as it related to students' behaviors (Utley, et al., 2007). This positive reinforcement may have helped to enhance the significance of the results. In this study the core characteristics of the treatment align very well with those of adventure education making the results relevant to the conclusions of this synthesis.

Several studies examined links between adventure education and social development and the resulting impact on behavior. Forgan and Jones (2002) further examined the link between social development and behavior. In a case study which described how project adventure works, and its effect on one student who lacked social development, findings indicated that the

participant's behavior and grades improved after participation in the five week program (Forgan & Jones, 2002). The student in this study was in a special education class and regularly engaged in disruptive behavior in class. The class was included in a five week adventure education program which includes experiential learning expeditions. Students who participated in these experiential learning expeditions were given many opportunities to experience things as a group and then discuss and reflect on those experiences. This process is beneficial in working through social dysfunction (Forgan & Jones, 2002). Findings in the study indicate that the participant's social skills and self-concept improved along with the students' behavior after three weeks of participation in the adventure program. These improvements continued to increase after five weeks. The subject moved from being reluctant to participate, to taking on a leadership role within five weeks. Along with the positive changes in the subject's behavior, academic performance also improved.

### *Adventure Therapy*

There are a variety of studies which attempt to discover the therapeutic potential of adventure education in various settings. Ten of the studies in the critical mass examine the effects of adventure education on relevant areas of the social emotional domain. Common findings include links between relationships, social development, personal growth and self-concept in a variety of combinations. (see table 1)

**Table 1: Results summary of common themes**

		<u>Summary of Significant Findings</u>						
		<b>X indicates that a significant affect was found</b>						
SC = Self-Concept SD = Social Development R= Resiliency DB= Disruptive Behavior		AP= Adventure Program AE= Adventure Education						
	Purpose	Self-Concept	Social Development/ intelligence	Resilience	Personal Growth	Relationships	Long-term Effect	Improved Behavior
(Beightol, Jeverson, Gray, Carter, & Gass, 2009)	Effect of AP anti-bullying initiative on levels of R.			<b>X</b>	<b>X</b>			
( Bidell & Deacon, 2012)	Relationship btwn. SC and student B.	<b>X</b>						<b>X</b>
(Bloemhoff, 2006)	Effect of AP on R			<b>X</b>				
(Conley, Caldarella & Young, 2007)	Effect of 1-day ropes course on classroom B					<b>X</b>	<b>X</b>	
(Forgan & Jones, 2002)	Effect of AP on SD		<b>X</b>					<b>X</b>
(Kiltz, 2003)	Describe an integrated approach to character education.			<b>X</b>				
( Gillis & Glass, 2010)	Effect of advntr. based B mngmt program						<b>X</b>	<b>X</b>
(Goldenberg & Soule, 2011)	Effects of group participation		<b>X</b>			<b>X</b>	<b>X</b>	
(Larson, 2011)	Effect of AP on SC and B	<b>X</b>	<b>X</b>					<b>X</b>

Table 1 continued from page 16

(Passarelli, Hall & Anderson, 2010)	AE and personal growth		<b>X</b>	<b>X</b>	<b>X</b>
(Sammet, 2010)	Examine relational issues in AE	<b>X</b>	<b>X</b>		<b>X</b>
Schoel, Prouty, & Radcliffe, 1998)	Effect of AE on SD.		<b>X</b>		
(Utley, Greenwood & Douglas, 2007)	Effect of social skills strategy on disruptive & problem B		<b>X</b>		<b>X</b>
( Vandergriff & Rust, 2001)	Relationship between classroom B and SC	<b>X</b>			<b>X</b>

In five of the ten studies adventure based therapies had a significant effect on social development (Forgan & Jones, 2002; Goldenberg & Soule, 2011; Larson, 2011; Sammet, 2010; Schoel et al., 1998). Goldenberg and Soule (2011) evaluated how being part of a group influences outcomes of national outdoor leadership school programs. In this study the data indicated that group interactions from adventure course activities aided in developing relationships and thereby lead to social development. This is a link found in other studies as well. In a study which examined the issues of early adolescent girls that arose during a two-week adventure education expedition, it was discovered that for many of them their sense of identity and their experience on the course was clearly tied to their ability to build positive, authentic relationships (Sammet, 2010). Central to their self-identity was how they existed and struggled to thrive in the context of relationships with other girls, and instructors while undertaking course activities. A number of the girls in this study had reported experiencing relational aggression at school, which seemed to affect their ability to trust people and make friends, as well as having confidence in themselves (Sammet, 2010). For many their social and

emotional health was dependant on their ability to maintain healthy relationships, and the relationships they experienced at school were quite hurtful. This indicates that a positive social curriculum may lend to better development of social skills necessary to build and maintain positive relationships (Sammet, 2010).

