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Examining social climate and youth social goals on extended wilderness courses: A path toward improving participant experiences

Benjamin J. Mirkin

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Examining social climate and youth social goals on extended wilderness courses: A path toward improving participant experiences

Abstract
This dissertation examined participants' expectations of the social climate on extended wilderness courses, how students' actually experienced the social climate during their course, and how these expectations, perceptions and the influence of environmental characteristics, impacted their goals for peer interactions. Pre and posttest surveys were used to assess students' expectations and perceptions of their experience and multilevel modeling was used to better understand the relationship of social climate to peer interaction. The research was undertaken to improve the practical and theoretical understanding of organizations' and leaders' ability to facilitate a social climate that promotes adaptive forms of social motivation.

Changes in social development goal orientation were used as an indicator of adaptive changes in peer interaction. It was found that, on average, students' social development goals changed, but not in the predicted direction. These negative changes can be understood as a maladaptive shift that could have implications for participants' social goal orientation in other settings, making it important to understand why this shift is occurring and what significant on-course predictors are, because the results provide insights into social climates that facilitate youth goals shifting in an adaptive direction.

According to the model created with this data, courses in which students had (a) higher perceptions of group cohesion and task orientation combined with (b) lower perceptions of leader control were be more likely to have higher positive changes in their social development goal orientations. Additional analysis used instructor reports to understand other factors influencing youth. Findings show that when students are having fun, it related to their group cohesion, and when students perceive higher levels of cohesion within their course group it was shown to positively predict changes in social development goal orientation. For some organizations this implies growth areas in group facilitation to include more of an emphasis on the importance of fun and playfulness as a factor in building a cohesive and productively task oriented social climate, in order to promote developmental outcomes.

Keywords
Education, Environmental, Psychology, Social, Recreation

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EXAMINING SOCIAL CLIMATE AND YOUTH SOCIAL GOALS ON EXTENDED WILDERNESS COURSES: A PATH TOWARD IMPROVING PARTICIPANT EXPERIENCES

BY

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DISSERTATION

Submitted to the University of New Hampshire in Partial Fulfillment of the Requirement for the Degree of

Doctor of Philosophy

in

Education

September, 2013
This dissertation has been examined and approved.

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Dr. John Gookin
NOLS Director of Research
DEDICATION

This dissertation is dedicated to the generations of my family who came before me and made my pursuing this sort of degree possible. My Grandparents, Jews who lived at the same time as the devastation of the Holocaust, made clear to me that the one thing no one can ever take away from an individual is knowledge. They always encouraged me to study and pursue advanced educational opportunities.

This dissertation is also dedicated to my parents, who told me to do what I love – even when that was just going fishing. Their encouraging me to follow my dreams left me with a fire to continually pursue what I believe will be an enjoyable way to spend my life, that also contributes positively to our world.

The hard work and support of the generations of my family that came before me provided me the luxury of the possibility of an academic life, where I feel stable enough to enter a field I find joy in. You all gave me advice when I asked for it, but most importantly you gave love unconditionally and always told me I could do it. Thank you.
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There are several people who made this study possible. I want to begin with special thanks to Jayson Seaman. Jayson has supported me every step of the way; from our chance meeting before I applied to UNH, to the initial call to get me into the program, to many conversations throughout my time at UNH, and finally, extensive editing during the dissertation process. We even managed a few fun bike and ski days as well as more social dinners scattered throughout. Jayson, your encouragement combined with critical feedback has kept me progressing and striving to improve throughout my time at UNH. I cannot imagine a better adviser for me. I look forward to many more bike rides, ski days, social dinners, and academic projects together.

Mike Middleton encouraged my investigations into motivation and worked independently with me throughout my time at UNH. Thank you Mike, for all the time we spent in your office discussing achievement goal theory and how it could be applied to outdoor education. The pilot work that you supported me through showed me that I enjoyed research and made my classroom learning a reality. Thank you for meeting me at the door each week with a smile, an outstretched hand, and encouragement to move forward.

I was not sure I was going to like complex statistics, but Suzanne Graham showed me it was all about providing evidence to answer important questions. I was with Suzanne for my first and last course at UNH and I felt supported through my learning of complex material. Suzanne, thank you for keeping the bar high and requiring each student to work toward excellence. Your feedback always encouraged continued work and improvement.
I did not have to take a course about “Contemporary Issues in Adolescent Development,” but I am certainly glad I did! Not only was the class fascinating and useful in my understanding of youth, but Erin Hiley Sharp helped me look at things from a youth development perspective and this will forever help my research. Thank you Erin.

Thanks to John Gookin, Mandy Pohja, and NOLS for allowing me to conduct this study and supporting me throughout. Your efforts to support research in the field of outdoor education continues to move the field forward and serve a huge need. I hope to work with you for many years to come.

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Thank you to my parents for their unconditional love and support. Dad, you smiled at me and nodded in an amused amazement as I told you about what I was working on. Yet, you never questioned it and supported me in every way you know how. Thank you. Momma, you are always there with an encouraging word and never-ending support on every level. I will never know how to thank you adequately, but will forever try: thank you.

Lastly, a special thanks to my wife; Kate, you have enabled me to follow my dreams and supported me throughout. When Raya joined our lives, I was not sure how we would balance it all, but you worked with me to be sure it would all work. You understood my need for time to write in order to finish this project, as well as time to stretch my legs to remain sane. Thank you.
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ABSTRACT

EXAMINING SOCIAL CLIMATE AND YOUTH SOCIAL GOALS ON EXTENDED WILDERNESS COURSES: A PATH TOWARD IMPROVING PARTICIPANT EXPERIENCES

By

Benjamin J. Mirkin

University of New Hampshire, September 2013

This dissertation examined participants' expectations of the social climate on extended wilderness courses, how students' actually experienced the social climate during their course, and how these expectations, perceptions and the influence of environmental characteristics, impacted their goals for peer interactions. Pre and posttest surveys were used to assess students' expectations and perceptions of their experience and multi level modeling was used to better understand the relationship of social climate to peer interaction. The research was undertaken to improve the practical and theoretical understanding of organizations' and leaders' ability to facilitate a social climate that promotes adaptive forms of social motivation.

Changes in social development goal orientation were used as an indicator of adaptive changes in peer interaction. It was found that, on average, students' social development goals changed, but not in the predicted direction. These negative changes can be understood as a maladaptive shift that could have implications for participants'
social goal orientation in other settings, making it important to understand why this shift is occurring and what significant on-course predictors are, because the results provide insights into social climates that facilitate youth goals shifting in an adaptive direction.

According to the model created with this data, courses in which students had (a) higher perceptions of group cohesion and task orientation combined with (b) lower perceptions of leader control were more likely to have higher positive changes in their social development goal orientations. Additional analysis used instructor reports to understand other factors influencing youth. Findings show that when students are having fun, it related to their group cohesion, and when students perceive higher levels of cohesion within their course group it was shown to positively predict changes in social development goal orientation. For some organizations this implies growth areas in group facilitation to include more of an emphasis on the importance of fun and playfulness as a factor in building a cohesive and productively task oriented social climate, in order to promote developmental outcomes.
CHAPTER I

INTRODUCTION

A growing body of evidence suggests that organized nonformal activities structured and supervised by adults and which provide opportunities for skill building, foster a variety of long-term benefits for youth including greater educational, civic, and occupational success (Gardner, Roth, & Brooks-Gunn, 2008; Mahoney, Larson, & Eccles, 2005). Nonformal youth settings such as Boys and Girls Clubs, 4-H programs, and Outward Bound-style wilderness courses are examples of such programs, and it is believed that meaningful collaboration with peers in such programs contributes to beneficial outcomes (Costello, Toles, Spielberger, & Wynn, 2001; Duerden, 2010; Larson, 2000). A major element in the success of these programs is believed to be the motivations they foster as well as the promotion of positive peer relationships. However, the relationship between youths' goals for their social interactions and specific elements of the setting or social climate of the experience has not been examined extensively.

Authors in the youth development and activity literature have also observed different motivational patterns among participants in nonformal educational settings such as those listed above, and argue that these patterns are integral to program effectiveness. Essentially, some nonformal settings encourage youth towards different motivational patterns in the social domain, their social climates helping to establish more personally
meaningful relationships with peers and also contributing to shared goals in valuable ways. This stands in contrast to settings such as school, where opportunities for positive peer social interaction and meaningful contributions to collaborative tasks often are more constricted (Costello et al., 2001; Larson, 2000). One can extrapolate from this literature an important relationship between individuals’ motivations, the ways peer relations are established, maintained and perceived by members, and practical conditions or tasks that facilitate collaboration. It is hoped that studying this ‘triumvirate’ of motivation, social climate among peers, and environmental or programmatic conditions will reveal features of nonformal youth programs – here, extended wilderness courses – that can be emphasized or adapted to better facilitate desired outcomes.

The research described in this dissertation examined the relationship between participant antecedent factors, characteristics of the immediate social climate, objective features of the course, and changes in social motivation over the course of extended wilderness courses. The research was undertaken to improve the practical and theoretical understanding of youths’ experience on wilderness expeditions and the potential importance of organizations’ and leaders’ ability to facilitate a social climate that promotes adaptive forms of social motivation.

In what follows, I provide some historical context to ground the focus on nonformal education programs, particularly extended wilderness courses. I then discuss how the elements of motivation, peer social relations, and environmental conditions were operationalized as variables in the study, followed by an explanation of their assumed relationship based on an interpretation of the existing literature. I close by describing the
aims of the study in relation to the research questions, and present the hypotheses that drove the analysis. Lastly, I discuss some initial limitations of this study.

**Focusing on Nonformal Settings: Educating the ‘Whole Person’**

**The Limitations of Schooling**

The critique of schooling as an institution focused solely on academic outcomes is a century old (Ladwig, 2010). In order to understand how and why research about social motivation in nonformal settings matters as an educational concern, it helps to outline societal trajectories and trends in relation to the ever-changing role of schools, which represent the primary normative institution for youth in the United States (Costello et al., 2001). One area that has undergone thorough change since the early 1900’s, contributing to the increasing role of out-of-school programs in the early 21st century, is the differentiation between academic outcomes in schooling and those of the broader individual or ‘whole person.’

To illustrate how vast the changes in school outcomes or aims has been in the last 100 years, one can compare the current emphasis on standardized testing and academic achievement to the advice of the National Education Association (NEA) in 1918. The NEA’s Commission on the Reorganization of Secondary Education, recommended seven broad aims for secondary education, known as the Cardinal Principles of Education (Bobbitt, 1920; as cited in Ladwig, 2010):

1. Health
2. Command of fundamental processes
3. Worthy home membership
Comparing the seven Cardinal Principles of 1918 to current aims of standardized testing demonstrates one aspect of why there presently is a need for youth serving organizations outside of school. The modern educational movement known as “21st century skills” consists of seven survival skills youth need: critical thinking and problem solving, collaboration and leadership, agility and adaptability, initiative and entrepreneurship, effective oral and written communication, accessing and analyzing information, and curiosity and imagination (Rosefsky-Saavedra & Opfer, 2012). While these seven skills differ from the seven Cardinal Principles, what they have in common is acknowledgement of the need for a broad education, which includes non-academic aims. It is clear that the majority of these skills are not demonstrated through standardized testing and therefore, are likely not emphasized in schools to a great extent. In the case of youth needs not being met by schools, various types of out-of-school, youth serving organizations have emerged as a method to impact youths’ lives in a positive manner (Costello et al., 2001). Organizations other than schools that seek to deliberately impart these skills are what is meant here by nonformal educational settings and activities.

### Defining Adolescence

Adolescence, a stage of development where the youth is no longer a child and also not yet an adult, is regarded as a time requiring special attention. Currently, most researchers view adolescence as the second decade of life, although there is evidence that
this developmental stage is expanding in both directions (Lerner & Steinberg, 2009). How the period of adolescence is viewed, however, has been a matter of considerable debate and perspectives are currently undergoing transformation. In the early 1900's adolescence was viewed “as a time of universal and of inevitable upheaval” (Steinberg & Lerner, 2004, p. 46). Young people were viewed as problems to be fixed throughout much of the century. Beginning in the mid 1970's, developmental scientists looked at the relationship of developmental issues from adolescence to the rest of the life span and began to posit that adolescents’ high rates of boredom, alienation, and a disconnection from meaningful challenges were not signs of psychopathology, but can be regarded as deficiencies in support structures to provide and emphasize positive aspects of development (Steinberg & Lerner, 2004).

This more modern view of adolescence ushered a strong belief that programs and policies that aim to prevent problems with youth, do not necessarily prepare youth to contribute to society (Pittman, Irby, Tolman, Yohalem, & Ferber, 2003). This has led prominent youth developmentalists to remark: “prevention is an important but inadequate goal... problem-free is not fully prepared” (Pittman et al., 2003, p. 6). A central question that youth developmentalists must address is how to get adolescents’ engaged and excited about something that will encourage them to develop the complex dispositions and skills needed to take charge of their lives and contribute to later life success (Larson, 2000). This is a role that organized nonformal activities seek to fill.

**Organized Nonformal Activities**

Organized nonformal activities have been described as having several key characteristics including a commitment to learning and knowledge acquisition, carefully
planned curriculum, learner centered options, and led by professionals or trained volunteers (Russell, 2001), typically with less formal or hierarchical relationships than what exists between students and teachers (Etllng, 1993). They are commonly characterized as having formal structure, being subject to adult supervision, and placing an emphasis on skill building (Mahoney, Eccles, & Larson, 2004). Their goals typically include helping youth develop in positive ways, including altering how adolescents view social situations and relationships with their peers (Costello et al., 2001), and as a result, positively shaping their goals in other social situations.

The Outdoor Adventure Course

Outdoor adventure activities are one particular setting organized for this purpose, with immersion-style wilderness expeditions serving as the 'prototype' for other forms (Costello et al., 2001; Larson, 2000; Walsh & Golins, 1976). Immersion-style wilderness courses differ from other nonformal settings such as Boys and Girls Clubs and afterschool programs as they are short-term interventions (typically 2-4 weeks), and often take place at a geographical – and putatively psychological – distance from participants’ daily lives.

The claim has long been made that these kinds of programs can be transformative (Walsh & Golins, 1976). Programs such as Outward Bound gained popularity in the US in the 1960s and 70s and thereafter many new offshoot programs successfully began to operate (Raiola & O’Keefe, 1999). During graduate school, two former Outward Bound instructors, Victor Walsh and Jerry Golins (1976) deliberately aided the expansion of Outward Bound style programs by creating the Outward Bound Process Model (OBPM). Their intent was to model the social, environmental, and leadership conditions that were
critical to Outward Bound’s success since its importation to the U.S. in 1962, to create a prototype for replication elsewhere. What has come to be known as ‘Walsh & Golins’-style immersion programs are typically based around the quintessentially romantic idea of withdrawing from modernity and outside contact, taking youth on ‘strange lands’ experiences to the wilderness (Roberts, 2011). In such programs, there is a focus on ‘the group’ in hopes of fostering individual as well as social development. This development is aided by the “engineering” of the instructor – as Walsh and Golins put it - who was an exemplar of all things related to the course and personal experience of their students. The concept and emphasis on ‘the group,’ under the facilitation of specially trained leaders, has become central to practice in adventure education. Taniguchi (2004) has argued that these type of intense, immersive group experiences help individuals drop social facades and become more open to self-reflection and feedback from others.

A stated purpose of many modern wilderness courses is the development of positive interpersonal relationships and group experiences that lead to enhanced sense of community among members (Breunig, O'Connell, & Todd, 2008; Mitten, 1999). Outdoor adventure education researchers have attempted to demonstrate enhancement of a variety of factors related to broad outcomes such as self-concept, leadership, academic, interpersonal gains, personality, and adventuresomeness (Hattie, Marsh, Neill, & Richards, 1997), but have made minimal efforts to specify and measure elements of the environment of wilderness courses that are thought to contribute to beneficial outcomes. Ewert (1983) explained, “We have discovered an educational black box; we know something works but we don’t know why” (Ewert, 1983, p. 27). Despite the fact that this quote was published in 1983, outdoor educators, advocates, and scholars still seek to
examine beliefs about why outdoor adventure can have an evidently profound impact on participants' lives (Ewert, 1989; Hattie et al., 1997).

With the growing popularity of these ideas since the 1960's came the need to explain the value and societal worth of outdoor trips (Katz & Kolb, 1968; Miner & Boldt, 1981). Hattie, Marsh, Neill & Richards (1997), conducted the first thorough meta-analysis of research on Outward Bound style immersion programs and discerned several characteristics that typify outdoor adventure education programs following this model:

a) Wilderness or backcountry settings; (b) a small group (usually less than 16); (c) assignment of a variety of mentally and/or physically challenging objectives, such as mastering a river rapid or hiking to a specific point; (d) frequent and intense interactions that usually involve group problem solving and decision making; (e) nonintrusive, trained leader; and (f) a duration of 2 to 4 weeks. (p. 44)

Through their meta-analysis, Hattie et al. documented positive outcomes in outdoor adventure education programs such as enhancement of self-concept, leadership, academic, interpersonal gains, personality, and adventuresomeness. This has left questions about specific aspects of the social climate that facilitate or hinder the development of these traits, as well as students' motivations for social relations before and after courses. The literature in the field of outdoor adventure education suggests a main value within this type of programming is the value of good communication among leaders and participants, high quality instruction, and positive peer interaction as cornerstones of using outdoor adventure in a small group setting to promote growth (Goldenberg, Russell, Soule, Cummings, & Pronsolino, 2010; Sibthorp, 2003a; Walsh &
Golins, 1976). Such claims have received some support, however one can also detect assumptions about their universality and evenness across and within courses due to the apparent impulse to make generalized statements about ideal conditions and outcomes in adventure education. As a result, research that reveals nuances or group- and individual-level differences in the relationships between antecedent factors, instructional practices, social and environmental conditions, and outcomes is scarce. It will therefore be beneficial to operationalize concepts more precisely to better understand how individuals’ social goals are related to the social climates of different courses, including the effect of instructional practices and environmental conditions on the establishment of certain ‘group personalities,’ and by extension, the effect of these group personalities on key outcomes. Surprisingly, given the enduring emphasis on the group in outdoor adventure education practice and discourse, there is currently very little focused research about the relationship between social motivation and social climate in extended, immersion-style outdoor settings.