Building and maintaining relationships is a significant element to social development (Conley, Caldarella & Young, 2007). Five of the studies in the critical mass found that adventure therapy had a positive effect on relationships (Bloemhoff, 2006; Conley et al., 2007; Goldenberg & Soule, 2011; Passarelli, Hall & Anderson, 2010; Sammet, 2010). In a study by Goldenberg and Soule (2011), which evaluated how being part of a group influences outcomes of national outdoor leadership school programs, data indicated that group interactions from adventure course activities aided in developing relationships with others (Goldenberg & Soule, 2011). Another study which evaluated the effects of a one-day ropes course on student's classroom involvement and affiliation, some peripheral results were found. The study used the Classroom Environment Scale-short form (CES) to measure a variety of characteristics in the learning environment. According to the findings of the CES, positive results included situation improvement, positive comments, and positive indications of trust amongst participants (Conley, et al., 2007). Trust is a known factor in the development and maintenance of relationships. While the findings of this study were significant the results were only minimally transferable back to the classroom environment. Administrators of the treatment indicated that transferability may have improved if facilitators had spent more time teaching students how to transfer the adventure education concepts to other environments (Conley et al., 2007).

Goldenberg and Soule (2010) examined other areas of social development besides relationships in their longitudinal study. Their findings indicated that group experiences lead to

the development of key elements in social intelligence and group dynamics related outcomes such as; teamwork, group leadership, intra-group trust, improved communication, and conflict resolution (Goldenberg & Soule, 2010). These are vital skills in navigating social systems. Another area of social development is personal growth. Social growth is enhanced by personal growth (Passarelli et al., 2010). This refers to the ability to develop personal goals, ambitions, and reflective skills. Each person's ability to do these things is logically connected to how they interact with others. There were two studies in the critical mass which examine the effects of adventure education on personal growth (Kilts, 2003; Passarelli, et al., 2010). In a case study which examined the use of an integrated character education program, it was discovered that through adventure activity and community service projects, as well as portfolio development and quarterly journal writings, personal growth was achieved (Kiltz, 2003). Personal growth has also been achieved in adventure education through the incorporation of strength-based education within the program (Passarelli, et al., 2010). Strengths-based training encourages students to intentionally use their talents and abilities to achieve success in any environment. In a study performed by Passarelli, et al. (2010), they examined why, when, and how to use a strengths-based approach in outdoor education. This is a mixed methods study which employed quantitative and qualitative data to demonstrate that this approach was effective in helping students achieve positive outcomes related to personal growth (Passarelli, et al., 2010).

Research indicates that adventure education may have a positive effect on self-concept (Larson, 2007, & Schoel, et al., 1998). Of the five studies which found that adventure education had a significant effect on social development, two of them also measured for effects on self-concept. One of these was Sammet (2010) which examined relational issues in adventure education. As previously discussed relationships were the central focus of this study however

self-identity which is synonymous with self-concept, was central to their ability thrive in this area of social development (Sammet, 2010). These findings are extended by the results of a study which examined the effects of an adventure camp program on the self-concept of adolescents with behavioral problems. In this study students ranged in age from nine to eighteen. The investigators examined the group as a whole, and also by breaking participants up into age groups. The researchers sought to discover how an adventure program may affect the self-concept of participants with behavioral problems. Students with behavioral issues were identified by social services and other government agencies, and referred to the program. The focus of the treatment was self-concept with the intention of improving behavior through self-concept. A pre and posttest design was used with the instrument being the Peirs-Harris Children's Self-concept Scale (PHCSCS). Larson limited his participants to adolescents with behavioral problems. Larson specifically sought to evaluate the effects the program may have on the behavioral problems of these adolescents. Although results were mixed significant improvements were found in the 9-11 age group. Positive outcomes of the study were as follows, significant differences 1) within and between group affects comparing 9-11 and 12-14 year old age groups in self-concept (Larson, 2007). These findings indicate that the adventure program may have lead to improved behavior, however long term data were not collected. In another study three years of student data was collected using the Tennessee self-concept scale and the Piers-Harris children's self -concept scale. The results of this study indicated that Project Adventure made significant gains in self-concept, and decreased the anxiety for participating students (Schoel et al., 1998).

There were two additional studies which examined the effect of adventure education on behavior. According to these findings participation in adventure therapy resulted in improved

behavior (Forgan & Jones, 2002; Gillis & Glass, 2010). Forgan and Jones (2002) performed a case study which involved one adolescent participant who had behavioral disorder. The subject's behavior changed dramatically while involved in the adventure education program. Both his participation and behavior points increased continually as the five week program progressed. In a study which examined the effectiveness of an adventure based behavior management program on re-arrest rates of juvenile sex offenders, result indicated positive behavior changes in participants (Gillis & Glass, 2010). Participants in this study included 95 juvenile sex offenders. The treatment was an adventure-based behavior management program known as Legacy. Results were measured by using re-arrest rates over a three year period. It was found that adventure education therapy programs yielded significantly better results than other treatment programs. When compared to the re-arrest rates of other specialized programs Legacy rates were lower by 15.8% to 13.6% indicating a significant long term impact of the Legacy adventure-based program on problem behavior (Gillis & Glass, 2010).