**Aims of the Study**

Organized nonformal activities such as outdoor adventure education courses have the potential to alter how adolescents view social situations, relationships with their peers, and as a result, their social goals. Despite the fact that social growth is a stated goal of many outdoor programs (Hattie et al., 1997; Mitten, 1999), little is known about participants’ motivation to achieve social growth, which is an important factor in adolescent development (Eccles & Gootman, 2002). This study examined students’ expectations of the social climate of extended wilderness courses, how students actually
experienced the social climate during their course, and how these expectations and perceptions influenced changes in social achievement goals of students in adaptive or maladaptive ways over the course of their involvement in extended wilderness programs. These elements have not previously been examined extensively in this setting or operationalized as I am here. This study aimed to improve the practical and theoretical understanding of social climates in a way that better promotes adaptive forms of social motivation.

I anticipate two practical benefits stemming from this line of research: 1) Improved understanding of the influence of individuals' expectations of the social climate of outdoor courses could inform marketing and pre-trip materials in a way that is beneficial to participants, and 2) better understanding the relationship between actual social climate and social goals may inform course designs as well as instructional practices while in the field. I pay special attention is paid to the second aim in this dissertation since there is a clearer picture of this area in the data. I also expect that this study could lead to more focused research on organizational and instructional practices that most effectively realize key dimensions of the group climate.

**Research Questions**

This study examined how the expectations and perceptions of social climate of outdoor adventure education courses influenced social achievement goals and facilitated related developmental outcomes. It sought to determine whether outdoor adventure education experiences change the goals youth hold for interacting with their peers and if so, what elements of the course and social setting related to positive changes.
The following specific questions were addressed:

1. Do participants’ social achievement goals change over the duration of their outdoor adventure education course?

2. Do participants’ expectations of the social climate (i.e. cohesion, leaders support, independence, task orientation, order and organization, and leader control) before participating in outdoor adventure education courses, relate to their perceptions of the actual experience?

3. If social achievement goals change during outdoor adventure education courses, what specific aspects of students’ perception of the social climate relate to changes in social achievement goals?

4. What are the meaningful factors in the relationship between the group level perceptions of the social climate and the changes in social development goals? Does this vary by course type, duration of the experience, age, gender, and/or race of participants?

5. How do objective characteristics of the course, such as food issues, weather, level of challenge, and playfulness of the course influence aspects of the group social climate and relate to changes in social achievement goals on outdoor adventure education courses?
Overview of Independent Variables in the Study

In this section, I introduce more precise, technical concepts that will stand for the general ideas discussed thus far and elaborate on the logic that informed their selection for use.

This research was a continuation of three completed pilot studies which suggest that on average, during outdoor adventure education courses, students' social goals change in adaptive ways, shifting towards social development goals, and these changes were related to several specific aspects of the social climate such as the cohesiveness of the group as well as the emphasis that is placed on accomplishing tasks (Mirkin, 2012). Further research on this topic has the possibility of yielding a greater understanding of how antecedent factors (i.e. expectations prior to the course), the social climate, objective course conditions (e.g., severity of weather), and social goals are related on outdoor courses, as well as how these relationships vary across different course lengths, ages, and identity categories such as gender. Below, I describe and give a rationale for the inclusion of this study's key independent variables.

Social Climate

Research on child development suggests that schools, along with family and peer group, are one of the most influential social contexts for children's development (Eccles, 2004). Substantial research in the area of motivation focuses on how teachers create different goal structures through their use of various instructional, evaluation, and grouping strategies (Shim, Cho, & Wang, 2013; Kaplan, Middleton, Urdan, & Midgley, 2002). However, research from this perspective has largely been limited to school settings, and given the important role non-school settings are known to play in promoting
youth development, examining the relationship between the environment and motivational goals could be beneficial. Moreover, these factors are often stressed but not examined extensively in the outdoor education literature; a theme found repeatedly is the importance of relationships and group interactions when planning and conducting outdoor adventure education (Goldenberg et al., 2010; Sammet, 2010; Sibthorp, 2003b; Sibthorp, Paisley, & Gookin, 2007a). Understanding the social climate of group experiences could help increase our understanding of what is occurring to realize certain outcomes during these small group adventure experiences. This brings me to a focus on social climate, in particular, that of the group.

The social climate is the unique personality of a setting; like people, each setting has distinctive characteristics that are more or less supportive of different outcomes (Moos, 2003). While authors in outdoor adventure education acknowledge the importance of the social aspects of these experiences, it can be difficult to quantify the constructs that create the social climate in this setting. The Group Environment Scale (GES) was designed to measure several relevant dimensions of the social climate of group settings. It was created with thorough theoretical and empirical methods for the purpose of helping researchers discover why settings differ so greatly in the quality of relationships, different instructional strategies, and levels of organization and clarity (Moos, 2002). Further details on the GES are provided in Chapter 3.

Motivational goals and classroom climate. Motivational research on schooling has investigated the classroom climate to understand its relationship to students' motivation. Classroom research focuses on how teachers create different goal structures through their use of various instructional, evaluation, and grouping strategies (Kaplan et
al., 2002; Shim et al., 2013) and confirms that learning environment plays a significant role in determining the goals that students pursue (Anderman & Maehr, 1994; Kaplan et al., 2002; Meece, Anderman, & Anderman, 2006; Shim et al., 2013). In other words, students’ goal orientations adapt to different environmental cues within the classroom. Additionally, findings show that during the transition from middle to high school there is a decrease in students’ achievement motivation and an increase in the perception of a less positive classroom climate, with a distinct shift towards competitively focused classrooms and performance goals (Anderman, Maehr, & Midgley, 1999; Nelson & DeBacker, 2008). These researchers have identified cycles where classroom environments influence students’ beliefs about themselves and their schoolwork, and these beliefs influence the nature and extent of their engagement in academic tasks (Patrick, Ryan, & Kaplan, 2007).

When positive classroom climate is combined with a sense of belonging, it can lead to adaptive behaviors such as maintaining student motivation and engagement in academic activities (Goodenow, 1993). Successful peer interaction at school has been associated with student engagement, cognitive strategies, problem solving, adjustment to school, academic achievement, and self-regulation (Berndt & Keefe, 1995; Dimant & Bearison, 1991; Ryan & Patrick, 2001; Shim et al., 2013; Wentzel, 1998). The importance of the social environment of which they are a part of is clear (Patrick et al., 2007). Especially as students reach adolescence, their need for a feeling of social competence is extremely important and is often not being met in their school experience (Ryan & Shim, 2008). This makes nonformal settings a compelling area for the
development of adaptive youth social motivations, and in turn, for research into factors that contribute to positive shifts in social motivation.

**Participant Expectations**

While the setting of experiences is important, antecedent factors influence all experiences, including extended wilderness courses (Sibthorp, 2003a). Understanding students' expectations of the social climate of their upcoming course experience could provide insight into additional factors that shape outcomes. For instance, perhaps it is not only a student’s perception of the social climate of a course, but alignment between their expectations for a certain type of social experience and the realization of, or failure to meet that expectation, that influences outcomes. The preconceived notions that students have prior to their courses will likely influence their experiences on course; for example, if a student believes they are going to be part of a cohesive group this may influence their social goals for this experience, as well as the actual realization of group cohesion as an objective feature of the group climate.

**Objective Course Conditions**

While the social climate of an experience may have a meaningful impact on participant development and constitutes an aspect of outdoor adventure education courses that organizations and instructors can shape, students’ experiences are also invariably influenced by factors out of organizational control (Breunig et al., 2008). Objective course conditions such as severe weather, insect issues, food quality and quantity, and relative difficulty of experience can shape students’ experiences as well as the level of fun / playfulness that characterizes the course. These course conditions could contribute to variability in outcomes, and sensitivity to these can contribute to a greater
understanding of the dynamics involved with the use of the outdoors as a program setting for youth development.

**Antecedent Factors**

Antecedent factors in experiences are those that students bring with them and are investigated at the individual level within this study. In addition to age and gender, these factors include motivations for engaging in the experience, expectations for the experience, past experiences with NOLS, and preexisting beliefs. It has long been believed that participants' values and beliefs prior to outdoor adventure education experiences can influence their developmental gains (Ewert, 1988). Antecedent variables such as motivation are linked to developmental outcomes and student perceptions of the experience (Sibthorp, 2003a). Similarly, cognitive processing research suggests a positive relationship between pre experience perceptions or expectations and actual recreational experiences (Vitterso, Vorkinn, & Vistad, 2001). Antecedent factors and expectations could be central aspects of the 'black box' of adventure education, which likely impact a variety of aspects of the social climate and social motivation.

**Overview of the Dependent Variable in the Study**

**Achievement Goal Theory**

Achievement goal theory conceives of motivation not as a quantity, but as a quality of the motivational goals that individuals hold (Ames, 1987; Weiner, 1990). Goal theories of motivation focus on types of goals individuals pursue in achievement situations and view behavior as intentionally focused toward the attainment of certain goals. In general, goal theories describe two types of goals: mastery and performance.
Specifically, achievement goal theorists focus on goals involving the development or demonstration of competence (Meece et al., 2006) which relates to the mastery or performance orientation of the individual. A feeling of competence, the ability to do something successfully, is at the core of achievement goal theory. The achievement of social competence is part of the theoretical framework of achievement goal theory, which is related to a larger body of knowledge of motivational behavior viewed through the social cognitive perspective.

From the social cognitive perspective, the person in context is generally viewed as the individual and those with whom they are in immediate contact. The individual receives information from others and decides upon appropriate future attitudes, beliefs, and behaviors. The effect on the individual is deemed to be most influential when it is proximal or close-at-hand to the individual and can directly affect their learning and performance.

**Social Motivation Through Social Achievement Goals**

Social achievement goals are an extension of achievement goal theory (Ames, 1992) and create a way to understand social motivation (Ryan & Shim, 2006, 2008). Goal theories of motivation focus on types of goals individuals pursue and view behavior as intentionally focused toward the attainment of certain goals (Meece et al., 2006). In contrast to traditional achievement goal theory, which focuses on learning and academic domains, social achievement goals operate with the premise that regardless of what an individual is seeking in a social situation, they also desire a feeling of social competence. To obtain this, some individuals are (a) motivated to develop relations with others, while other individuals seek (b) to demonstrate their social competence in order to acquire
social status or avoid being rejected by others (Ryan & Shim, 2006, 2008). The manner in which individuals pursue these goals may determine how they interact with their peers (Mouratidis & Sideridis, 2009). Successful peer interaction at school has been associated with socially valued propensities such as student engagement, cognitive strategies, problem solving, adjustment to school, academic achievement, and self-regulation (Berndt & Keefe, 1995; Dimant & Bearison, 1991; Ryan & Patrick, 2001; Wentzel & Wigfield, 1998). Social development goals are therefore seen as adaptive, while social demonstration goals are seen as potentially maladaptive.

**Social achievement goals.** In this study, motivation for peer interactions was operationalized in terms of *social achievement goals*. In an attempt to gain a greater understanding of motivational processes in social situations, some educational researchers have begun to use this framework. The adaptive form, *social development goals*, is used throughout as the dependent variable in this study, focuses on developing social competence with peers. The individual judges his or her success by whether s/he is improving social skills, deepening the quality of relationships, or developing one’s social abilities in general. Conversely, with both *social demonstration - avoid* and *social demonstration - approach goals*, attention focuses on the appearance of the self, especially in relation to others. Social development and social achievement goals have been differentially related to adaptive and maladaptive patterns of behavior (Mouratidis & Sideridis, 2009; Ryan & Shim, 2006, 2008; Shim et al., 2013).

Social achievement goals represent a different theoretical framework for researchers of outdoor education to further understand the development of social relationships and the related inter and intrapersonal growth that might occur during
outdoor trips. Whereas a content approach to social goals focuses on the outcomes individuals pursue, and categories of goals are identified to characterize what individuals want (Grant & Dweck, 2003; Wentzel, 2000), and social self-efficacy is based on beliefs individuals hold about their ability to act in specific situations or perform certain tasks of varying difficulty (Bandura, 1977; Usher & Pajares, 2008), social achievement goals represent an individual’s orientation to have a goal of demonstrating or developing their social competence, which has substantial implications for their beliefs and behaviors (Kiefer, Matthews, Montesino, Arango, & Preece, 2012; Ryan & Shim, 2008). This variable was chosen because of the historical emphasis on self-improvement in the outdoor education field, particularly as one relates to others (this will be further discussed in the next chapter). The belief is that in nonformal settings, with the right social climate, social achievement goals will shift toward social development and away from both forms of social demonstration, at both the individual and group levels.

To understand how social goal orientations might function in a nonformal setting such as outdoor adventure courses, I would like for you, the reader, to imagine you are leading a group of adolescents backpacking through New Hampshire’s wilderness. As you are hiking down the trail, two fifteen-year-old students in front of you, who 10 days earlier had been constantly trying to demonstrate how “cool” they are, are now engaging in a sophisticated dialogue about their future aspirations and the related issues they see in society. In a social achievement goal framework, it may be said that these individuals began the backpacking course with the more maladaptive orientation to the social world known as social demonstration-approach or social demonstration-avoid. With a ‘demonstration’ orientation, an individual’s primary goal in social situations is to show
social competence in order to gain status or to avoid looking incompetent. Demonstration orientations are considered maladaptive because the outcomes associated with it have negative impacts on individuals in a variety of settings: social goals oriented towards demonstration facilitate a focus on self appearance and have shown in classroom research to have negative associations with positive relations, self-acceptance, personal growth, and autonomy, as well as a positive relationship with perceptions of loneliness (Mouratidis & Sideridis, 2009; Ryan & Shim, 2006, 2008).

Continuing with the above example, as students engaged in their group experience over 10 days on this particular course, it may be said that these individuals' social goals shifted in an adaptive direction away from social demonstration-approach and towards social development goals. A social development goal focuses on developing social competence with peers, where an individual's attention is focused on learning new ideas, personal growth, and self-improvement. Social development goals are said to be an adaptive form of development and have been shown to be beneficial in a variety of situations. Success in social situations is self-defined and judged by whether an individual is improving social skills, deepening the quality of relationships, or developing one's social abilities in general (Ryan & Shim, 2006, 2008). In previous classroom studies, social development goals have been positively associated with several meaningful outcomes such as positive relations, self-acceptance, personal growth, social self-efficacy, and instructor reports of social adjustment. Positive youth developmentalists have suggested that in the future, adulthood will require greater social versatility, including abilities to function in relationships that bridge multiple social worlds and can be unpredictable (Larson, Wilson, Brown, Furstenberg, & Verma, 2002).
Scholarship in this area supports the idea that focusing on developing social competence creates a positive orientation toward the social world that sets in motion beliefs and behaviors that facilitate adjustment in a variety of contexts (Ryan & Shim, 2006, 2008). Youth programming can play a vital developmental role in helping adolescents develop social capacities that will aid in becoming fully functioning adults (Duerden, 2010).

The need to understand the social goals of adolescents and the manner in which they approach peer interaction is essential to effective program design in various settings. Outdoor adventure education courses may provide an effective social climate for enhancing adolescents’ peer interactions and positively contribute to adaptive forms of adolescent social motivation.

**Limitations**

At the outset of this dissertation project, several limitations can be identified. Additional limitations related to findings and implications are discussed in the final chapter. The results of this study should be interpreted considering the following:

- Outdoor adventure education programs tend to be homogenous in terms of racial and SES participation, limiting the extent to which findings here represent other participant populations who might attend wilderness courses. For example, the cost of participation in an extended wilderness course may rise over $2,000 for most participants (assuming about 10% financial aid), and nature of the adventure program as a particular kind of experience, may limit the generalizability both to participants and to other settings.

- The Hawthorne effect and post group euphoria are regarded as confounding
problem in the measurement of adventure program outcomes (Ewert, 1988; Hattie et al., 1997). The use of a posttest at course completion, and not later, could skew outcome data at the second time point.