Gillis & Glass (2010) was the only study that measured long term results specific to improved behavior. There were two other long term studies in the critical mass of articles. One of these was (Conley et al., 2007) which examined the effect of a one day ropes course on student classroom behaviors. This study found that the improvements in relationship skills were still significant for middle school students a month and a half after the treatment. Goldenberg and Soule (2011) examined the effects of group participation, and an adventure based program, on social development and relationship development skills. They continued to collect data from a select group of participants over a period of four years post treatment. This longitudinal design allowed them to demonstrate the long term effects of the treatment program. According to this post treatment data collection the group experiences lead to developing relationships, building

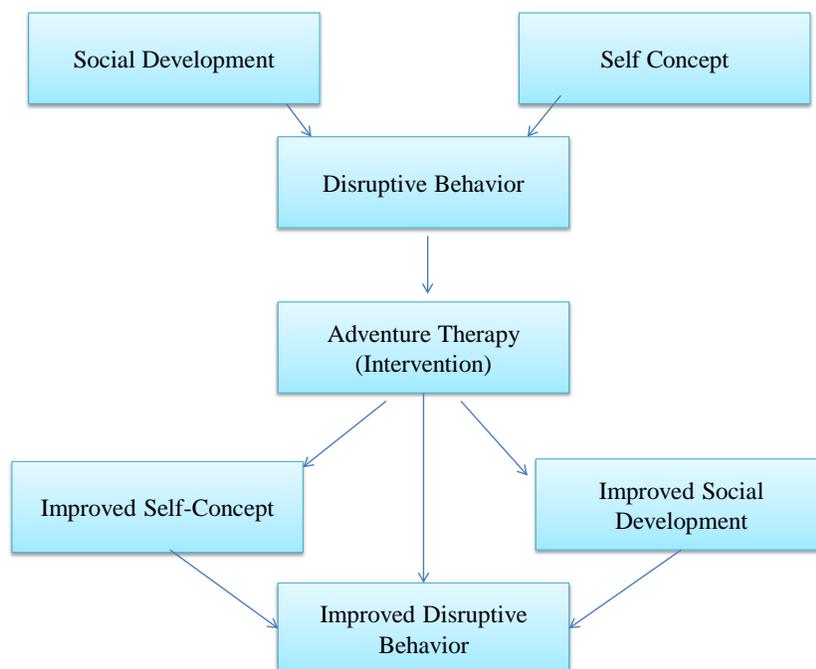
community, and creating opportunities for teamwork with the group which transferred to benefits and consequences in other areas of their lives (Goldenberg & Soule, 2011). The area most significantly affected in this study was improvements in relationships with others (Goldenberg & Soule, 2011).

### *Summary*

Findings of the critical mass are summarized in table 1. The existing body of knowledge supports adventure education as tool which has been used to improve the behavior of select populations in a variety of settings. Specifically adventure education has been successfully used to improve certain predictors of disruptive student behavior. The following sections will create a model to discuss how adventure education may improve behavior and how it can be used in a school physical education setting. Limitations will be considered along with future research needed to address these limitations.

## CHAPTER 4 DISCUSSION AND CONCLUSIONS

Collectively the results from the critical mass provide insight to what some predictors of disruptive behavior may be and how adventure therapy might serve as an intervention which addresses said predictors. (See figure 1) According to the research adventure therapy has been successfully used to improve the predictive variables and through that positively affect the dependant variable of disruptive behavior (Bidell & Deacon, 2012; Forgan & Jones, 2002; Goldenberg & Soule, 2001; Larson, 2011; Passarelli et al., 2010; Uteley et al., 2007; Vandergriff & Rust, 2001). The following sections provide insight on how adventure education impacts self-concept, implications, and future research recommendations.



**Figure 1: Model of Critical Mass of Research**

### *Adventure Education and Self-Concept*

The findings from the research on the relationship between self-concept and student behavior indicate that self concept is a predictor of disruptive behavior (Bidell & Deacon, 2012; Vandergriff & Rust, 2001). Likewise the research indicates a similar relationship between disruptive student behavior and social intelligence, indicating a low level of social intelligence as another viable predictor of disruptive student behavior (Forgan & Jones, 2002; Goldenberg & Soule, 2011; Larson, 2007; Passarelli, et al., 2010). Given the findings of these studies disruptive student behavior can be identified as a symptom of its predictors formerly stated as low self-concept and social intelligence. This being the case the intervention should seek to improve these predictors.

In order to consider adventure therapy as a potential intervention for disruptive student behavior it is necessary to examine how adventure therapy may affect self-concept and social intelligence and ultimately disruptive behavior outcomes. Adventure education has been identified as a model which promotes character development (Kiltz, 2003) and the collective findings of this synthesis support that identification. In examining the effects of adventure education common themes emerged. These themes can be identified as areas of development impacted by adventure education. They include the following areas of affective development; self-concept, social development, resilience, personal growth and relationship building. Another common theme that emerged was that adventure education therapy tended to result in improved behavior outcomes (Forgan & Jones, 2002; Gillis & Glass, 2010; Larson, 2007). Thus it is concluded as a result of these combined findings that while each adventure therapy treatment had

some differences, character development was the common rate limiter throughout the critical mass (Larson, 2007, Passelli et al., 2010,).