- It is possible that because the respondents know that they are part of a research study, they indicate what they believe to be post-program gains. If participants think that they should grow or develop as a result of the program, it is possible that positive post program self reports are the result of this expectation or of a positive affect towards the adventure experience in general (Zink, 2005).
CHAPTER II

LITERATURE REVIEW

This review of literature gives an overview of the concept of motivation, leading to contemporary achievement goal theory and specifically to research on social achievement goals and the learning environment. This is followed by a historical overview of emphases, ideas, and key outcomes in modern outdoor adventure education. The evolution of this activity is briefly reviewed in order to demonstrate how the historical idea behind much of outdoor adventure education has been to fill perceived gaps in education where it fails to support adolescents' social development more generally. The historical overview clarifies some of the emphases of outdoor adventure education research and substantiates the logic behind the present study on social climate and social achievement goals.

After establishing theoretical connections for this research, the results and implications of three pilot studies are summarized and discussed. It should also be noted upfront that there is no current research investigating the relationship of social achievement goals and the social climate in outdoor adventure education. This dissertation is therefore providing a foundation for a future program of research.
Motivation in Education

Motivation research has a long history, beginning with William James and extending to achievement goal theories in the 1980’s (Meece et al., 2006). Motivated behavior has been explained in a number of ways: in terms of drives, instincts, motives, hierarchies, and other internal traits (Weiner, 1990). Motivation research in schools is as varied as the wider literature suggesting that students may have a number of different reasons for their behavior. One such explanation is represented through achievement goal orientations, a framework that fits within broader social cognitive perspectives (Bandura, 1997; Locke & Latham, 1990; Locke & Latham, 2002). As learners achieve their goals, their motivation is strengthened, leading to skill acquisition an adoption of new goals (Schunk, Pintrich, & Meece, 2008). Over the past 30 years, achievement goal theory has emerged as a prominent approach to understanding achievement motivation (Meece et al., 2006), and is especially useful for analyzing the influence of classroom environments on students’ motivation and learning patterns (Anderman & Maehr, 1994; Meece et al., 2006; Midgley, Kaplan, Middleton, Maehr, Urdan, Anderman et al., 1998).

Social Cognitive Theory

In forming a social cognitive theory, Bandura (1986) attempted to account for the idea that individuals act based on thoughts, goals, beliefs, and values as well as to address the influence of the social world on the individual. Social cognitive theories account for the idea that people learn skills and strategies from observing one another, even if they do not display those learned skills in the moment, they will do so when motivated. A key aspect of this theory is ones perceived capabilities to learn or perform actions at designated levels, known as their self-efficacy (Bandura, 1997). From a social cognitive
perspective, self-efficacy is closely tied with goal setting behavior, which is an important motivational process (Bandura, 1997). As individuals see themselves progressing towards a goal, the message conveyed is that they are becoming more skillful, thus raising their efficacy beliefs, which further supports their sustained motivation and improvement of skills (Schunk et al., 2008).

**Achievement Goal Theory**

Achievement goal theory focuses on goals involving the demonstration or development of competence in various domains (Meece, et al., 2006). A feeling of competence, the ability to do something successfully, is at the core of achievement goal theory. Goal theories generally describe **mastery** and **performance** as two differing goals an individual could hold. The goal of mastery relates to the *development* of new skills with a focus on improvement and developing competence whereas or the goal of performance relates to the *demonstration* of competence and the focus is about how ability will be judged in comparison to others (Meece et al., 2006). The achievement of social competence is part of the theoretical framework of achievement goal theory, which is related to a larger body of knowledge of motivational behavior viewed through the social cognitive perspective.

**Social achievement goals.** In this paper, social achievement goals pertain to the orientation to the social world that individuals adopt in order to attain social competence (Ryan & Shim, 2008). Research on social achievement goals is still nascent at this time, with notable citations reviewed below ranging from 2006 - 2013. A basic premise of this view of social achievement goals is that regardless of what an individual is looking for in a social situation, it is likely they also desire a feeling of social competence. In order to
obtain this goal of a feeling of competence, some individuals are: (a) motivated to develop their social competence by developing relations with others in an adaptive peer interacting manner, while other individuals seek (b) to demonstrate their social competence, (c) simply try to avoid looking incompetent. Each of these orientations to the social world has implications for individual’s beliefs and behaviors (Ryan & Shim, 2008).

_Social development goals._ A social development goal focuses on developing social competence with peers. Individuals’ attention is on learning new ideas, growth, and improvement. Success is self-defined and judged by whether an individual is improving social skills, deepening the quality of relationships, or developing one’s social abilities in general (Ryan & Shim, 2006, 2008; Shim et al., 2013).

The core of this view of social achievement goals began with a four-phase study where Ryan and Shim (2006) were able to further validate their survey measure while also demonstrating social development goals’ positive relationship with social and psychological adjustment, social self-efficacy, perceptions of positive relations, self-acceptance, and personal growth, both concurrently and over time, as well as instructor reports of social adjustment. In their following empirical study, Ryan and Shim (2008) further reinforced conclusions and demonstrated that social development goals were associated with increases in prosocial behavior (friendly, helpful, cooperative, kind, and considerate), decreased aggressive behavior, and increased perceptions of positive qualities in close friendships. Mouratidis and Sideridis (2009) further demonstrated that social development goals are positively related to perceived belongingness and negatively related to perceptions of loneliness at school. Additional research found social
development goals to be positively associated with positive emotions such as enjoyment (Mouratidis & Michou, 2011). These findings support the idea that focusing on developing social competence with a focus on improvement and self-referenced standards of success appears to help create a positive orientation toward the social world, which sets in motion adaptive beliefs and behaviors that facilitate adjustment in a variety of settings.

**Social demonstration-approach goals.** A social demonstration-approach goal focuses on demonstrating social competence to gain peers' positive judgments. Ryan and Shim (2006) expected that social demonstration-approach goals would have both positive and negative relationships with adaptive behaviors, yet there is little support for their hypothesis of the benefits of a social demonstration-approach goal orientation. In 2006, they found correlations with decreased perceptions of social growth, autonomy, an increased social worry, which were not significant in the multivariate models once controlling for other goals. This led them to conclude that social demonstration approach goals may be more limited in scope than the other two social achievement goals. However, Ryan and Shim (2008) found this construct to be positively associated with aggressive behavior and negatively associated with prosocial behavior, leaving the relationship only with maladaptive outcomes.

Mouratidis and Sideridis (2009) also found support for social demonstration-approach goals' relationship to maladaptive outcomes, specifically a negative relationship to peer acceptance, demonstrating a less than ideal motivational pattern. This conclusion was supported by social demonstration-approach goals' positive correlation with negative emotions (Mouratidis & Michou, 2011) and has contributed to a growing body of
evidence that social demonstration-approach goal orientations have negative implications for healthy adjustment. These results suggest that the pursuit of judgments by peers as cool or popular may be associated with unprincipled and maladaptive behaviors. According to both the self-reports and teacher reports of behavior, it appears that the more students are focused on demonstrating social desirability, they are less likely to act in helpful or cooperative ways (Ryan & Shim, 2008).

Social demonstration-avoid goals. A social demonstration-avoid goal focuses on demonstrating that one does not lack social competence. Ryan and Shim (2006; 2008) established that social demonstration avoid goals are associated with maladjustment in both concurrent and longitudinal analysis as well as negatively associated with positive relations, self-acceptance, personal growth, and autonomy. Additionally, Mouratidis and Sideridis (2009) found support for previous research, finding the social demonstration-avoid goal orientation positively related to perceptions of loneliness and concluded that it constitutes a maladaptive motivational pattern. However, Mouratidis and Michou (2011) confounded all previous research by finding social demonstration-avoid goals to be related be positively related to pride, unrelated to negative emotions (except shame), and to covary with social development goals. The relationship to both shame and pride is conceptually confusing for interpretation and is not discussed in their conclusion. It seems illogical that the maladaptive avoidance behavior and the adaptive development behavior would covary. As research in this area builds, findings such as this will either be considered an anomaly or grounds for future research.

Nonetheless, it appears that orienting towards demonstration-avoid in the social world creates an unpleasant profile where individuals are generally dissatisfied with
relationships, allowing the opinions of others to interfere with independent decision making, the potential for personal growth, insecurity in being able to socially interact, concern about social interaction, and generally low self-regard. This provides convincing evidence that a focus on avoiding negative judgments from peers is associated with social behaviors that undermine social adjustment in youth (Ryan & Shim, 2006, 2008) and generally constitutes a maladaptive pattern of motivation (Mouratidis & Sideridis, 2009; Ryan & Shim, 2006, 2008; Shim et al., 2013).

Learning environment and classroom goal structures. In addition to providing a framework for studying individual differences in student motivation and social motivation, achievement goal theory is also useful for analyzing the influence of the learning environment and classroom goal structure. In the classroom, how teachers create different goal structures through their use of various instructional, evaluation, and grouping strategies has been examined to further understand the influence on student motivation (Kaplan et al., 2002). According to this theory, the learning environment plays a significant role in determining the goals that students pursue (Anderman & Maehr, 1994; Kaplan et al., 2002; Kiefer, et al., 2012; Meece et al., 2006; Shim et al., 2013). Mastery goal environments emphasize developing and improving competence and are associated with adaptive patterns such as positive interpersonal relationships in the classroom (Nelson & DeBacker, 2008). Conversely, performance goal environments are more focused on proving or demonstrating competence relative to others and is associated with several negative academic outcomes or maladaptive patterns (Dweck, 1986; Dweck & Legget, 1988; Lau & Nei, 2008).
In order to gain a greater understanding of how the learning environment was related to individual motivation, Ames (1992) identified several key instructional practices that are associated with a mastery or performance environment in the classroom. Ames used the TARGET system to focus on key dimensions contained within instructional practices of a particular classroom. TARGET is an acronym that consists of:

(T) The tasks dimension including the variety, challenge, and interest level of learning activities;

(A) The authority dimension including students' opportunity to take responsibility for learning, make decisions and assume a leadership role;

(R) The recognition dimension interprets whether incentives and rewards are based on effort, improvement, and accomplishment;

(G) The grouping dimension focuses on understanding group structures that promote peer collaboration and cooperation;

(E) The evaluation dimension seeks to create evaluation systems that are varied, private, looking for progress, improvement, and mastery;


Researchers have used the TARGET system to create student perceptions of goal structures in their classroom.

This research was followed by the creation of Patterns of Adaptive Learning Scales (PALS), which has been widely used to assess students' perceptions of classroom goal structures as well as personal goal orientations (Midgley et al., 1998). It has been
shown that students' perceptions of classroom goal structures are predictive of the types of personal goals students adopt in the classroom (Meece et al, 2006). There appears to be a convergence of evidence supporting the idea of the adaptive role of mastery goal structures in the classroom (Kaplan et al, 2002; Lau & Nie, 2008; Ryan, Pintrich, & Midgley, 2001; Shim et al., 2013).

There is an identified cycle where classroom environment influences students’ beliefs about themselves and their schoolwork, and these beliefs influence the nature and extent of their engagement in academic tasks (Meece et al., 2006; Patrick et al., 2007). From this research it can be extrapolated that students’ perception of the social climate during outdoor courses are likely to shape their experience and relate to each individuals’ social motivation. Similar to themes that emerge in a mastery focused classroom environment, if the goal structure of an outdoor course is focused on working together towards common goals as opposed to competing within a group, a social climate that promotes adaptive forms of social motivation seems more likely to occur. However, research from this perspective has been limited to school settings. This study used the theoretical connection of motivation to learning environment in the setting of outdoor adventure education courses.

I attempted to introduce achievement goal concepts and tools to the study of outdoor programs in early pilot studies. In summer 2010, the achievement goal measure of motivational climates, Patterns of Adaptive Learning Scales (PALS) Classroom Goal Structure (Midgley et al., 1998) instrument was slightly adapted for outdoor trips and used to examine dimensions of the immediate setting that might affect social goals (See Appendix F for the related section of the PALS instrument). Due to low reliability in
pilot testing, PALS was deemed to be a poor fit with the specific nature of outdoor adventure education programs. For example, items more suited to a classroom such as, "In our class (changed to course), getting good grades is the main goal” and “In our class (changed to course), it’s important to get high scores on test” (Midgley et al., 1998 p. 19) were hard to parse in the context of a wilderness group. As a measure of 'setting,' therefore, it was replaced with the Group Environment Scale (GES) (Moos, 2002) in the second phase of pilot research and this dissertation study. Pilot research found it to better fit with the nature of the social climate created on outdoor trips, whereas PALS is more suited to formal classrooms. While the measures of social climate do not specifically relate to the goal orientations of individuals, the information will help decipher individual perceptions of environmental cues within groups during these experiences that may be facilitating or hindering adoption of more adaptive goals.

**Outdoor Adventure Education**

An idealized picture of outdoor education courses has long been that of a small team of teenagers trying to complete a compelling task in the natural environment such as the prototypical group backpacking through the mountains portrayed in Chapter 1 (Katz & Kolb, 1968; Miner & Boldt, 1981; Walsh and Golins, 1976). Such experiences are typically structured so individuals need to work together to succeed in the face of an uncertain outcome often under adverse conditions. Through the entirety of the experience, inter- and intra-personal relationships are emphasized and developed – a sense of ‘crew’ to use Outward Bound language - structured both by the challenge inherent in the activity and by the actions of the leader who not only trains participants to
complete tasks, but often orchestrates the social environment as an “engineer” (Walsh & Golins, 1976). This characterization of outdoor adventure education courses provides an idealized, yet working picture from which the following discussion of historical practices and future possibilities will build.

**Historical Perspective**

Educational movements evolve in response to concerns of youth and society, and outdoor education is no different. From concerns over social declines in the working class of the late Victorian Era, combined with the then-newly established social value of recreational risk taking, informal outdoor education emerged in the early 20th century (Ewert, 1989). This era was partially driven by ‘moral panic’ towards youth declines, coupled with concern for the fitness of the British army; in this context key educational figures established the value of outdoor experiences to build character and fitness that would cure the ills of youth (Loynes, 2008). In addition, the harsh material and social conditions for youth during the 1890’s set the tone for youth-focused reforms in the early 20th century. As social issues and related needs were identified in youth, new organizations were created to serve the young in areas that schools were lacking (James, 1993).

Currently, American societal needs that are not being met by public institutions such as schools are supplemented through various other means. The trend of schools moving away from building the individual and focusing purely on academics, supports a larger societal theme of “associationism” which educational historian Thomas James describes as, “the use of private forms of association to meet the needs of public policy” (James, 1993, p. 186). James elaborates on the usefulness of this modern idea as a
historical concept of private interests claiming to represent the public good on behalf of the young by explaining that, "disparate groups can act independently to achieve aims that coalesce in a policy vision, one that reinforces the tacit rules and assumptions that shape youth-serving organizations and set terms for their survival in the various organizational fields where they operate" (James, 1993, p. 186). In the case of youth needs not being met by schools, various types of youth serving organizations have emerged to impact their lives in a positive manner. That is, alongside 'formal' educational institutions – i.e. schools – a 'nonformal' sector has emerged to round out the skill, personality, and social developmental needs of youth, which schools are often unable to address. The recent focus on '21st century skills' is an example of the kinds of call for programs serving these domains.

Amidst the growth of youth serving organizations and perceptions that industrialization and urbanization had removed most Americans from their intimate connection to the land, utilizing the outdoors and specifically adventure for educational purposes took hold. This sentiment of 'decline' was fueled by rural nostalgia as well as concerns about eroding national character. Boy scouting exemplifies the kind of programs that capture this sentiment. During the late 1800's there was a comingling of radical and conservative approaches to this new strand of education through which the scouting movement emerged as the prototypical, youth-focused 'outdoor education' organization. Scouting was strongly influenced by nineteenth century public school values of honor, loyalty, and duty, with an emphasis on activity and games as meaningful entities and defining a good citizen as one that is both self-reliant and unselfish (Loynes, 2008). Moreover, Ernest Thompson Seton is credited with starting the woodcraft
movement, a field that drew philosophical ideas from the Native American idea of living in harmony with nature yet embracing the idea of boyish savagery. Seton influenced Robert Baden-Powell in his creation of the Boy Scout Movement with his first experimental camp in 1907. As the scouts began to grow, the Woodcraft movement dominated until the militaristic shift that occurred with World War One (Loynes, 2008).

While scouting was still in the foreground, Life Camps of the 1930’s and 40’s set the stage for outdoor education to grow as a specific youth focused setting in America. Public education is also part of this historical context, as institutions emerged amidst the transition from traditional and agrarian communities to an industrial society (James, 1993). During this progression many in the Progressive Education movement had stressed the need for public education to connect children with nature (Donaldson & Goering, 1972). Schools and other youth serving organizations were connecting education and the outdoors each with “common goals and in complimentary ways to save the young” (James, 1993, p. 182).

Even though some schools such as the Gunnery took children outdoors as a routine part of their educational program as early as 1823 (Raiola & O'Keefe, 1999) it was the philosophical and practical work of mid-20th century figures such as L.B. Sharp – the patriarch of the progressive camping movement - that institutionalized outdoor education as a form of personal growth in a group (Quay & Seaman, 2013). This progressive history set the stage for organized adventure programs, along with several elements including a long-running dissatisfaction with traditional schooling, a new emphasis on the humanistic values of personal growth especially in elite boarding schools (where Outward Bound began), a fortuitous connection with the Peace Corps founding
set the stage for Outward Bound’s (OB) successful migration to the United States in the early 1960’s (Armstrong, 1990; Miner, 1990). Indeed, Colorado Outward Bound’s formation is often referred to as the beginning of modern outdoor adventure education in America (Ewert, 1989; Raiola & O'Keefe, 1999).

Outward Bound USA was an American adaptation not just of existing forms of outdoor education in the U.S., but of a project created by German educator Kurt Hahn. Born in 1886, Hahn fled Germany in fear of persecution in the early 1930’s when he used his school’s name and standing to challenge Hitler (Richards, 1999). Hahn had a vision for learning through adventure and service, which focused on adolescent character development and most often took place in boarding schools. Like many of his predecessors, he viewed youth as having several deficiencies that this particular type of education could remedy more effectively than traditional education. Hahn identified these declines as:

- Decline in fitness due to modern methods of locomotion,
- Decline of initiative and enterprise due to the widespread disease of spectatoritis,
- Decline of memory and imagination due to the confused restlessness of modern life,
- Decline of skill and care due to the weakened tradition of craftsmanship,
- Decline of self-discipline due to the ever-present availability of stimulants and tranquilizers, and
- Decline of compassion due to the unseemly haste with which modern life is conducted.
While this list of Hahn’s declines could read like a list of contemporary societal issues, his sermons and writings on these issues in the early 1930’s enabled him to enlist many prominent benefactors. At the same time as Progressives worked toward reforms in the US, Hahn sought to address each of the identified declines through activities meant to foster compassion and a personal commitment to benefitting society, specifically through self-improvement via testing oneself through adventure and acts of service to community. He applied his strategies to schools that he created, including but not limited to OB. The focus of OB in Britain in the early 1940’s was character training and service with a distinctly militaristic stance, as was partially dictated by urgency of ongoing war at the time (Freeman, 2011).

After World War II, modern outdoor adventure education programs in the US are often said to have begun with Colorado Outward Bound (OB) in 1962, taken from England, stating the primary goal of character development. The founders embraced the Hahnian ideal of providing strenuous experiences to small groups with the goal of helping adolescents increase their initiative, self-confidence, understanding, and respect for others (Ewert, 1989). Essentially, OB in the US began by attempting to harness what Hahn described as “the moral equivalent of war,” an essay by philosopher William James that deeply moved Hahn (Hahn, 1966). By providing challenging experiences, Hahn felt that students would lose themselves in the common cause thus enabling each individual to discover and work towards becoming their best self, and developing lasting compassion and depth of character – qualities James argued arose during wartime.
Hahn’s aim was to achieve the character virtues of war but away from actual battle and in the service of peace.

By necessity within its wilderness-tripping model, OB USA adapted Hahn’s focus on rescue and service to the community, and took a far less militaristic tone, yet the core idea remained similar. Over time, especially with the conflation with humanistic values in the 1960’s (Katz & Kolb, 1968), OB has shifted toward emphasizing more individualistic and psychological outcomes, which is evident as language has changed from character development to leadership, personal growth, and self-discovery (Freeman, 2011; Vokey, 1987). At the same time and as a largely practical matter stemming from the use of wilderness trips, community service was arguably marginalized in the design of OB courses, leaving compassion to be cultivated exclusively within the ‘patrol’ or the small local peer group.

From Outward Bound emerged the National Outdoor Leadership School (NOLS) and the Wilderness Education Association, along with many other new programs that successfully began to operate, albeit with slightly different emphases (Raiola & O’Keefe, 1999). Nonetheless, a consistent feature of wilderness programs for youth remained the emphasis on a small peer group; the peer group, in other words, became the main ‘contextual factor’ for personal and social growth in outdoor programs. This is a fundamental shift in the activity as far as the promotion of compassion is concerned; Hahn’s schools engaged students in maritime and mountain rescue work along with service to, for example, elderly citizens (Veevers & Allison, 2011). Hahn’s students would have developed compassion through considerable contact with and in service to outside institutions and adults. Now, the means for fostering compassion was limited
exclusively to an insular group of teenage participants being led by one or two slightly older adults in a remote wilderness setting. While camaraderie likely always played a part in the life of Hahn’s ‘patrols,’ other elements of Hahnian outdoor education could do the work of engendering compassion as a virtue – chiefly some act of service to persons outside the group. Now, however, peer social relations on wilderness courses were of prime importance, as they had to carry the full weight of achieving the cardinal outcome: a sense of compassion towards one’s fellows.

When Walsh and Golins created the Outward Bound model in 1976, their prototype was a wilderness expedition comprised of a group of youth participants. They identified seven key elements of an adventure experience focusing on the learner, learning environment, and the group. Naturally, one of the key elements was the unique social environment co-created by the participants and the program leaders. As stated earlier, this was partly a function of the wilderness expedition model, but the Walsh & Golins Model (1976) codified and contributed significantly to the enduring emphasis on ‘the group.’ The small group as a medium *par excellence* for the promotion of compassion was, therefore, as much a historical inevitability as Outward Bound migrated to the U.S., as it was an ideal component of educational design, as Walsh and Golins professed.

**Important Outcomes in Outdoor Adventure Education’s Recent History**

In this section, I review some of what researchers in the field of outdoor education have thought to be important outcomes. This is done to demonstrate issues and successes with outcomes that have historically been pursued. Below are the more popular as well
as emerging outcomes from recent research, including self-esteem, self-efficacy, life
effectiveness, positive youth development, group cohesion, social skills, and achievement
goal theory. I review this literature not only to situate the present study in it, but also to
justify the focus on social development goals in comparison to other alternatives.

With the expansion of programs and increasing interest from policymakers and
the public came the need to explain the value and societal worth of outdoor trips (Hattie
et al., 1997). Soon after Walsh and Golins’ unpublished essay came an early and still
largely unmatched large-scale study of experiential education by Conrad and Hedin
(1981), which identified specific characteristics of participant’s experience (i.e.
relationship with adults, autonomy, challenge, etc.) that contributed more to
developmental benefits than program characteristics and student characteristics combined
(Conrad & Hedin, 1981). They noted and emphasized that developing social relations
with others greatly influenced personal and social development. Subsequent studies have
largely taken the effect of ‘the group’ for granted but have documented outcomes such as
enhancement of self-concept, leadership, academic, interpersonal gains, personality, and
adventuresomeness (Hattie et al., 1997). Program characteristics such as the physical
environment, activities, processing, the group, instructors, and the participant are also
known to lead to how outcomes are achieved (McKenzie, 2000). What is more complex
and more difficult to find agreement on is what the appropriate outcome(s) in the social
domain are and how they are best reached and quantified.

Self-Esteem

Research on self-esteem helped OB grow and become successful in their early
years. During the 1970’s and 1980’s low self-esteem was believed to be, “at the root of
individual and thus societal problems and dysfunction” (Baumeister, Campbell, Krueger, & Vohs, 2003, p. 3). Much early outdoor adventure education research was devoted to proving these experiences increased self-esteem (Cason & Gillis, 1994) with the logic that if outdoor adventure education increased this all-important trait, it would help the growing field of outdoor education gain widespread acceptance of and greater desire for outdoor adventure. However, increases in self-esteem were confounded by what gains in these areas actually mean to individual development. Early research in outdoor adventure education shifted in a psychological direction with a focus on proving that changes in self-esteem occurred on courses. While many still believe in the inherent value of self-esteem, Baumeister et al. (2003), compiled empirical evidence disputing many claims about the positive value of self-esteem and established that high self-esteem does not prevent undesirable outcomes. Research demonstrated that there is a strong relationship between high self-esteem and happiness, yet showed little or no correlation between high self-esteem and school performance, and demonstrated higher rates of cheating and bullying. Additionally, higher self-esteem did not prevent students from engaging in high-risk activities such as drinking, taking drugs or engaging in early sex (Baumeister et al., 2003). Therefore, the value of “self” areas as outcomes remains questionable, with domain specific self-efficacy forwarded as the most promising.

**Self-Efficacy**

A large amount of research in outdoor adventure education has sought to demonstrate benefits to individual self-efficacy and self-esteem gained through outdoor experiences. The theory of self-efficacy refers the beliefs individuals hold about their ability to act in specific situations or perform certain tasks of varying difficulty (Bandura,
Shooter (2007) explains how this feeling of self-efficacy helps students feel empowered and can increase their willingness to attempt new skills or attempt challenging tasks. He explains how belief that one can succeed can influence action by creating a willingness to exert effort (Shooter, 2007). Several previous studies support the idea that outdoor adventure education experiences increase domain specific self-efficacy (Ferguson & Jones, 2001; Jones & Hinton, 2007; Kelley & Coursey, 1997; Paxton & McAvoy, 1998; Propst & Koesler, 1998). However, none of these studies have successfully demonstrated that this domain specific self-efficacy has transferred to other areas of life and been advantageous. Theoretically, the concept makes sense and appears to occur during outdoor adventure education courses, but its viability and importance as a dependent variable is questionable.

Life-Effectiveness

As outdoor adventure education has evolved, many people have sought to explain how and why what is done in the outdoors helps individuals succeed in modern society. Neill (1999) attempted to create a meaningful new research outcome: life effectiveness. The Life Effectiveness Questionnaire (LEQ) attempts to examine the following constructs: Achievement Motivation, Active Initiative, Emotional Control, Intellectual Flexibility, Locus of Control, Self-confidence, Social Competence, Task Leadership, and Time Management (Neill, 1999). Like all outdoor education research, Neill's was constrained by needing to keep the instrument brief, so that it could be administered in the field. The result is a construct that measures an important variety of things, but that does not have strong internal validity because it does not do a thorough job representing any of these constructs. While the ability to discuss the increased the life effectiveness
of participants does make a compelling outcome measure and marketing tool, substantively, LEQ does not effectively measure changes from pre to post course changes in participants who begin with moderate to high amounts of life effectiveness (Sammet, 2011). This is because the LEQ items are easily endorsed by respondents prior to engaging in outdoor adventure education courses, leading to minimal changes from pre to post test and extremely high scores for posttest only research. Additionally, Item Response Modeling (IRM) demonstrated that LEQ items “do not contribute to any meaningful interpretation of the life effectiveness construct” (Sammet, 2011, p. 19).

**Positive Youth Development**

Historically, as I described above, outdoor adventure educators have attempted to address perceived problems with youth by confronting the deficits society sees as prevalent, which are not being satisfactorily addressed by the mainstream educational systems (Loynes, 2008). However, the traditional deficit model of youth and the programmatic goal of preventing problems is not enough to prepare youth for adulthood, therefore, the promotion of conditions that contribute to youth health and well being are the core of the movement to promote positive youth development (PYD) (Benson, 2006). Scholars believe that young people need meaningful positive experiences to develop successfully into adulthood (Small & Memmo, 2004). As Pittman et al. write, “prevention is an important but inadequate goal... problem-free is not fully prepared” (Pittman et al., 2003, p. 6).

PYD focuses on each individual’s unique talents, strengths, interests, and future potential to learn and thrive (Damon, 2004). It has been argued that the PYD perspective is applicable to outdoor education, particularly the social outcomes derived on outdoor
trips (Sibthorp, 2010). In a recent qualitative, descriptive case study, through the perspective of PYD, Sammet (2010) used a phenomenological approach to examine issues in relationships that arose during a two-week expedition and investigated how the participants made meaning of those experiences. The results revealed the importance of relationships on individual experiences and that aggression negatively affected students' overall experiences. Students who embraced interventions into these relational aggressions reported feeling more trusting relationships and were more optimistic about making new friends. Sammet concludes that a core part of the adventure experience is focused on relationships, and therefore socially-related assets can likely be achieved through outdoor adventure education experiences (Sammet, 2010).

In further research on outdoor adventure experiences through a PYD perspective, Smith, Steel, and Gidlow (2010) provide a first hand narrative account of an adolescent group (age 14-15) of students' experience of community in a school-based outdoor education program in New Zealand. In an interesting research design, researchers distributed 27-exposure disposable cameras students and asked them to take pictures to show what camp was like for them. Two weeks after the students' return from camp, in-depth interviews began using photo-elicitation technique. The narratives revealed that this school camp experience was primarily an enjoyable, social experience and gave students' opportunities to explore peer interactions in a different context than school, often resulting in different relationship dynamics which fostered inclusivity and a disruption from their normal patterns of life (Smith et al., 2010).

The authors' primary conclusion was that school camps such as this create a unique social environment for developing friendships. Looking at this program through
the lens of PYD, the authors sought to understand what opportunities or assets the participants felt they gained through participation in this outdoor education program. This study concluded that the social assets and friendships gained through these experiences are different than what is realized in the context of school and home life.

In this review of contemporary outcomes in outdoor adventure education literature, PYD research appears as an emergent framework (Sibthorp, 2010) that supports the use of the social development construct in the present study to further understand outdoor trips.

**Group Cohesion, Community, and Belonging**

As previously stated, a primary focus of outdoor adventure education has long been the idea of creating positive group experiences (Breunig et al., 2008; Breunig, O’Connell, Anderson, Todd, Young, & Anderson, 2010; Mitten, 1999; Sutherland & Stroot, 2010), but only recently has the concept and emphasis on ‘the group’ become central to practice in experiential education, in particular adventure education, to the extent that ‘developing the group’ now often supersedes ‘reaching the summit’ as a main objective. This has resulted in the creation of a cohesive group becoming the focus of empirical inquiry, challenging outcome measures that stress individualistic variables. Recently, a prominent theme found repeatedly is the importance of relationships and group interactions when planning and conducting outdoor adventure education (Breunig et al., 2010; Goldenberg et al., 2010; Sammet, 2010; Sibthorp, 2003b; Sibthorp et al., 2007a).

The element of ‘the group’ has been operationalized in research in a number of ways to date: as sense of community (Breunig et al., 2008; Mitten, 1999; Smith et al.,
group cohesion (Breunig et al., 2008; Glass & Benshoff, 2002), belongingness (Anderman & Freeman, 2004; Baumeister & Leary, 1995), communitas (Sharpe, 2005), and interpersonal relationships (Sammet, 2010; Sibthorp, 2003b). Research supports the idea that sense of community is positively related to trip duration and balanced leadership styles (Todd et al., 2008; Todd, Young, O’Connell, Anderson, Anderson, & Breunig, 2007) and that group cohesion plays significant roles in individual perceptions of development (Sibthorp et al., 2007a) as well as contributing to broader social goals such as social integration and equality (Sharpe, 2005).

Understanding group cohesion on extended wilderness experiences and how the varying aspects of social climate relate to group cohesion and changes in social achievement goals could help increase understanding of what is occurring in during these small group adventure experiences. While the concept of group cohesion and community in this setting has been explored in several different ways, the hardship participants potentially endure during extended wilderness courses currently has very little research.

Social Skills

Social skills have been shown to be a fundamental asset in adolescent development and are essential in the educational process (Benson, 2002; Benson, 2006; Eccles & Gootman, 2002). Some believe emotional and social development is the main goal of outdoor adventure education programs is the fostering of both emotional and social development (Sutherland & Stroot, 2010). Camp research done in the summers of 2006 and 2007 found a somewhat positive, but short-term impact on interpersonal social skill development of its participants (Shirilla, 2009; Shirilla & Gass, 2008). This type of
research becomes particularly interesting in light of recent findings about long-term transfer of learning to other contexts. Sibthorp et al. (2003b) engaged in a qualitative program evaluation of adolescents to determine what was learned, how students learned on outdoor trips, and what type of learning was most likely transferred to their home environment. The conclusion states that outdoor adventure education should move beyond global measures such as self-esteem and to look to more targeted outcomes consistent with course goals and likely to be transferred, such as leadership, tolerance, and social skills (Sibthorp, 2003b). Following up, researchers interviewed a sample of 41 NOLS alumni from 1, 5, and/or 10 years after their courses in order to help them generate a list of what was learned on course. The primary finding was that NOLS was considered highly effective in developing outdoor skills, the ability to get along with different types of people, the ability to serve in a leadership role, and a personal perspective on how life can be simpler (Sibthorp, Paisley, Furman, & Gookin, 2008). Currently, this concept is difficult to quantifiy in a meaningful way.

**Achievement Goal Theory**

In reference to achievement goal theory, very little has been investigated in outdoor education. One study related to achievement goal theory investigated Australian sailing training for adolescents was financed by the Department of Education and published in *The Australian Journal of Psychology*, concluded that if goal setting is built into programs, participant efficacy is enhanced (Crane, Hattie, & Houghton, 1997). The application of achievement goal theory in outdoor education is lacking research. However, the need for greater understanding of the social value in outdoor adventure education has been noted (Sibthorp, 2003b; Walsh & Golins, 1976).
Adversity

In a previous study (Breunig et al., 2008) some of these elements of adversity were similarly utilized as predictors and findings suggested they contributed to a sense of community. Breunig et al. (2008) reported increasing group cohesion and sense of community as related to adverse weather and physical difficulty, as well as being connected to food. Essentially, they stated that having to focus on fundamental human needs such as food, shelter, and travel as a shared purpose lends itself to the development of sense of community and group cohesion.

Decision to Participate

The influence of autonomous decision making in deciding to attend outdoor courses is currently limited. However, previous research on adolescent involvement in Singapore Outward Bound demonstrated that intrinsic motivation positively predicted course satisfaction while external regulation negatively predicted course satisfaction (Wang, Ang, Teo-Koh, & Kahlid, 2004). Due to the limited research on this area, this study sought to substantiate and establish a deeper understanding of the hypothesized relationships of if a student decides themselves to attend this sort of program or if their parents/guardian make the decision for them.