Social intelligence in PE is manifest through challenging physical activities performed in groups and on teams. Adventure education maximizes the development of social intelligence by involving participants in challenging new situations that require them to rely on one another (Natural, 2007). Adventure education activities require participant cooperation and collaboration. Participants must develop social skills such as trust, leadership, and communication to achieve success in adventure program activities. Adventure education provides kinesthetic opportunities to develop and exercise social skills while overcoming physically demanding challenges. Participants learn to use positive forms of communication to promote success in group initiatives. Adventure education allows participants to identify areas of strength both physically and in social roles by placing them in physical and mental challenges in a group context (Kiltz, 2003;, Loughmiller, 2007; Natural, 2007; Passarelli, et al., 2010). They may find themselves well suited to lead or perhaps more adept in support roles. Some activities may challenge students to step out of their comfort zone of support and take on a leadership role or step down from leading and assume the support role in the group. Self-concept is directly related to one's perception of their own strengths, weaknesses and social status, making adventure education a potential tool to shape those perceptions in a positive light. Adventure education has a range of low to high risk activities that allow students to explore their strengths and weaknesses and provides the opportunity to set goals to overcome them in a supportive group setting (Grout & Hall, 2007).

One of the most compelling studies in the critical mass evaluated the effects of an adventure program on self-concept and behavioral problems. The results in this study indicated

a significant effect on both identified predictors and found significant improvement in overall behavior (Larson, 2011). Social development was found to be significantly affected in an impressive seven of the ten studies examining the effects of adventure education (Forgan & Jones, 2002; Goldenberg & Soule, 2011; Larson, 2011; Passarelli et al., 2010; Sammet, 2010; Schoel, et al., 1998; Utley et al., 2007). The remaining three did not measure disruptive behavior. According to Passarelli et al. (2010), areas of social development including relationship building and personal growth showed a long term positive effect as a result of adventure education. Overall the existing body of knowledge suggests that adventure education may be a potential school wide intervention for disruptive student behaviors such as off task behavior, insubordination, and bullying.

### *Implications*

While the collective result of the studies in this synthesis suggests that adventure education may be a potential intervention for disruptive student behavior, certain considerations must be made to put it into practice in a school physical education environment. Many of the studies which gleaned positive results took place in wilderness and other outdoor settings (Beightol et al., 2009; Bloemhoff, 2006; Conley et al., 2007; Gillis & Glass, 2010; Larson, 2011; Passarelli et al., 2010; Sammet, 2010; Utley et al., 2007). Physical education in the public school system is often confined to the use of their onsite facilities. The same critical elements of the outdoor and wilderness therapy programs must be adapted to forty minute periods, conducted in the context of public school physical education in order for the conclusions of this synthesis to be applicable.

According to Conley et al. (2007) lessons learned on a one day ropes course had limited transferability back to the classroom. Administrators in this study stated that transferability may have improved if program facilitators spent time discussing how the lessons could be applied to other environments (Conley et al., 2007). It was also noted in this study that classroom teachers need to be equipped to reference the lessons learned in the adventure education program during classroom activities (Conley et al., 2007). One of the key characteristics of adventure education is its emphasis on positive behavior support as opposed to punitive discipline (Conley, et al., 2007; Loughmiller, 2007; Natural, 2007; Richards et al., 2012). In a study which examined adventure education as an anti bullying intervention, positive results were achieved by maintaining continuity between the adventure program and the school. This continuity was cited as a factor contributing to the positive outcomes of the program (Beightol et al., 2009).

Adventure education also embraces elements of strengths based education. Passarelli et al. (2010) achieved positive psychological outcomes through outdoor and adventure education which strategically used strengths based training (Passarelli et al., 2010). Strengths based education teaches students to achieve success in challenges by finding and using their natural strengths and talents (Passarelli et al., 2010). Another key feature of adventure education which yielded positive results in the critical mass of articles was the format of the programs. Adventure education is set up with a plan, experience, reflect structure. This provides participants opportunities to reflect on their experiences as a group or personally. Students seemed to glean more from the programs when given an opportunity to reflect on the experiences they had either through discussion or journal writing (Goltz, et al., 2006; Kiltz, 2003). All of these key elements should be taken into consideration in the implementation of any adventure education program that is intended to achieve positive outcomes in student behavior.

### *Future Research and Recommendations*

Although the existing body of knowledge may point us in the direction of how to use adventure therapy as an intervention to treat disruptive student behavior, it falls short of being complete. In the current economic climate school districts have limited resources to invest in an incomplete behavioral intervention. Additional research should be done to ensure that the best intervention can be planned.

One area of social development that emerged as a common theme bears mentioning for its contributive quality to personal growth and relationship building. This is the development of resilience (Beightol et al., 2009; Bloemhoff, 2006; Kiltz, 2003). Although resiliency was not identified as a predictor of disruptive behavior there were some studies in the critical mass which found that resiliency was a valuable quality in participants' ability to form and maintain relationships as well as withstand threats to their self-concept (Beightol et al., 2009; Bloemhoff, 2006; Kiltz, 2003). Resiliency is an element which can be found throughout many physical education curriculum models. For example, in the skills mastery model where students must master one level of the skill before moving on to the next level, resiliency helps them to keep trying after failure. In a team sport curriculum resiliency may help students stay positive in the face of a loss. The adventure education PE curriculum model presents physically and mentally challenging obstacles that participants must overcome. It is through a group's support for each other and refusal to give up that resiliency is built and fortified. Further research should be done to examine if resilience is a predictor for student behavior and thereby an essential element of any intervention.

The adventure programs in this critical mass of articles ranged from one day to six months. While many of the programs found significant effects in their target areas, more research needs to be done to determine the most effective level of participation and length of time necessary to achieve positive long term outcomes.