Sub-Group Differences

Outdoor adventure education research has shown that younger students involved in outdoor courses have greater developmental gains. However, younger students' larger gains are generally explained by the fact that they often have lower initial scores in areas related to leadership, communication, and small group behaviors, which all tend to evolve during these small group experiences (Sibthorp et al., 2007a).
Females also often show larger developmental gains than males (McKenzie, 2003), but this is not always the case (Sibthorp et al., 2007), and the longer the duration of the experience the greater the learning and growth in participants (Cason & Gillis, 1994; Hattie et al., 1997). Interestingly, within my 2010 pilot study sample, female students had a significantly higher perception of having social development goals while the opposite is true about social demonstration-approach goals. Additionally, females had a higher perception of their prosocial behaviors than their male counterparts. According to this framework, these findings suggest that adolescent females are motivated to form meaningful relationships with those around them while adolescent males are more motivated to demonstrate their skills and show others what they can do.

In the academic domain, a body of research has shown that during the transition from middle to high school there is a decrease in students’ achievement motivation and an increase in the perception of a less positive classroom climate, with a distinct shift towards a performance or competitively focused classroom (Anderman et al., 1999; Nelson & DeBacker, 2008). In terms of gender, historically gendered subjects such as boys having higher achievement at math and girls in the verbal realm appears to be tied to how each gender confronts a more performance-focused environment (Dweck, 1986; Eccles & Gootman, 2002). However, it has also been demonstrated that feeling socially competent supports help seeking behavior in the academic domain (Ryan, et al., 2001). When combined with the idea that a sense of belonging leads to adaptive behaviors such as maintaining student motivation and engagement in academic activities (Goodenow, 1993) and that successful peer interaction at school has been associated with student engagement, cognitive strategies, problem solving, adjustment to school, academic
achievement, and self-regulation (Berndt & Keefe, 1995; Dimant & Bearison, 1991; Ryan & Patrick, 2001; Wentzel & Wigfield, 1998) the importance of social motivation is clear. As students reach adolescents' their need for social competence is extremely important and is often not being met in the classroom. While many claim outdoor education courses aid in this area of development, there is very little research to substantiate this claim.

Summary of research in outdoor education. In foregoing section, I reviewed research in outdoor education in order to highlight recent trends in outcomes. After reviewing self-esteem, self-efficacy, life effectiveness, positive youth development, group cohesion, adversity, decision to participate, social skills, achievement goal theory, and sub-group differences, the current study is clearly situated within other related research. In addition, this review of research also helps explain the logic for the focus on social development goals in comparison to other alternatives.

Summary of Pilot Study Results and Implications

Below, I review the logic and findings of pilot research that was used to refine constructs, determine appropriate measures and instruments, and explore questions about social growth on outdoor trips. These three studies combined to greatly inform this dissertation work. More complete reports on these pilot studies can be found in Appendix F and G.

Summer 2010

This study was created having identified a gap in outdoor adventure education research, where social aspects of the trips are identified as important and likely to
contribute to transferable outcomes (Sibthorp, 2003b), yet researchers have either neglected the domain entirely or have had apparent difficulty quantifying and measuring this concept in a meaningful way. This exploratory pilot study attempted to determine if social achievement goals could be meaningfully measured in the setting of outdoor adventure education, and if so, would different social achievement goals be differentially related to prosocial behaviors, perceptions of belonging, and/or loneliness? In addition, the research attempted to explore if social achievement goals were related to the learning environment.

With a sample of 231 adolescents ages 12-18, who completed 16-29 day multi-sport outdoor adventure education experiences, the relationship between social achievement goals and the social outcomes of prosocial behaviors, feeling of belongingness, and perceptions of loneliness were examined. The hypothesis that social development goals would relate positively to each of predictor was supported. The data indicate that a strong relationship may exist between social development goal orientation and the adaptive constructs of sense of belongingness to their group, prosocial behaviors, and not feeling lonely. These results are consistent with Ryan and Shim’s foundational research on which the study was based (2006, 2008).

This 2010 study did not adequately attend to questions about how the social environment on outdoor adventure courses relates to social achievement goals or other related constructs.

**Spring 2011**

Building from the 2010 study, this second study sought to more deeply investigate the social climate of outdoor adventure education experiences. Questionnaires were
collected from 72 students, ages 14-19, before and after completing 5-day field courses run by a private boarding high school in New England. After the collection and initial analysis of data, the sample was stratified to obtain confirming and disconfirming cases of perception of group cohesion, a theoretically important predictor. I found the mean score and standard deviation in terms of cohesion, then selected and interviewed 4 individuals who rated cohesion one standard deviation above the mean and 2 individuals who rated cohesion one standard deviation below the mean; striving for diversity of age, gender and race in our selection of interviewees.

Interviews were used after initial analysis of the surveys in order to enhance our understanding by looking at the experience of participants openly and in participants' own words. The primary researcher analyzed transcripts to identify sections relevant to the research questions. 123 meaningful quotations were pulled from the transcripts of twelve interviews with the six interviewees. On average, over 20 segments of responses from each individual were analyzed. The selected sections were then reread and coded to find emerging themes; resulting in 7 primary themes. The second researcher also reviewed segments identifying stated themes and the two met to resolve discrepancies in themes and collaborated to clarify codes. A final coding was done and an inter-rater reliability of 93% was found. The unresolved quotations were discarded, leaving 115 quotations remaining for the analysis.

From the combination of information gathered through the quantitative data followed by analysis of interviews, it was determined that the most influential and meaningful subscales of the GES are cohesion, leader support, independence, task orientation, order and organization, and leader control (Table 1). The GES subscales
listed in Table 1 have become the subcategories of the GES utilized in Summer 2011 research. These variables will be analyzed with reference to Ryan and Shim’s (2006) social achievement goals to better understand the relationship between specific aspects of the social climate and changes in social goal orientation of participants.

Table 1

<table>
<thead>
<tr>
<th>Group Environment Scales utilized for current research on Social Climate</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Relationship Dimension</strong></td>
</tr>
<tr>
<td><strong>Cohesion:</strong> The members’ involvement in and commitment to the group and concern for friendship they show for one another</td>
</tr>
<tr>
<td><strong>Leader Support:</strong> The amount of help, concern, and friendship the leader shows for the members</td>
</tr>
<tr>
<td><strong>Personal Growth Dimension</strong></td>
</tr>
<tr>
<td><strong>Independence:</strong> How much the group encourages independent action and expression among members</td>
</tr>
<tr>
<td><strong>Task Orientation:</strong> The emphasis on completing concrete, practical tasks and on decision making and training</td>
</tr>
<tr>
<td><strong>System Maintenance and Change Dimension</strong></td>
</tr>
<tr>
<td><strong>Order and Organization:</strong> The formality and structure of the group and the explicitness of rules and sanctions</td>
</tr>
<tr>
<td><strong>Leader Control:</strong> The extent to which the leader directs the group, makes decisions, and enforces rules</td>
</tr>
</tbody>
</table>

(Definitions taken from Moos, 2002)

The results from this study indicate that participants moving in the direction of an adaptive social achievement goal orientation is related to being in the outdoors in general, but enhanced by instructor support including facilitation of games and fun activities as well as structured and organized tasks, which the group must work toward accomplishing. During unstructured time, cliques appeared to form and maladaptive group behaviors often began to surface, according to interviews.

Pilot research suggests that the essence of student’s positive group experience was about the interpersonal relationships within the group, with instructors playing a vital role in how participants experience the group. A lack of instructor support, order and
organization, or task orientation may result in low group cohesion. The manner in which instructors modeled behaviors and facilitated the group greatly influenced the student experience. Those interviewed felt their instructors played a meaningful role in the way the group functioned and the social climate of the trip, and therefore group cohesion. This points to an understated idea in outdoor adventure education, that of the instructor as “social engineer”. During trips that have high group cohesion, the role of instructor goes far beyond keeping youth safe and extends into the social domain through careful and intentional groupings, facilitated games, and promoting a generally supportive atmosphere.

**Summer 2011**

This study was used to pilot the revised instruments to be utilized for the summer 2012 dissertation research. The participants were 324 youth, ages 12-18, participating in 16-29 day multi-sport adventure experiences run by Adventure Treks, a commercial provider of adventure programs, during the summer of 2011. Eighty-six of those individuals completed pre and posttests, which explored social motivation, while the other 238 participated in the posttest only, addressing the social climate of their trip. The difference in the number of pre and posttest responses was due to the timing and method of administration of the pretest.

**Exploratory factor analysis.** For social achievement goals, exploratory factor analysis was performed using the Principal Axis Extraction Method and Varimax Rotation. The method of extraction was principal axis factoring. Using the criteria of eigenvalues greater than 1, all 3 factors were retained, but several items were eliminated; Table 2 shows all remaining items for the pre and posttests with their factor loadings.
### Table 2

**Factor Loadings for Social Achievement Goals**

<table>
<thead>
<tr>
<th>Item</th>
<th>Social Development</th>
<th>Social Demonstration</th>
<th>Social Demonstration</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre</td>
<td>Post</td>
<td>Pre</td>
</tr>
<tr>
<td>I try to figure out what makes a good friend.</td>
<td>.76</td>
<td>.67</td>
<td></td>
</tr>
<tr>
<td>It is important to me to learn more about other kids and what they are like.</td>
<td>.60</td>
<td>.56</td>
<td></td>
</tr>
<tr>
<td>In general, I try to develop my social skills.</td>
<td>.59</td>
<td>.73</td>
<td></td>
</tr>
<tr>
<td>I feel successful when I learn something new about how to get along with friends.</td>
<td>.57</td>
<td>.60</td>
<td></td>
</tr>
<tr>
<td>It is important to me that other kids think I am popular.</td>
<td></td>
<td></td>
<td>.82</td>
</tr>
<tr>
<td>It is important to me to have “cool” friends.</td>
<td>.74</td>
<td>.67</td>
<td></td>
</tr>
<tr>
<td>I want to be friends with the “popular” kids.</td>
<td>.64</td>
<td>.60</td>
<td></td>
</tr>
<tr>
<td>My goal is to show other kids how much everyone likes me.</td>
<td>.53</td>
<td>.64</td>
<td></td>
</tr>
<tr>
<td>It is important to me to be seen as having a lot of friends.</td>
<td>.52</td>
<td>.69</td>
<td></td>
</tr>
<tr>
<td>I try not to do anything that might make other kids tease me.</td>
<td></td>
<td></td>
<td>.82</td>
</tr>
<tr>
<td>I try to avoid doing things that make me look foolish to other kids.</td>
<td></td>
<td></td>
<td>.63</td>
</tr>
<tr>
<td>When I am around other kids, I don’t want to be made fun of.</td>
<td></td>
<td></td>
<td>.55</td>
</tr>
<tr>
<td>It is important to me that I don’t embarrass myself around my friends.</td>
<td></td>
<td></td>
<td>.50</td>
</tr>
<tr>
<td>Cronbach’s alpha</td>
<td>.72</td>
<td>.74</td>
<td>.79</td>
</tr>
</tbody>
</table>


There were several significant relationships between aspects of the social climate in this sample. There are significant correlations (Table 3) with leader support, independence, task orientation, order and organization (p < .01) and change in social development (p < .05). Interestingly, leader control has only leader support for a significant relationship (p < .05), while leader support is significantly related to independence (p < .05), task orientation (p < .01), and order and organization (p < .05), in addition to leader control (p < .05).
Table 3

Pilot Study 2 Mean, Standard Deviation, and Correlations (n=86)

<table>
<thead>
<tr>
<th>Measure</th>
<th>Mean</th>
<th>SD</th>
<th>1.</th>
<th>2.</th>
<th>3.</th>
<th>4.</th>
<th>5.</th>
<th>6.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Cohesion</td>
<td>56.87</td>
<td>5.11</td>
<td>.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Leader Support</td>
<td>58.76</td>
<td>3.79</td>
<td>.447</td>
<td>**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Independence</td>
<td>52.45</td>
<td>7.27</td>
<td>.401</td>
<td>**</td>
<td>.222</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Task Orientation</td>
<td>57.12</td>
<td>7.32</td>
<td>.540</td>
<td>**</td>
<td>.372</td>
<td>.354</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Order and Organization</td>
<td>57.02</td>
<td>7.29</td>
<td>.374</td>
<td>**</td>
<td>.264</td>
<td>.360</td>
<td>.290</td>
<td></td>
</tr>
<tr>
<td>6. Leader Control</td>
<td>58.24</td>
<td>7.25</td>
<td>.009</td>
<td></td>
<td>.232</td>
<td>-.082</td>
<td>-.130</td>
<td>.099</td>
</tr>
<tr>
<td>7. Change in Social Development</td>
<td>.21</td>
<td>.76</td>
<td>.223*</td>
<td>.028</td>
<td>.155</td>
<td>.250*</td>
<td>.044</td>
<td>.106</td>
</tr>
</tbody>
</table>

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).

In investigations of how aspects of the social climate relate to changes in social development, only cohesion and task orientation were significantly related to changes in social achievement goals (p < .05).

Using ordinary least-squares regression, change in social development was regressed on each subcategory of the social climate. Supporting predictions, higher perceptions of group cohesion predicted changes in social development goal orientation, \( \beta = .22, t(84) = 2.01, p < .05 \). However, group cohesion only explained a small portion of the variance in changes in social development, \( R^2 = .05, F(1, 84) = 4.40, p < .05 \). Additionally, higher perceptions of task orientation predicted changes in social development goal orientation, \( \beta = .25, t(84) = 2.36, p < .05 \). However, task orientation also only explained a small portion of the variance in changes in social development, \( R^2 = .06, F(1, 84) = 5.58, p < .05 \).
**Discussion and conclusion.** In this study, social motivation is utilized as an indicator of adaptive behaviors and group cohesion and is hypothesized to be an important predictor. It appears that having individuals with a change in social development goal orientation is related their perception of cohesion and task orientation. Therefore, this analysis supports previous outdoor adventure education research in saying that a focus on group cohesion is important to students experience in a variety of ways (Breunig et al., 2008; Mitten, 1999; Sharpe, 2005; Todd et al., 2008) and adds empirical support to the theoretical idea that a focus on accomplishing tasks is important to programs (Walsh & Golins, 1976). While the quantitative measures used in this study seem appropriate for the setting of wilderness courses, changes in social development goals could be better analyzed looking at a larger sample with more groups, to focus on group level data.

The next chapter discusses the design for the present study, which sought to address these questions and issues. This dissertation work is unique in its interest in exploring how aspects of the individual, with preconceived expectations about the experience, interact with elements of the experience itself, and secondly, how several indicators of trip experience – some that are controllable and some that are not – uniquely and additively influence changes in social motivation as an outcome.
CHAPTER III

METHODS

Research Design

This quantitative, survey-based study examined how outdoor adventure education course expectations, characteristics, and social climate are related to individual and group level changes in social achievement goals of 251 students from 45 outdoor adventure education courses in the summer of 2012. Data was gathered through pre and posttests of adolescent (ages 14-20) participating in outdoor adventure education courses (14 – 30 days), as well as their instructor’s reports of trip characteristics during the summer of 2012. Analysis utilized multilevel modeling (MLM) to enable data from this study to be analyzed accurately by representing individuals (level 1) nested in their outdoor adventure education courses (level 2).

The level-1 data included a measure of students’ change score for social achievement goal orientations and their expectations and perceptions of cohesion as well as factors such as race, gender, and previous outdoor experience. The level-2 predictors were course duration, group mean age, as well as group-aggregated expectations for and perceptions of the social climate (i.e. cohesion, leader support, leader control, independence, task orientation, and order and organization) before as expectations and at the close of courses as perceptions. The focus of the analysis was on understanding the relationship between changes in social achievement goals and course characteristics, pre-
course expectations of the social climate, and perceived social climate during the course. Additionally, instructor reports of physical difficulty, weather, insect issues, food issues, and playfulness of the course was analyzed as course characteristics and viewed as level-2 predictors.

**Description and Rationale of Research Design**

After pilot testing, it was determined that understanding the group level data involved in understanding social climate and motivation in this setting could be extremely compelling. This necessitated finding a sample of courses that was large enough to model the relationship between group-level characteristics and student level outcomes. The National Outdoor Leadership School (NOLS) is the largest and most well-established adventure-based recreation program and generally considered an exemplary industry leader of outdoor adventure education in the United States (Sibthorp, et al., 2007). NOLS has educated over 200,000 students since its inception in 1965 with its mission to be the leading source and teacher of wilderness skills and leadership that serve people and the environment. According to the NOLS development office, in 2011 NOLS educated over 16,000 students. Their courses that involve youth (ages 14-20) vary from two-week backpacking trips, to 90-day wilderness semester program, as well as trips that focus on rafting or rock climbing, versus focused leadership courses. NOLS can, to some extent, be considered prototypical of high quality, extended wilderness courses operating in the United States, a characteristic that increases the possibility of generalizing findings to similar outdoor adventure education courses and also aiding in understanding the way
at least some of the elements of a setting shape youth experiences in organized nonformal activities.

In order to understand differences and the influence of the relationship between pre course perceptions of social climate and what was actually experienced, as well as individual changes in social achievement goal orientations, a pre and posttests were administered prior to the start and near the close of each course. Pretests were administered through Qualtrics survey software, with emails sent from NOLS Research to participants providing an email link to the pre course survey, one month prior to the start of a course. Follow up emails were sent each of the next two weeks and if necessary, a phone call reminders were made to participants five days prior to the start of their course, if individuals had not completed their pretest. There were five headlamps raffled off as incentive for students who participated in the pretest.