### *Conclusion*

The research examined in this synthesis seems to indicate that adventure education may have long and short term effects on the causes of disruptive student behavior but we are left with many unanswered questions. Once the appropriate research has provided the answers necessary, the next logical step in determining the potential of adventure based education as an intervention for disruptive student behavior may be action research. None of the adventure programs did any harm therefore planning an adventure unit and collecting pre and post data is a good place to start.

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**APENDIX A**  
**ARTICLE SUMMARIES**

Beightol, J., Jeverson, J., Gray, S., Carter, S., Gass, M. (2009) The effect of an experiential adventure-based “anti-bullying initiative” on levels of resilience, a mixed methods study. *Journal of Experiential Education*, 31(3), 420-424.

Purpose: to assess the effect of an experiential, adventure-based “Anti-Bullying Initiative” on levels of resilience.

Secondary Purpose: Identify key program components that may have contributed to observed changes.

Treatment: 10 in school sessions and 3 full days 2 high ropes course.

Measures: Student self- reported internal assets of: Goals and aspirations, problem solving, empathy, and self-efficacy.

Participants: Treatment group = 51 males and 26 females Comparison group = 54 males and 29 females.

Quantitative Measures; Pre and Posttests 4 months before and after treatment.

Analysis Nonparametric tests

Results:

Qualitative Emergent Themes;

- The presence of essential external assets;
- Successful experiences followed by meaningful reflection;
- Enhancement of a number of internal assets;
- Transfer of program lessons to other settings;
- Increased responsibility that led to enhanced external assets available for students and their peers;
- The cyclical nature of the program which continually reinforced the important lessons.

Quantitative:

- Nonparametric tests demonstrated that participation in the program did correlate with enhanced levels of goals and aspirations.
- Significant increases in self-efficacy in treatment group (per participants attributed to treatment. Noted enhanced self-efficacy in dealing with bullying.
- Females demonstrated significant increases in goals and aspirations while males did not.
- Females portrayed significantly higher mean resilience scores when compared to males.

Conclusion: Program appeared to play a positive role in resilience enhancement. Results suggest that participation in this adventure education experience may reduce the risks of negative consequences often associated with bullying by **increasing resilience traits.**

Implications:

Successful Components ;

- Comfort Zone model (in enhanced empathy)
- Continuity between adventure program and the school contributed to outcomes.
- Increased levels of responsibility enabled students to external factors available to classroom and peer settings.

Bidell, M.P. & Deacon, R.E. (2010). School counselors connecting the dots between disruptive classroom behavior and youth self-concept. *Journal of School Counseling* 8(9), 1-30.

Purpose: Evaluate the relationship between high school students' self-concepts and disruptive classroom behaviors (DCB).

Methods:

Participants: 28 High school students who exhibited DCB, and 64 Non-DCB for Control Group.

Selection: Excluded students with acute disruptive and disorders and behaviors.

Instruments: Self-Description Questionnaire II to assess self-concept.

Operational Definition of Disruptive Behavior: other actions in classroom that disturb the teacher and/or other students.

Results: HS students exhibiting DCB reported significantly lower levels of self-concept compared to non-disruptive peers.

- Only non academic aspects of self-concept were significantly lower in these students.
  - Perceptions regarding physical abilities
  - Appearance
  - Personal relationships
  - Emotional life
- No significant gender differences were detected regarding DCB and self-concept.
- No Significant differences between ethnic groups
- Caucasian students scored higher in total self-concept compared to Hispanic students.

Limitations:

- Sample not random may limit the generalization to other populations.
- Not all variables controlled so no causal relationship can be claimed.
- Limited scope of ethnic subject population limits generalizability to other demographic populations.
- Focus was disruptive classroom behavior therefore results may not be generalized to populations of more severe forms of aggressive and delinquent behaviors.

Bloemhoff, H.J., (2006). The effect of an adventure-based recreation program (ropes course) on the development of resiliency in at-risk adolescent boys confined to a rehabilitation center. *South African Journal for Research in Sport, Physical education and Recreation*, 28(1), 1-11.

Purpose: To examine the effect of an outdoor adventure-based recreation program on the resiliency of at-risk adolescent boys confined to a rehabilitation center.

Participants: 46 juvenile delinquent boys age 14. Confined to a rehabilitation center.

Design & Procedures: Mixed methods study with a control group of 60. Pre and post test design was used.

Instrument: Questionnaire was used to assess resiliency through improvement of protective factors.\

Results: Highly

Significant at the  $p < .01$  level for seven of ten protective factors and  $p < .05$  for one factor

Conclusion: Findings support the use of adventure based program for developing resiliency in at-risk boys.

Limitations: results can only be generalized to like populations.

Conley, L., Caldarella, P., Young, E., (2007). Evaluation of a ropes course experiences for at-risk secondary school students. *Journal of Experiential Education* 30(1), 21-35.

Purpose: The purpose of this study was to evaluate the effects of a one-day ropes course on students' classroom involvement and affiliation.

Research questions:

- 1) Would the ropes course experience change how students perceive their classmates?
- 2) Would they be able to bring the skills they learned on the ropes course back to the classroom?
- 3) Would they rate their class higher than before the CES relationship dimension subscales of involvement and affiliation?

Participants:

Who: Middle school and junior high age students, 40 middle school and 28 junior high.