Posttests were administered near the close of NOLS courses. Pragmatic necessity of working with NOLS partially dictated the distribution and collection of data. NOLS has resupplies of food horse packed in to their courses, which are generally in remote wilderness locations. Packets including students' posttest and instructor questionnaires were horse packed in to courses with the final food re-ration for each course. The packet also included candy bars as a thank you gift to instructors for their participation and assistance. Instructor reports were completed near the close of the trip, while students were completing their course evaluations and surveys. At the close of their course, instructors passed along their completed packet to their course directors to give to NOLS research office.
Participants

This study investigated a large sample from a variety of NOLS courses, ranging from 14 - 30 days, taking place in the Rocky Mountains, Pacific Northwest, and Alaska. Participants range from age 14 to 20, and are part of NOLS courses during the summer of 2012. Data was collected and managed as per agreement with NOLS and the University of New Hampshire Institutional Review Board (see Appendix A).

Prior to their NOLS course, all selected summer 2012 NOLS students were sent a link with selected sections of the Group Environment Scale (GES) Expectations Form (Moos, 2002), and Ryan and Shim’s (2006) survey assessing social goal orientation prior to their course (Appendix C). At the close of courses, to better understand the context of the experience and potential changes in social achievement goals, participants were given the Real Form of the Group Environment Scale (GES) (Moos, 2002) with the social achievement goals survey (Appendix D) in addition to Instructor Reports of Course Characteristics (Appendix E).

Measures

Primary Outcome Variable

Social Achievement Goals were the primary outcome variable in this study. In order to create and refine a measure of social achievement goals that is appropriate for a broad range of participants, Ryan and Shim (2008) used information they had previously gathered with college age students combined with two additional studies involving younger students. This instrument was developed for the classroom and used with ages ranging from elementary to college age students. The first study (N=153 6th- grade
students) investigated the idea that different social orientations toward social competence are an important aspect of young adolescents’ social motivation using open-ended questions about social goals and social competence. The second study \((N=217\) 6th-grade students\) evaluated the new survey measure finding support for the hypothesized model of social achievement goals. The effects of social achievement goals were independent of perceived social competence and gender and supported the hypothesis that different social goals are associated with distinct patterns of self and teacher-reported social adjustment, such as social development goals being related to increased prosocial behavior, decreased aggressive behavior, and increased perceptions of positive qualities in close friendships. The resulting 18-item measurement scale has encouraging factor and reliability analysis indicating the three social achievement goals scales have good internal consistency and all factor loadings above .47 on their primary factor. All information about this instrument, taken together, indicates its usefulness for measuring this operationalization of social achievement goals in a variety of ages (Ryan & Shim, 2008).

This instrument was used for exploratory pilot testing in the outdoor adventure education trip setting in 2010 and twice in 2011. In 2010, the data demonstrated a strong relationship between social development goal orientation and the adaptive constructs of sense of belongingness, prosocial behaviors, and not feeling lonely. These results are in line with recent studies of social achievement goals in the classroom setting (Ryan & Shim, 2006, 2008) and help to substantiate the validity of the proposed study. Study 1 in 2011 included a mixed method design where interviews supported the quantitative results from this study indicating that participants moving in the direction of an adaptive social achievement goal orientation is related to being in the outdoors in general, but enhanced
by instructor support including facilitation of games and fun activities as well as structured and organized tasks, which the group must work toward accomplishing. Interviews led directly to connections between changes in social goal orientations and elements in the social climate. Study 2 used the refined social climate instrument to identify which aspects of the social climate relate to changes in social development, finding cohesion and task orientation significantly related to changes in social achievement goals (p < .05).

In the current study, for both pre and posttests, students responded to Ryan and Shim's (2008) 18-question survey assessing their social goal orientation prior to the course and near the end of the course. Questions were broken into three subcategories of goal orientations: social development, social demonstration-approach, and social demonstration-avoid. Change scores were calculated for each goal orientation for each individual as well as overall and then averages of individual scores were used to calculate the course level scores.

Table 2 contains retained questions, factor loadings, and Cronbach’s Alpha scores from the summer 2011 pilot study. The only change made to this instrument for the current study was to change the words “kid” to “student” in order to better reflect the preferred language at NOLS. All of the measurements from this section were assessed on a five point Likert-type scale with A relating to statements being not at all true and E relating to very true; for example:

It is important to me to learn more about other kids and what they are like.

A  B  C  D  E
not at all true  somewhat true  very true

For the quantitative purposes of this research, responses of A were given a score of one and responses of E were given a score of five.

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Primary Predictors

Social climate. The Group Environment Scale (GES) contains the primary predictors in this study. This survey instrument was designed to measure the relevant dimensions of the construct of the social climate of group settings. The GES was created through theoretical and empirical methods for the purpose of helping researchers discover why settings differ so greatly in the quality of relationships, different instructional strategies, and levels of organization and clarity (Moos, 2002). Moos and other researchers used the concept of social climate to create an empirically based perceptual measure grounded in Moos’s social or transactional ecological model (Moos, 2003; Salter & Junco, 2007), stressing the importance of the proximal contexts on individual behavior and the integration of psychological and contextual concepts to person-environment exchanges (Moos, 2003).

The end result was 90 true / false items making up the 10 scales of the GES, with versions to assess expectations prior to an experience, a posttest version to assess what actually occurred and an ideal version to assess what individuals would prefer. In order to standardize this instrument, Moos sampled 305 groups and more than 2,400 individuals and found internal consistencies ranging from .69 to .86 and a one-month retest reliability estimates ranging from .69 to .83. The groups involved with the initial sampling of GES included task oriented groups such as treatment teams in correction facilities; social recreation groups such as canoeing and backpacking groups; psychotherapy and supervision groups including both in and outpatient settings; and self-help and mutual support groups composed of mentally ill patients residing in the community (Moos, 2002).
Moos's decision to use a two-point response format (i.e. true / false) as opposed to three- four- or five-point scales was examined carefully. Prior to using this instrument, I was skeptical about the True / False format and contacted the primary author about my concerns. Dr. Moos explained and pointed to work demonstrating that several of the researchers' preliminary trials showed that a two-point response format gave as much information as multipoint formats while avoiding problems that arise from personal response styles, such as a preference for middle-of-the-road or deviant responses. In addition, researchers opted for a true / false format because they wanted to make the items as clear as possible for cognitively impaired individuals, who find it hard to answer more complex items or items with multipoint response formats.

Through pilot research (see Appendix F for complete report), the GES scales have been narrowed to 6 areas (cohesion, leaders support, independence, task orientation, order and organization, and leader control) and the related 54 questions deemed most relevant to an outdoor adventure setting (Table 1). Scores were tabulated for each construct from 0-9 with a low score indicating a deficit or lack of that characteristic in a setting (Moos, 2002). All aspects of the social climate were measured as individual predictors as well as aggregated to the group level.

This study used the "expectations form" prior to the course as well as the "real form" at or near the conclusion of the course. In order to make the GES language appropriate for NOLS courses, the word "group" was changed to "course", "member" was changed to "student", and "leader" was changed to "instructor." During the administration of this instrument's real form posttest, 10 of the 54 items were
accidentally left off the form by NOLS staff that were responsible for delivering it in the filed. These were eliminated from the pre and posttest for consistency.

**Course Characteristics.** For each course, there was an Instructor Report of Course Characteristics (Appendix E). To create this brief survey I solicited input from a panel of experts obtaining feedback on aspects of a course that outdoor professionals, graduate students, and professors felt affected the social climate, which could be objectively reported by instructors and contribute to the understanding of the social climate on a specific course. From that information, a basic questionnaire was created to supplement the data collected by students in order to create a more complete picture of the experience of the course.

Course characteristics that were determined to be most influential in the group experience included physical difficulty, rain / uncomfortable weather, food quality / quantity, insect issues, and level of fun / playfulness of the course, all measured with a 1-5 Likert type scale, as well as a question about how frequently games were played during each section of the course. In the final posttest leader report, the first 6 questions focus on physical difficulty, weather, food issues, and insect issues of the course. These areas / questions were grouped together and conceptualized to represent a general ‘adversity scale’ in order to analyze the relationship of adversity to group cohesion and changes in social development goal orientation. It was hypothesized that some adversity will have positive effects on a group, but that too much could undermine the social aspect of these experiences.

In addition to the quantified measurements of fun and adversity, additional open-ended questions were included but not utilized. Many of the instructors provided three
adjectives that best describe their students as a group and were left a small section to explain anything else they feel had a major impact on their course. These responses were not deemed valuable to this study and were therefore disregarded.

Control Variables. The pretest compiled basic demographic information such as gender, age, ethnicity, and previous NOLS courses. Additionally, the duration of the experience was included through the identification of the course each participant was part of.

Timeline and Data Collection

Early NOLS courses began on May 22, 2012. Therefore, pretests for those groups were sent out via email on April 22, 2012. Early courses served an additional purpose as a test of distribution and collection systems involved with this research project, due to the anticipated challenges that could arise through complicated field-based data collection procedures as well as the researcher being off-site. Post course surveys were returned to NOLS research department throughout the summer season, with courses ending on August 25, 2012. Data was entered and analyzed during the fall of 2012, and analysis occurred during the winter and spring of 2013.

Pretests were administered through Qualtrics with emails sent from NOLS Research to participants providing an email link to the pre course survey, one month prior to the start of a course. Follow up emails were sent the next two weeks and if necessary, a phone call reminders were made to participants five days prior to the start of their course, if they had not completed their pretest. There were five headlamps raffled off as incentive for students to participate in the pretest. Posttests were administered at the close
of NOLS courses. They were packed in courses with their final re-ration. The packet included candy bars as a thank you gift to instructors. Pragmatic necessity of working with NOLS partially dictated the distribution and collection of data. Instructor reports were completed at the close of the trip, while students were completing their course evaluations and surveys. Program Supervisors compiled the packet of surveys and questionnaires and returned them to NOLS Research, who then passed them along to the primary researcher for data entry and analysis.

Data Analysis

Analysis of all data began with exploratory and descriptive analyses and then proceeded to fitting appropriate multilevel models. Multilevel modeling (MLM) enabled data from this study to be analyzed accurately by representing individuals (level 1) nested in groups (level 2). A multilevel approach to data analysis enabled the integration of this nested information into the larger picture of the NOLS sample (Raudenbush & Bryk, 2002; Schreiber & Griffin, 2004). In other words, utilizing MLM as the statistical technique to analyze this data enabled investigation of the impact of both individual-level predictors such as age and gender and group-level predictors including characteristics of the group and instructor reports of course characteristics.

In general, level-1 predictors modeled the relationship between individual characteristics and individual outcomes within groups, and determined whether there are differences across courses in average values of the outcome. In addition, data analysis focused on level level-1 predictors attempted to determine if the effects of the individual predictors on outcomes varied by course. For this analysis, the relationship between
individual changes in social achievement goals (as an outcome) and each aspect of the social climate (i.e. cohesion, leaders support, independence, task orientation, order and organization, and leader control), as well as factors such as race, gender, and previous NOLS experience (as predictors) was analyzed.

A substantial amount of analysis looked at level-2 predictors. To create level-2 predictors, individual perceptions of the social climate were aggregated to the course level to determine whether relationships differ between courses. This level-2 data was then used as a predictor of social achievement goal orientation change score. In addition, course characteristics, such as severe weather or food issues were used as course level predictors. The investigation of Level-2 predictors examined whether the relationships between these predictors and outcomes vary in predicted ways in order to understanding how group attributes (i.e. low vs. high cohesion) were related to (1) group average social achievement goal orientation change score and (2) relationship between social achievement goal orientation change score and aggregated perceptions of the social climate. Analysis also looks at course level pretests of the social climate to see how closely they related to perceptions of the actual experience and changes in social achievement goals orientations.

After initial exploratory and descriptive analyses I specifically addressed my research questions.

**Question 1.** *Do participants' social achievement goals change over the duration of their outdoor adventure education course?*
I began by conducting preliminary exploratory analyses of change, using a paired samples t-test to establish if there was a change in social achievement goal orientation. I computed change scores by subtracting pre from posttest social achievement goal orientation scores. Analysis proceeded with the creation of an unconditional model with predictors added to see their impact and significance within the model. I then addressed this question by fitting an unconditional model, which contained no predictors at either level-1 or level-2:

**Model 1:** Unconditional Model

**Level 1:** Within Course: (Individual): \( \text{DEV\_CHNG}_{ij} = \beta_{0j} + r_{ij} \) where \( r_{ij} \sim N(0, \sigma^2) \)

**Level 2:** Between Courses: \( \beta_{0j} = \gamma_{00} + \mu_{0j} \) where \( \mu_{0j} \sim N(0, \tau_{00}) \)

**Composite Model:** \( \text{DEV\_CHNG}_{ij} = \gamma_{00} + \mu_{0j} + r_{ij} \)

The fixed effect, \( \gamma_{00} \) is the average trip-level change in social development goal orientation score. If the estimate of \( \gamma_{00} \) was positive and statistically significant, I would conclude that participants’ average social development goal orientation change score had increased over the duration of the course. Variability in average social development goal orientation change across trips was reflected in the level-2 variance component, \( \tau_{00} \). If the estimated variance in average social development goal orientation was statistically significant, level-2 predictors may potentially predict this variation. In this phase of my analysis, I would also estimate an intraclass-correlation coefficient, which would allow me to understand the proportion of variability in social development goal orientation change score that was between courses rather than within courses.
Question 2. Do participants' expectations of the social climate (i.e. cohesion, leaders support, independence, task orientation, order and organization, and leader control) before participating in outdoor adventure education courses, relate to their perceptions of the actual experience?

To obtain a preliminary answer to this question, I estimated bivariate correlations between participants' expectations of the social climate and perceptions of the actual experience. Then, to take into account the nested data structure, I formalized the answer to this question by fitting a multilevel model with perceptions of actual experience as outcome and expectations as predictor in order to understand the average influence of expectations on actual perceptions.

**Exploratory Model:** Random Coefficient Model, with perception of cohesion pretest as the level-1 predictor of post course perceptions.

**Level 1:** Within Course (Individual): \( \text{COHESION}_\text{POST}_{ij} = \beta_{0j} + \beta_{1j} (\text{COHESION}_\text{PRE}_{ij}) + r_{ij} \) where \( r_{ij} \sim N(0, \sigma^2) \)

**Level 2:** Between Courses: \( \beta_{0j} = \gamma_{00} + \mu_{0j} \)
\( \beta_{1j} = \gamma_{10} + \mu_{1j} \)

where \( \begin{pmatrix} \mu_{0j} \\ \mu_{1j} \end{pmatrix} \sim N( \begin{pmatrix} 0 \\ 0 \end{pmatrix}, \begin{pmatrix} \tau_{00} & \tau_{01} \\ \tau_{10} & \tau_{11} \end{pmatrix} ) \)

If the estimate of \( \gamma_{10} \) was positive and statistically significant, I would conclude that on average, there was a significant relationship between pre and posttest. For example, this could reveal that expectations of high group cohesion are related to post course perceptions of cohesion. This was done for each aspect of the social climate; cohesion, leaders support, independence, task orientation, order and organization, and leader control.
Question 3. If social achievement goals change during outdoor adventure courses, what specific aspects of students’ perception of the social climate relate to changes in social achievement goals?

The next phase of my analysis investigated which aspects of the social climate (cohesion, leaders support, independence, task orientation, order and organization, and leader control) related to participants’ social development goal orientation change score. I began by fitting a random coefficient model, with individual perception of group cohesion as the level-1 predictor. This model allowed me to determine: (1) the overall average effect of cohesion on social development goal orientation change score across groups; and (2) whether the effect of cohesion on social development goal orientation change score varies across groups. I then repeated this procedure for each aspect of the social climate.

**Model 2:** Random Coefficient Model, with group cohesion as the level-1 predictor

**Level 1:** Within Course (Individual): \( \text{DEV\_CHNG}_{ij} = [\beta_0j + \beta_{1j} (\text{COHESION}_{ij})] + r_{ij} \) where \( r_{ij} \sim N (0, \sigma^2) \)

**Level 2:** Between Courses: \( \beta_{0j} = \gamma_{00} + \mu_{0j} \)
\( \beta_{1j} = \gamma_{10} + \mu_{1j} \)

where \( \begin{pmatrix} \mu_{0j} \\ \mu_{1j} \end{pmatrix} \sim N \begin{pmatrix} 0 \\ \tau_{00} \end{pmatrix}, \begin{pmatrix} \tau_{00} & \tau_{01} \\ \tau_{10} & \tau_{11} \end{pmatrix} \)

**Composite Model:** \( \text{DEV\_CHNG}_{ij} = [\gamma_{00} + \gamma_{10} \text{COHESION}_{ij}] + [\mu_{0j} + \mu_{1j} \text{COHESION}_{ij}] + r_{ij} \)
Continuing with the example of cohesion as the level-1 predictor, the fixed effect in the above model, $\gamma_{00}$ was the average trip-level social development goal orientation change score at the average or mean level of cohesion (standardized cohesion score was centered on zero). If the estimate of $\gamma_{00}$ was positive and statistically significant, it provides the estimated average course mean social development goal orientation change score, for participants with average perception of cohesion. The estimate of $\gamma_{10}$ told me the estimated average effect of individual perception of cohesion within a course. For example, if $\gamma_{10} = 1.5$ it would be interpreted as, people that differ by one point in perception of cohesion on their course differ by 1.5 points in social development goal orientation change score.

Variability in average change in social development goal orientation change score across courses, controlling for the effects of cohesion is reflected in the random effects component, $\tau_{00}$. If the estimated variance in average social development goal orientation change score was statistically significant, controlling for cohesion, this would tell me the estimated value for the difference in changes in social development goal orientation controlling for cohesion within courses. The random effects component, $\tau_{11}$, if positive and significant, could be interpreted as meaning that the slopes or effects of cohesion on social development goal orientation change score are variable. The final random effects component, $\tau_{01}$ estimates the correlation between intercepts and slopes, and in this case revealed if there was evidence that the effect of cohesion differs in courses of varying levels of social development goal orientation change scores. Lastly, I calculated the amount of within-course variance in social development goal orientation change score that was “explained” by cohesion by comparing the estimates of variance from the
unconditional model and conditional model to conclude about the inclusion of individual perceptions of cohesion "explaining" a certain percentage of "explainable" variation within courses.

After this process was complete for cohesion I repeated this procedure for each aspect of the social climate.

Question 4. What are the meaningful factors in the relationship between the group level perceptions of the social climate and the changes in social development goals? Does this vary by course type, duration of the experience, age, gender, and/or race of participants?

The level-2 predictors in this study were course duration, group mean age, as well as the individual perceptions of the social climate (i.e. cohesion, leader support, leader control, independence, task orientation, and order and organization) before and at the close of courses, aggregated to the group level (i.e. group mean scores for each course). I began by fitting a series of models with only level-2 predictors, known as a means as outcomes model, to determine if there is a relationship between course level aggregated scores (the mean score for each course) and average social development goal orientation change score.

**Model 8:** Means as Outcomes Model with Cohesion as the only predictor

*Level 1:* Within Course (Individual): DEV_CHNG$_{ij} = \beta_{0j} + r_{ij}$

*Level 2:* Between Courses: $\hat{\beta}_{0j} = \gamma_{00} + \gamma_{01}\text{MEAN\_COHESION}\_+ \mu_{0j}$

This model specifically addressed the question of whether there was a relationship between course level average perception of cohesion for a particular course and average
social development goal orientation change score for that course. The fixed effect or intercept in the above model, \( \gamma_{00} \) was the average course-level social development goal orientation change score at the average or mean level of cohesion (standardized cohesion score aggregated to course level and centered on zero) for the average course. If the estimate of \( \gamma_{00} \) was positive and statistically significant, I concluded that the course level average social development goal orientation change score has increased over the duration of the course when groups perceive their course has average group cohesion. The estimate of \( \gamma_{01} \) told me the fixed effect of course mean cohesion on social development goal orientation change score. For example, if \( \gamma_{01} = 1.5 \) it was interpreted as follows; courses that differ by one point in mean cohesion differ by 1.5 points in average social development goal orientation.

For a means as outcomes model, the interpretation of the estimated random effects, \( \sigma^2 \) was the component for the variance within course (will likely remain unchanged) and \( \tau_{00} \) was interpreted as conditional component that explains the variation between courses. This number was used to calculate the percentage of "explainable" variation in the course mean social development orientation change score is "explained" by cohesion. The significance of variance told me that even after including MEAN_COHESION, there was additional variation present. I continued to add level-2 predictors including all aspects of the social climate as well as course type, and duration of the experience to my means as outcomes model in hopes of "explaining" the maximum amount of between course variation.

In order to accurately answer the second part of this question, if effects vary by course type, duration of the experience, age, gender, and/or race of participants, I tested
the interactions between the aggregated level-2 predictors and other level-2 predictors such as course type and duration as well the interaction between the aggregated level-2 predictors and the level-1 predictors of age, gender, and race of individuals.

The significant level-2 predictors and interactions was added to the best fit level-1 model in order of anticipated level of importance to determine their impact at the group level in order to answer my fourth question, establishing the meaningful factors in the relationship between the group perceptions of the social climate and social development goals change score and thus establish a best fit model.

Question 5. How do objective characteristics of the course, such as food issues, weather, level of challenge, and playfulness of the course influence aspects of the group social climate and relate to changes in social achievement goals on outdoor adventure education courses?

To address my final research question, I looked to instructor reports of physical difficulty, weather, insect issues, and food issues. I analyzed these course characteristics as additional level-2 predictors. Each of these predictors was added to the best-fit model from the previous question to determine their significance within the model. Finally, the complete model was compiled with a composite model of level-1 and 2 predictors and was presented through the construction of fitted plots to aid in interpretation.

Data Analysis Conclusion

All results were reported in the manner specified throughout this previous data analysis section. MLM was utilized to create models of the social climate of these extended wilderness expeditions in order to better understand what facilitates social
achievement goal orientation score changes in a positive or adaptive direction. In addition, the resulting data was interpreted with possible conclusions about the setting or context of nonformal educational programs. Understanding how social climate relates to youths' social motivation could influence the structure of similar nonformal programs to improve their ability to facilitate adaptive forms of social motivation, a point I focus on in the discussion.
CHAPTER IV

RESULTS

The purpose of this chapter is to examine the results of this study. The focus of analysis was to understand if the expectations and perceptions of the social climate of organized nonformal activities such as outdoor adventure education courses influence changes in social achievement goals. These results seek to explain whether outdoor adventure education courses change the goal orientations of youth for interacting with their peers and if so, what elements of the course and social setting relate to positive changes for these groups.

Specific research inquiries include the following:

1. Do participants' social achievement goals change over the duration of their outdoor adventure education course?

2. Do participants' expectations of the social climate (i.e. cohesion, leaders support, independence, task orientation, order and organization, and leader control) before participating in outdoor adventure education courses, relate to their perceptions of the actual experience?

3. If social achievement goals change during outdoor adventure education courses, what specific aspects of students' perception of the social climate relate to changes in social achievement goals?
4. What are the meaningful factors in the relationship between the group level perceptions of the social climate and the changes in social development goals? Does this vary by course type, duration of the experience, age, gender, and / or race of participants?

5. How do objective characteristics of the course, such as food issues, weather, level of challenge, and playfulness of the course influence aspects of the group social climate and relate to changes in social achievement goals on outdoor adventure education courses?

**Demographic and Course-Related Information**

This sample consisted of 251 students in 45 separate NOLS courses that occurred during the summer of 2012, with an average of 5.58 students per course completing the pre and posttests for this survey, with between 2 and 9 students from each course responding. Students’ ages ranged from 14 – 20, with a mean age of 17.43, a standard deviation of 1.88, and a median age of 17; 224 of the participants self identified as White/Caucasian, 1 as Black/African American, 9 as Hispanic/Latino(a), 5 as Asian, and 12 as Other; 150 of these students were male, with 101 female participants.

This sample had relatively little previous experience with NOLS courses. 237 students had never done a NOLS course before, while 14 had participated in one previous NOLS course. No participants had done more than one course.

Courses were located in the Rocky Mountain Region, the Pacific Northwest, and Alaska. Durations of courses ranged from 14 to 30 days, with the mean duration of
course for this sample being 28.6 days. 223 of those sampled participated in 30-day courses, 14 on 21-day courses and 14 on 14-day courses.

In investigating the decision to attend their NOLS course, 126 students said that the decision was their own, 43 claimed the decision was mostly theirs with some parental influence, 47 said the decision was mutual between them and their parents, 6 claimed it was mostly their parents decision, 2 said it was their parents decision, and 28 did not answer this question, due to its late addition to the survey.

**Social Achievement Goals**

Prior to assessing if participants' social achievement goals changed over the duration of their outdoor adventure education course, the measurement method was investigated.

**Exploratory Factor Analysis**

For the social achievement goals questionnaire, I performed exploratory factor analysis to assure all factors grouped together as predicted. Using the Principal Axis Extraction Method and Varimax Rotation, with criterion of Eigenvalues greater than one, all three factors were retained for both pre and post tests, but three items were eliminated to increase reliability. In the final scales, social development goals (6 items) had Cronbach's alpha of .77 for the pre test and .83 for the post test; social demonstration approach goals (4 items) had \( \alpha = .75 \) for the pre test and .81 for the post test; while social demonstration avoid goals (5 items) had an \( \alpha = .82 \) for the pre test and .85 for the post test (Table 4).
Table 4

**Factor Loadings for Social Achievement Goals**

<table>
<thead>
<tr>
<th>Item</th>
<th>Social Development</th>
<th>Social Demonstration</th>
<th>Social Demonstration</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre</td>
<td>Post</td>
<td>Pre</td>
</tr>
<tr>
<td>I try to figure out what makes a good friend.</td>
<td></td>
<td>.70</td>
<td>.74</td>
</tr>
<tr>
<td>One of my goals is that my friendships become even better over time.</td>
<td></td>
<td>.70</td>
<td>.63</td>
</tr>
<tr>
<td>I feel successful when I learn something new about how to get along with friends.</td>
<td></td>
<td>.68</td>
<td>.78</td>
</tr>
<tr>
<td>In general, I try to develop my social skills.</td>
<td></td>
<td>.61</td>
<td>.71</td>
</tr>
<tr>
<td>It is important to me to learn more about other kids and what they are like.</td>
<td></td>
<td>.49</td>
<td>.45</td>
</tr>
<tr>
<td>I like it when I learn better ways to get along with friends.</td>
<td></td>
<td>.45</td>
<td>.68</td>
</tr>
<tr>
<td>It is important to me that other students think I am popular.</td>
<td></td>
<td>.80</td>
<td>.80</td>
</tr>
<tr>
<td>I want to be friends with the “popular” students.</td>
<td></td>
<td>.73</td>
<td>.65</td>
</tr>
<tr>
<td>My goal is to show other students how much everyone likes me.</td>
<td></td>
<td>.68</td>
<td>.65</td>
</tr>
<tr>
<td>It is important to me to have “cool” friends.</td>
<td></td>
<td>.54</td>
<td>.63</td>
</tr>
<tr>
<td>I try to avoid doing things that make me look foolish to other students.</td>
<td></td>
<td>.80</td>
<td>.80</td>
</tr>
<tr>
<td>It is important to me that I don’t embarrass myself around my friends.</td>
<td></td>
<td>.77</td>
<td>.69</td>
</tr>
<tr>
<td>I try not to do anything that might make other students tease me.</td>
<td></td>
<td>.74</td>
<td>.74</td>
</tr>
<tr>
<td>When I am around other students, I don’t want to be made fun of.</td>
<td></td>
<td>.54</td>
<td>.59</td>
</tr>
<tr>
<td>When I am around other students, I mostly try not to goof up.</td>
<td></td>
<td>.48</td>
<td>.70</td>
</tr>
<tr>
<td>Cronbach’s alpha</td>
<td>.77</td>
<td>.83</td>
<td>.75</td>
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</tbody>
</table>


**Changes in Social Achievement Goal Orientation**

In assessing the complete sample, a paired samples t-test compared differences in social development goal mean scores before and after the course. Contrary to the hypothesis, on average, scores were significantly higher before these outdoor courses ($M = 4.22, SD = .58$) than after the experience ($M = 4.11, SD = .73$), $t(250) = 2.64, p < .05$. This reveals that on average, after their courses, students were less motivated (Figure 1.) toward developing meaningful relationships with others, and their focus had shifted away
from learning, growth, and improvement of relationships. While an average change of -.11 is not a large shift, it does represent a significant trend away from the adaptive social development goal orientation, on average, for these adolescent participants. This interesting finding will be investigated in greater depth through subsequent questions.

There was no significant change in the social demonstration-approach goal orientation of participants, on average. However, there were significant changes in the social demonstration-avoid goal orientation if the alpha level is increased to .10. A paired samples t-test indicated that social demonstration-avoid goal mean scores were, on average, lower after these experiences ($M = 2.61, SD = .90$) than prior to the experience ($M = 2.70, SD = .83$), $t(250) = 1.91, p < .10$. On average, students are less motivated toward avoidance behaviors in relationships with others after participation in these courses. While this change of .09 is not a large shift, it does represent a small shift in an adaptive direction, moving students away from the goal of avoidance in social situations.

Subsequent to exploratory analysis of differences between pre and posttests, I fit a series of multilevel models to predict change in social development goal orientation. The change scores for social development goal orientation were computed by subtracting posttest from pretest scores. Analysis proceeded with the creation of an unconditional
model, which contains no predictors; subsequent models added predictors to see their impact and significance within the model.

**Model 1: Unconditional Model**

**Level 1:** Within Course: (Individual): $\text{DEV}_{CHNG_{ij}} = \beta_{0j} + r_{ij}$ where $r_{ij} \sim N(0, \sigma^2)$

**Level 2:** Between Courses: $\beta_{0j} = \gamma_{00} + \mu_{0j}$ where $\mu_{0j} \sim N(0, \tau_{00})$

**Composite Model:** $\text{DEV}_{CHNG_{ij}} = \gamma_{00} + \mu_{0j} + r_{ij}$

When examined at the course or group level the results reveal variability within courses, but limited variability between courses, as seen in Table 5. Essentially, there is variability across individuals within courses, but the average change in social development goal orientation is not systematically different across courses.

The estimated fixed effect for this model, $\gamma_{00}$, representing the average trip-level change in social development goal orientation score, is -.11 ($p<.05$). This confirmed what was found through the previously mentioned paired samples t-test; the average course level social development goal orientation change score had a decrease of .11 from pre to post course. The estimated random effects are $\sigma^2 = .43$ ($p < .001$) and $\tau_{00} = .03$ ($p > .10$). This means that although there is statistically significant variation in change in social development goal orientation between participants within courses, there was very little variance across courses in this sample. Additionally, with a variance component for course of .03, very little variation in course mean could be “explained” by a course level (level 2) predictors.

To conclude, the fixed effect is statistically significant, demonstrating there was a significant average decrease in change of social achievement goal orientation score, however, there is not significant variability across courses. The fact that the within-
course random effect is statistically significant meant that I was able to predict variability using individual level predictors in subsequent analyses.

To further understand variation between courses, an estimate of the intraclass-correlation coefficient was calculated $ICC = \frac{.03}{(.43+.03)} = .07$; only 7% of the total variation in social development goal orientation change score occurred between courses rather than within courses. However, I did not reject the null hypothesis that there is no difference between group variance in the population. These courses do not have significant level-2 variability; the mean change across courses did not differ significantly.

To understand the impact of potential predictors of the changes in social development goal orientation, the Group Environment Scale (GES) results were analyzed next.

**Predictors of Social Change - Group Environment Scale (GES)**

To better understand what may have predicted changes in social goal orientations, the social climate of the sampled courses was investigated. In order to assess if participants’ expectations of the social climate (i.e., cohesion, leaders support, independence, task orientation, order and organization, and leader control) before participating in outdoor adventure education courses, relate to their perceptions of the actual experience I examined results of pre and post test from the GES. Comparison of pre and posttest of the GES reveal how student expectations compare to the reality they reported experiencing on their course.

To obtain a preliminary answer to this question, I estimated bivariate correlations between participants’ expectations of the social climate and perceptions of the actual
experience. Then, to take into account the nested data structure, I formalized the answer to the question of whether expectations of the social climate before participating in their courses are related to their actual experience by fitting a multilevel model with perceptions of actual experience as outcome and expectations as predictor. I began by trying to fit a random coefficient model, but the model would not converge due to low between group variability. Therefore, I fixed the effect of the level-1 predictor of perception of cohesion. This revealed the average effect of expectations on actual perceptions for each element of the social climate. An example of the model utilized is below.

**Exploratory Model:** Fixed Coefficient Model, with cohesion as the level-1 predictor of post course perception of cohesion.

**Level 1:** Within Course (Individual): COHESION\_POST\_ij = [β0j + β1ij (COHESION\_PRE\_ij)] + r\_ij where r\_ij ~ N (0, σ^2)

**Level 2:** Between Courses: β0j = γ00 + μ0j

\[ β1j = γ10 \quad \text{where } μ0j ~ N (0, τ00) \]

A series of Pearson correlations revealed that pre and posttest cohesion scores had a small positive relationship, \( r(251) = .15, p<.05 \) (Table 4). However, when in a random coefficient model, the estimate of \( γ_{10} \), the fixed effects of the expectation of cohesion on the actual perception of cohesion was not statistically significant \( (p=.06) \). Therefore, I concluded that on average, there was no significant effect of expectation of cohesion on post course perception of cohesion. The finding that expectations of high group cohesion did not appear to have an impact on post course perceptions of cohesion could be interesting when put in context of the idea of unmet expectations. To further explore this
relationship, I performed a paired samples $t$-test, which indicated that cohesion mean scores were, on average, lower after these experiences ($M = 7.27, SD = 1.27$) than prior to the experience ($M = 7.72, SD = .54$), $t(246) = 5.47, p < .01$. This indicates that, on average, students expected greater cohesion than they actually experienced on their courses.

Similar testing and analysis was then done for each aspect of the social climate; cohesion, leaders support, independence, task orientation, order and organization, and leader control.