Enrolled in selective intervention as part of school wide positive behavior support plan.

Characteristics: Identified at risk for externalizing and internalizing behavior disorder.

Identified using teacher report form 9Achenbach & Rescorla, 2001).\

Procedures:

- CES pretest administered by classroom teacher day before ropes course. (Middle school one day prior, Jr. high 2 days prior)
- Student participated in one-day ropes course. The course took place during normal school hours and lasted about four hours of the 6 hour school day.
  - Course included both high and low elements.
    - Low elements** were challenging team oriented activities.
    - High elements** were individual activities involving more risk. (ie. Zipline)
- Junior high and middle school students completed course on different days.
- Elements for each group were selected based on ropes course facilitator's judgment of groups ability and what equip. was available.
- Groups had three adult chaperones.
- Post test administered day after ropes course. (middle school 1 day after, jr high 6 days after)
- Post ropes course students answered 6 item open ended survey questions.
- Second post test aprox. 1.5 months after ropes course for Jr. High only.

Results: Some changes in the student's ratings of involvement and affiliation occurred.

## CES Results

- Across both schools internalizing behavior students significantly improved in involvement.
- Students at middle school decreased in affiliation while increasing in involvement.
- Junior high internalizing students only significantly increased in involvement from pre to second post test.

## Open ended survey results

- Feelings of trust of classmates: split 60% of MS group and 54% of JH group felt they could trust others to treat them respectfully.
- Ability to transfer experience back to classroom. Split btwn positive and negative.
- Teachers and school psychologists agreed that students would better be able to transfer experiences if given prompts to associate classroom situations to ropes course experiences.

## Implications:

For best affect on transferability of learning back to the classroom:

- Before ropes course school personnel can direct students' attention to th need for greater cohesion.
- After ropes course school personnel can create strategies that foster students' abilities to retain the skills they have learned on the ropes course and to use time in the classroom. Consistent reminders of social skills gained may be necessary.
- Imply a need for greater integration of ropes course exp. Into classroom.
- Facilitators can encourage integration of ropes course exp. Back into classroom by providing teachers/administrators with outline of activities and what the objective of each activity was. Information can be sued to remind students of specific events.
- Facilitators can share ideas with teachers of how to help students transfer learning back to the class.

## Future direction:

- Evaluate effects on large numbers of students at risk for emotional and behavioral disorders
- Confirm the valid and reliable use of the CES with 6<sup>th</sup> graders
- Support the use of the CES Short Form with outcome research for early adolescents at risk for emotional and behavioral disorder.
- How can teachers and ropes course facilitators help students at risk for emotional and behavioral disorders transfer exp. Back to classroom.
- What are the most appropriate outcome measures.
- Do ropes course facilitators need to do more to specifically target the types of elements and activities different students need most.

Forgan, J.W., Jones, C.D., (2002). How experiential adventure activities can improve students' social skills. *Teaching Exceptional Children*, 34(3), 52-58.

Purpose: The purpose of this study was to describe how project adventure works and its effect on students who lack social development.

Design: Case Study of Mr. Jones class of students with varying exceptionalities. Primary participant "Ken"

Defining Project Adventure:

Philosophy: Adventure based counseling with the overall goal to improve student's self-concept.

Project Adventure stems from outward-bound activities in which students participated in short experiential learning expeditions. The founders of Project Adventure developed a classroom curriculum based on these types of activities.

Results of Participation for one student with behavioral disorders.

Ken moved from reluctance to participation based on feelings of rejection by group to:

@ 3 weeks Began to participate but would leave early due to frustration. @ 5 weeks began to take a leadership role.

Ken's average daily behavior points began to increase after week 5.

Ken's grades improved.

Based on positive self-assessments his self-concept began to increase.

Gillis, H.L., Gass, M.A. (2010). Treating juveniles in sex offender program using adventure-based programming: A matched up group design. *Journal of Child Sexual Abuse, 19(X)*, 20-34. Doi: 10.1080/10538710903485583

Purpose: to examine the effectiveness of an adventure based behavior management program on the rearrested rates of juvenile sex offenders.

Participants: 95 juvenile sex offenders in an adventure based program known as LEGACY, a project adventure program.

Design and Procedures: Matched control group design using juvenile males in state treatment and other specialized programs within the same state.

Procedures: examined the re-arrest rates of all matched groups after released from placement at one year, two years, and three year periods.

Results: Legacy program demonstrated significant treatment effectiveness on re-arrest rates when compared with other programs. Overall three-year rarest rates for the most serious re-offenses were as follows for each treatment program.

34% for YDC

32.6% for OSP

19% for LEGACY

Conclusion: Adventure education may be effective in promoting long term behavioral change in delinquent boys.

Goldenberg, M. & Soule, K. (2011). How group experience affects outcomes from NOLS Programs: A means-end investigation. *Journal of Experimental Education*, 33(4), 393-397.

Purpose: To evaluate how being part of a group influences outcomes of National Outdoor Leadership school.

Participants: Convenience sample of 345 participants of National Outdoor Leadership Schools. Participants of both genders ,but age not indicated in study.

Procedures: All participants were interviewed via an in-person semi-structured interview immediately following treatment. A portion of the participants also participated in semi-structured telephone interviews once each year in the four years following the treatment.

Result	In-person int.	1-year post int.	2- year post int.	3- year post int.	4-year post int.
Group experience was linked to warm relationships with others in	43.24%	19.23%	47.62%	17.39%	32.86%
<i>Interactions</i> was linked to warm relationships with others	18.29%	20.51%	23.02%	22.29%	18.14%
<i>Interaction</i> was linked to transference	70.53%	69.23%	58.82%	57.69%	65.71%

*Interaction*: developing relationships, building community and creating opportunities for teamwork.

Conclusions:

- Group experiences from outdoor adventure programs positively impacted individual's lives.
- Group dynamics-related outcomes such as teamwork, group leadership, intragroup trust, improved communication and conflict resolution developed through adventure education.
- Group experience led to developing relationships, building community, and creating opportunities for teamwork within the group.

Goltz, S.M., & Hietapelto, A.B. (2006). Using challenge course activities to teach organizational ethics. *Journal of Management Education*, 30(1) 220-250. Doi: 10.1177/1052562905280840

Purpose: The purpose of this study was to describe how teachers have used challenge course activities to stimulate students to observe their own and other ethical and unethical behaviors.

Design: Narrative Case Study

Results according to participating student feedback.

1. Students were extremely positive about ethics challenge course experience.
2. Students appreciated the opportunity to discuss the difficulties in creating an ethical organization.
3. Engaging in the ethics activities was itself a learning experience.
4. Students gained first hand insight into ethics concepts that were then additionally reinforced in lectures, movie analysis, and cases post challenge course.

Challenge education lends itself especially well to the development of self-awareness.

Kiltz, G. (2003). An integrated approach to character education in alternative high school. *Curent Issues in Education*, 6(18),

Purpose: To describe an integrated approach to character education.

Participants: An alternative high school in the Phoenix metropolitan area.

Design: Case study

Procedure: combination of adventure education activities, community service projects, personal portfolio development, and quarterly writing opportunities.

Reported Results: As a result of providing opportunity for reflection on a core set of values;

- Students internalize values and make decisions that prompt life-changing personal revelations.
- Greater resiliency and commitment to succeed.
- Students view school setting as a positive protective factor from grade ten to grade twelve.
- By twelfth grade students were more likely to view the school setting as an environment with opportunities for pro-social involvement and where they received rewards for positive social involvement.

Larson, B.A. (2007). Adventure camp programs, self-concept, and their effects on behavioral problem adolescents. *Journal of Experiential Education*, 30(3) 313-330.

Purpose: Examine the effects of an adventure camp program on the self-concept of adolescents with behavioral problems.

Research questions:

- 1) Are there significant pretest and post-test gains as a result of participation in an adventure camp program according to Peirs-Harris Children's Self-Concept Scale.
- 2) Are there significant pre-test and post-test cluster gains as a result of participation in an adventure camp program according to Peirs-Harris Children's Self-Concept Scale.
- 3) Are there significant differences between control and treatment groups in the following age groups gain of self-concept scores according to PHCSCS as a result of the treatment.
  - a. 9-11
  - b. 12-14
  - c. 15-18

Participants: 61 randomly selected adolescents from age 9-17.

Procedures: Experimental group received adventure treatment Control group received alternate behavior treatment plan. (Bluegrass Impact)

**Treatment description:**

- Life adventure camp: summer program
- 5-day 4-night adventure camp exp. for children with behavioral problems age 9-18.
- Participants referred by social services agencies like Kentucky DSS, Bluegrass Regional Comprehensive Care Centers, Youth and Family Resources Centers, Private counselors, and school systems.
- Decentralized atmosphere with small self-sufficient groups of 8-10 kids and three counselors.
- Participants share in responsibilities of living & working together.
- Meet challenges of living outdoors
  - Goals for camper development
    - Self-concept
    - Social skills
    - Appreciation of natural environment

Results: With an alpha of .05

No significant difference found (according to one way ANOVA) between treatment and control overall group scores for self-concept gains.

No significant difference found (according to one way ANOVA) in between groups in cluster gain scores on PHCSCS subscale measures.

Significant difference was found between the treatment and control groups of 9-11 year old groups self-concept.

Conclusion: More significant to 9-11 year old group then others.

Passarelli, A., Hall, E., Anderson, M. (2010). A strengths-based approach to outdoor and adventure education: Possibilities for personal growth. *Journal of Experiential Education*, 33(3), 120-135. Doi: 10.5193.

Purpose: explain why when and how to use strengths based approach in outdoor and adventure education.

Participants: 58 college students age 19-22 from a small private liberal arts university in southern US.

Procedure: Strengths based approach used in an international adventure education course for 2 consecutive years. Throughout the course students interacted with nature and learned about local habitat along with participating in vigorous outdoor activities including hiking, rappelling, conyoning, snorkeling and surfing.

Preparation for the course included instruction on strengths based approach. Clifton Strengths finder was used the help students identify and leverage their natural talents.

At the end of the course students completed two surveys to assess their personal growth and an awareness of their strengths.

Results: 1) Program was effective in helping students achieve positive outcomes related to personal growth. 2) Program resulted in improved relationships

3 key ways students identified that Strengths based approach added value to the program.

- By focusing their attention on opportunities for personal development
- By enhancing their personal relationships
- By helping them respond effective to physical challenge.

Russell, K., Gillis, H.L., Lewis, T.G. (2008), A five-year follow-up of a survey of North American outdoor behavioral healthcare programs. *Journal of Experiential Education*, 31(1), 55-77.

Purpose: Report the results of a five-year follow-up survey of private-pay outdoor behavioral healthcare programs operating in the United States and Canada.

Participants: 65 Outdoor Behavioral Healthcare programs.

Findings: a number of OBH programs appear to have increased since 2001

Family involvement has decreased

Number of families receiving Insurance co-pays have also decreased

Areas in need of further investigations regarding these programs is extensive.

- Field instructor training and qualifications
- Supervision
- Oversight of daily treatment and program operation,
- Drug detoxification practices at admission

Conclusions: Use caution with Profit based programs. Cannot make generalizations that implicate all OBH treatment programs when it appears that most programs are licensed, have licensed clinicians on staff and adhere to best practices in treatment.

Sammet, K. (2010). Relationships matter: Adolescent girls and relational development in adventure education. *Journal of Experiential Education*, 33(2), 151-165. Doi: 10.5193/JEE33.2.151.

Purpose: To examine relational issues of early adolescent girls that arose during a two-week adventure education expedition.

Research questions:

- a. how female adolescent participants in an adventure ed program experienced their course
- b. How they made meaning out of the experience.

Participants:

12 first time camp courage attendees

Ages 12 and 13

Mixed levels of adventure experience.

Reside in large metropolitan area

Four not scholarship, eight full scholarship

Three white, three multiracial, three Latina, one African American, one Turkish American, one Asian American

Purposefully selected to reflect socioeconomic and ethnic diversity from all camp participants. Recruited from two courses

Procedures & Data collection:

Interviews:

- semi-structured – 45 minutes to 1.25 hours in duration.
- 6-10 months after course – possibly effected responses – (limitation)
- Audio Redcorded & transcribed

Results: Emergent Themes

- 1) Centrality of relationships on Course
  - “How they related to other girls on the course: for many girls their sense of identity and their experience on course clearly tied to ability to build positive, authentic relationships.

- Central theme of Girls self-identity; How they existed struggled to thrive in context of relationships with other girls, instructors while undertaking various course activities.
- 2) Relational Aggression @ school and at comp courage:
  - Many of girls experiences relational aggression @ school which affected ability to trust people, make friends, and have confidence in selves.
  - Common theme among many girls: Social and emotional health dependant on maintaining healthy relationships.
    - Relationships at school were quite hurtful.

Implications: This research provides starting point for future research.

Future research topics:

- Evaluate best practices for creating and maintaining emotionally safe spaces for girls to explore healthy relationships building in adventure education courses.

Utley, C.A., Greenwood, C.R., Douglas, K. (20XX). The effects of a social skills strategy on disruptive and problem behaviors in African American students in an urban elementary school: a pilot study. *Multiple Voices*, 10(1 & 2), 173-190.

Purpose; examine the effects of the implementation of a social skills strategy, on the disruptive and problem behaviors of third and fourth grade African American students in an urban elementary school.

Research questions;

1. To what extent does a classroom-based social skills strategy increase socially appropriate and decrease socially inappropriate behaviors in African American students.
2. To what extent does a classroom-based social skills strategy increase on task behaviors and decrease off task behaviors in African American students?
3. Relates to teacher behaviors in the social skills strategy intervention. [not relevant to me]

Subjects; 4 urban African American third grade students and 6 urban African American fourth grade students.

Procedures: 10 purposefully selected students were observed using momentary time sampling with 10 second intervals to determine the overall frequency of their appropriate and inappropriate behaviors that occurred during different activities during the day. The average frequency of appropriate and inappropriate behaviors was conducted across three observations. Data intervals were 10 seconds and the data was recorded at the marked interval. A tape recorder was used that gave ten second markings.

**Appropriate behaviors** were; Compliance, appropriate communication, appropriate play or task behaviors.

**Inappropriate behaviors** were; noncompliance, or off task, aggression, inappropriate communication. The average percentage of appropriate student behaviors was computed by adding all of the appropriate behavior symbols and dividing by the total number of intervals, and likewise was done for inappropriate behaviors.

**On and off task behaviors** were recorded using a 20 minute observation. On or off task behavior was recorded at 30 second intervals.

To determine average frequencies

**Findings;** a) On task performance and socially appropriate behaviors of African American students increased.

b) Teachers increased their level of praises of students' behaviors.

Vandergriff, L., & Rust, J.O., (2001). The relationship between classroom behavior and self-concept. *Education, 106*(2), 172-178.

Purpose: To examine the relationship between classroom behavior and self-concept.

Participants: 104 Second grade students at two suburban Tennessee schools. (Primarily middle class)

Instruments:

Self-concept Mcdaniel-Piers Self Concept Scale

Birth order: Questionnaire

Teacher rating of student behavior

Design: Three separate analysis of variance were examined to evaluate

- Gender/Achievement/Birth order
- Gender /Birth order /Behavior level
- Birth order/ Achievement level/behavior level

Results: Consistent relationships were found between achievement level, self-concept and teachers' rating of students' behavior.

Future research: Should isolate

- behavior/achievement
- Self-concept/achievement
- Self-concept /behavior