A series of Pearson correlations revealed that pre and posttest leader support scores were not significantly related (Table 4). For leader support, the estimate of $\gamma_20_0$, the fixed effects of pre course leader support on post course leader support was not statistically significant ($p=.31$). Therefore, I concluded that, on average, there was no significant effect of expectation of leader support on post course perception of leader support. Again, the finding that expectations of leader support did not appear to affect post course perceptions of leader support could be interesting when put in context of the idea of unmet expectations. To further explore this relationship, I again performed a paired samples $t$-test, which indicated that for leader support mean scores, on average, scores were higher after these experiences ($M = 7.59, SD = .75$) than prior to the experience ($M = 7.42, SD = .86$), $t(248) = -2.463, p < .05$. This implies that students received greater instructor support than they anticipated.

A series of Pearson correlations revealed that scores for expectations and actual perceptions of independence had a medium strength positive correlation, $r(251) = .38$, $p<.01$ (Table 5). When this relationship was investigated through the random coefficient
model, the estimate of $\gamma_{30}$, the fixed effects of expectations of independence on actual perception of independence was positive (.38) and statistically significant ($p<.001$). Therefore, I concluded that, on average, there was a significant effect of expectations of independence on post course perceptions of independence. Specifically, students who reported higher expectations of independence tended to perceive higher levels of independence in their courses. In addition, paired samples $t$-test indicated that independence mean scores were, on average, higher after these experiences ($M = 5.89$, $SD = .94$) than prior to the experience ($M = 5.69$, $SD = .93$), $t(249) = -3.106$, $p < .01$. This can be interpreted as meaning that, on average, students experienced greater independence during their course than they believed they would.

A series of Pearson correlations revealed that pre course expectations and post course perceptions of task orientation scores were positively related, $r(251) = .20$, $p<.01$ (Table 5). In addition, when investigated through a random coefficient model, the estimate of $\gamma_{40}$, the fixed effects of the expectation of task orientation on the actual perception of task orientation was positive (.20) and statistically significant ($p<.01$). Therefore, I concluded that on average, there was a significant effect on expectation of post course perception of task orientation. Specifically, students who reported higher expectations of task orientation tended to perceive higher levels of task orientation in their courses. However, task orientation scores were not significantly changed from expectations to actual perceptions, indicating that expectations for task orientation were met.

A series of Pearson correlations revealed that expectations and posttest perceptions of order and organization scores had a medium strength positive correlation,
The estimate of \( \gamma_{50} \), the fixed effects of the expectation of order and organization on the actual perception of order and organization was positive (.35) and statistically significant \((p<.001)\). Therefore, I concluded that on average, there was a significant effect of expectations of order and organization on post course perceptions of order and organization. Specifically, students who reported higher expectations of order and organization tended to perceive higher levels of order and organization in their courses. In addition, a paired samples \( t \)-test indicated that order and organization mean scores were, on average, higher after these experiences \((M = 5.44, SD = 1.43)\) than prior to the experience \((M = 5.05, SD = 1.45)\), \( t(249) = -3.73, p < .01 \). Meaning that, on average, courses had greater levels of order and organization than participants anticipated.

A series of Pearson correlations revealed that pre course expectation of leader control and posttest perceptions of leader control scores had a medium strength positive correlation, \( r(251) = .33, p<.01 \) (Table 5). The estimate of \( \gamma_{60} \), the fixed effects of the expectation of leader control on the actual perception of leader control was positive (.35) and statistically significant \((p<.001)\). Therefore, I concluded that on average, there was a significant effect of expectations of leader control on post course perceptions of leader control. Specifically, students who reported higher expectations of leader control tended to perceive higher levels of leader control in their courses. Additionally, the last paired samples \( t \)-test of this section indicated that leader control mean scores were, on average, lower after these experiences \((M = 4.36, SD = 1.59)\) than prior to the experience \((M = 4.65, SD = 1.59)\), \( t(245) = 2.64, p < .01 \). This indicated that leaders were less controlling of the course than students anticipated.
Table 5

*Mean, Standard Deviation, and Correlations for the GES (n=251)*

<table>
<thead>
<tr>
<th>Measure</th>
<th>Mean</th>
<th>SD</th>
<th>1.</th>
<th>2.</th>
<th>3.</th>
<th>4.</th>
<th>5.</th>
<th>6.</th>
<th>7.</th>
<th>8.</th>
<th>9.</th>
<th>10.</th>
<th>11.</th>
</tr>
</thead>
<tbody>
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<td>1. Pre Cohesion</td>
<td>7.73</td>
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<td>3. Pre Leader</td>
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<td>.86</td>
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<td>4. Post Leader</td>
<td>7.59</td>
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<td>.19**</td>
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<td>5. Pre Independence</td>
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<td>.93</td>
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<td>6. Post</td>
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<td>Orientation</td>
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<tr>
<td>10. Post Order /</td>
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<td>1.45</td>
<td>.08</td>
<td>.26**</td>
<td>.12</td>
<td>.16*</td>
<td>-.05</td>
<td>-.01</td>
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<tr>
<td>11. Pre Leader</td>
<td>4.65</td>
<td>1.45</td>
<td>.03</td>
<td>.00</td>
<td>.05</td>
<td>.12</td>
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<td>-.11</td>
<td>.09</td>
<td>.02</td>
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<td>12. Post Leader</td>
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<td>1.59</td>
<td>-.06</td>
<td>-.08</td>
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<td>.00</td>
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<td>.07</td>
<td>-.04</td>
<td>.11</td>
<td>.21**</td>
<td>.33**</td>
</tr>
</tbody>
</table>

**Correlation is significant at the 0.01 level (2-tailed).**

*Correlation is significant at the 0.05 level (2-tailed).**
To summarize, there were significant correlational relationships between the pre course expectation and actual perceptions of the experience of cohesion, independence, task orientation, order and organization, and leader control. On average, pre course expectations had an effect on post course perceptions for some aspects of the social climate, specifically, independence, task orientation, order and organization, and leader control. In addition, independent samples t-test indicated significant differences between pre course expectations and post course perceptions of independence, task orientation, order and organization, and leader control all exceeding expectations, but cohesion was significantly lower.

**The Relationship of Social Climate to Changes in Social Development Goals**

The next phase of analysis investigated which aspects of the social climate (cohesion, leader support, independence, task orientation, order and organization, and leader control) relate to participants' social development goal orientation change score. I began by fitting a random coefficient model, with individual perception of group cohesion as the level-1 predictor. This model allowed me to determine: (1) the overall average effect of cohesion on social development goal orientation change score across groups; and (2) whether the effect of cohesion on social development goal orientation change score varies across groups. I then repeated this procedure for each aspect of the social climate.

**Model 2: (proposed model)** Random Coefficient Model, with group cohesion as the level-1 predictor
Level 1: Within Course (Individual): \( \text{DEV\_CHNG}_{ij} = [\beta_{0j} + \beta_{1j} (\text{COHESION\_C}_{ij})] + r_{ij} \) where \( r_{ij} \sim N (0, \sigma^2) \)

Level 2: Between Courses: \( \beta_{0j} = \gamma_{00} + \mu_{0j} \)
\( \beta_{1j} = \gamma_{10} + \mu_{1j} \)

where \( \begin{pmatrix} \mu_{0j} \\ \mu_{1j} \end{pmatrix} \sim N \left( \begin{pmatrix} \gamma_{00} \\ \gamma_{10} \end{pmatrix}, \begin{pmatrix} \tau_{00} & \tau_{01} \\ \tau_{10} & \tau_{11} \end{pmatrix} \right) \)

Composite Model: \( \text{DEV\_CHNG}_{ij} = [\gamma_{00} + \gamma_{10} \text{COHESION\_C}_{ij}] + [\mu_{0j} + \mu_{1j} \text{COHESION\_C}_{ij}] + r_{ij} \)

Likely due to the lack of variability within courses, the models did not converge when the effects of level-1 predictors were estimated as random effects; therefore, in the following models I fixed the effects of level-1 predictors.

Model 2: Fixed Coefficient Model, with perception of cohesion as the level-1 predictor of social development goal orientation change score.

Level 1: Within Course (Individual): \( \text{DEV\_CHNG}_{ij} = [\beta_{0j} + \beta_{1j} (\text{COHESION\_C}_{ij})] + r_{ij} \) where \( r_{ij} \sim N (0, \sigma^2) \)

Level 2: Between Courses: \( \beta_{0j} = \gamma_{00} + \mu_{0j} \)
\( \beta_{1j} = \gamma_{10} \quad \text{where} \quad \mu_{0j} \sim N (0, \tau_{00}) \)

Composite Model: \( \text{DEV\_CHNG}_{ij} = [\gamma_{00} + \gamma_{10} \text{COHESION}_{ij}] + [\mu_{0j} + r_{ij}] \)

Continuing with the analysis of cohesion as the level-1 predictor, the fixed effect in the above model, \( \gamma_{00} = -.10 \) (\( p < .05 \)), meaning that the average course-level social development goal orientation change score was -.10 for the mean level of cohesion (standardized cohesion score is centered on zero). With a relaxed alpha level, (\( p < .10 \)) the estimate of \( \gamma_{10} = .06 \) indicated that on average, people that differ by one point in
perception of cohesion on their course differ by .06 points in social development goal orientation change score.

The only other aspect of the social climate that was a significant predictor of changes in social development goal orientation was perception of task orientation. Similarly to perception of cohesion, with a relaxed alpha level, \( p < .10 \) the parameter estimate of task orientation, \( \hat{\gamma}_{40} = .10 \) indicates that on average, people that differ by one point in perception of task orientation on their course differ by .10 points in social development goal orientation change score.

All results are listed below in a Taxonomy of Level 1 Models (Table 6). It is evident from the goodness-of-fit statistics for Model 7 that leader control as a fixed effect improves the goodness-of-fit statistics in a more substantial way than any other predictor, however, it is not a significant predictor \( p > .10 \). In Model 12, cohesion, task orientation, and leader control are fixed effects; goodness of fit improves compared to all other models that have significant predictors, as demonstrated by the -2LL measure of goodness-of-fit reducing from the unconditional model with a -2LL of 511.47 to 465.20 when cohesion, task orientation, and leader control are added. Comparing estimates of within-course variance \( (\sigma^2) \) from the unconditional and conditional models, I find that the inclusion of student perception of cohesion, task orientation, and leader control has "explained" 9.3% of the "explainable" variation within courses.

In this model, the estimated effect of cohesion, \( \hat{\gamma}_{10} = .06 \) \( p < .10 \) indicates that, on average, participants that differ by one point in perception of cohesion on their course are predicted to differ by .06 points in social development goal orientation change score.
## Table 6

**Taxonomy of Level 1 Models**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
<th>Model 4</th>
<th>Model 5</th>
<th>Model 6</th>
<th>Model 7</th>
<th>Model 8</th>
<th>Model 9</th>
<th>Model 10</th>
<th>Model 11</th>
<th>Model 12</th>
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<td>.10-</td>
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### Variance Components

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<th>Model 12</th>
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% reduction in within-course variance
- NA
- 2.33
- 2.33
- NA
- 6.98
- 2.33
- NA
- 6.98
- 6.98
- 9.3

% reduction in between-course variance
- NA
- NA
- NA
- NA
- NA
- 33.33
- NA
- NA
- 33.33
- 33.33
- 33.33

### Goodness-of-fit

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<td>526.71</td>
<td>497.27</td>
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\(~p < .10; * p < .05; ** p < .01; *** p < .001~\)
Continuing to add various predictors, aspects of the social climate, does not improve the goodness of fit in a meaningful way and there are no other significant predictors until course level predictors are added (Table 6).

**Estimated Final Model:**

\[
\text{DEV\_CHNG}_{ij} = [-.09 + .06 \text{COHESION\_C}_{ij} + .09 \\
\text{TASKORIENT\_C}_{ij} - .03 \text{LEADERCONTROL\_C}_{ij}]
\]

Interestingly, it appears that individual perception of cohesion and task orientation were related to increasing social development goal orientation change score while perceived leader control was negatively related. According to this model, courses with higher perceptions of group cohesion and task orientation combined with lower perceptions of leader control tend to have higher changes in their social development goal orientation change score.

**Course Level Social Climate and Social Development Goal Orientation**

The level-2 predictors in this study were the individual perceptions of the social climate (i.e., cohesion, leader support, leader control, independence, task orientation, and order and organization) at the close of courses aggregated to the group level (i.e. group mean scores for each course), as well as the average previous experience of participants, group mean age of the course participants, ratio of gender, ethnicity, and course duration.

I began by fitting a series of models with each level-2 predictor, known as a means as outcomes model, to determine if there is a relationship between course level aggregated scores (the mean score for each course) and average social development goal orientation change score.
Model 13: Means as Outcomes Model with course-level Cohesion as the only predictor

**Level 1:** Within Course (Individual): \( \text{DEV}_j \text{CHNG}_i = \beta_{0j} + r_{ij} \)

**Level 2:** Between Courses: \( \beta_{0j} = \gamma_{00} + \gamma_{01}\text{COHESION}_C \text{mean} + \mu_{0j} \)

The above example model specifically addressed the question of whether there was a relationship between course level average perception of cohesion for a particular course and average social development goal orientation change score for that course. I found that for all predictors within the social climate, the fixed effect or intercept in the above model, \( \gamma_{00} = -.11 \) (\( p < .05 \)). Essentially, the average course-level social development goal orientation change score was -.11 at the average or mean level of any of these centered predictors for the average course. Because the estimate of \( \gamma_{00} \) was negative and statistically significant, I concluded that the course level average social development goal orientation change score has decreased over the duration of the course when groups perceive their course has average perceived levels of any of the predictors contained within the GES.

The estimate of \( \gamma_{07} \) and all of the subsequent course-level predictors (Table 7), told me the fixed effect of the course mean average of that predictor on social development goal orientation change score (results presented in Taxonomy of Models with Level 2 Predictors, Table 7). In this section, the only significant course-level predictor was previous NOLS course experience \( \gamma_{07} = 1.04 \) (\( p < .05 \)). This was interpreted as courses that differed by one point in mean previous NOLS experience of participants differed by 1.04 points in average social development goal orientation change score. Experience is measured with a score of one referring to an individual's first experience.
with NOLS and two their second. Fourteen of 251 participants had done one previous NOLS course. No participants had done more than one course. Essentially, average change in social development goal orientation were larger when participants were in groups with other students that had previous NOLS experience. This could mean that the social development goal orientation decreases less or not at all when there are students on the course with previous NOLS experience.

For a means as outcomes model, the interpretation of the estimated random effects, $\sigma^2$ was the component for the variance within course and $\tau_{00}$ can be interpreted as conditional components that explained the variation between courses. This number will be used to calculate the percentage of “explainable” variation in the course mean social development orientation change score is “explained” by cohesion. From this, it is evident there was significant within course variation $\sigma^2 = .43 (p<.001)$, but no significant variation between courses $\tau_{00} = .03 (p>.05)$ and $\tau_{00} = .02 (p>.05)$, for all course level predictors.

In order to accurately answer the second part of this question, if effects vary by course type, duration of the experience, age, gender, and/or race of participants, as well as their part in the decision to attend NOLS, I tested the interactions between the aggregated level-2 predictors and other level-2 predictors such as course type and duration as well the interaction between the aggregated level-2 predictors and the level-1 predictors of age, gender, and race of individuals. No significant interactions were found.

The significant level-2 predictor, course level previous NOLS experience, was added to the best-fit level-1 model to determine the impact at the course level in order to answer my fourth question, establishing the meaningful factors in the relationship
between the course level perceptions of the social climate and social development goals change score and thus establish a best-fit model.

**Model 20:** Fixed Coefficient Model, with perception of cohesion, task orientation, and leader control as the level-1 predictors and the course mean level of previous NOLS experience as the level-2 predictor.

**Level 1:** Within Courses (Individual): $DEV\_CHNG_{ij} = [\beta_{0j} + \beta_{1j}(COHESION\_C_{ij}) + \beta_{4j}(TASKORIENT\_C_{ij}) + \beta_{6j}(LEADERCONTROL\_C_{ij})] + r_{ij}$ where $r_{ij} \sim N(0, \sigma^2)$

**Level 2:** Between Courses; $\beta_{0j} = \gamma_{00} + \gamma_{07}Experience\_C\_mean_j + \mu_{0j} \sim N(0)$,

$(\tau_{00}, \tau_{02})$

\[
\begin{align*}
\beta_{1j} &= \gamma_{10} \\
\beta_{4j} &= \gamma_{40} \\
\beta_{6j} &= \gamma_{60}
\end{align*}
\]

**Composite Model:** $DEV\_CHNG_{ij} = [\gamma_{00} + \gamma_{07}Experience\_C\_mean_j + \gamma_{10}COHESION\_C_{ij} + \gamma_{40}TASKORIENT\_C_{ij} + \gamma_{60}LEADERCONTROL\_C_{ij}] + [\mu_{0j} + r_{ij}]$

**Estimated Fitted Model:** $DEV\_CHNG_{ij}^* = [-.09 + .98 Experience\_C\_mean_j + .06 \ COHESION\_C_{ij} + .08 TASKORIENT\_C_{ij} - .04 LEADERCONTROL\_C_{ij}]$

As demonstrated through the taxonomy of models (Table 7), the best-fit model, with significant predictors is Model 20, presented above. Through this model, it was evident that on average, courses with higher levels of students with previous NOLS course experience, combined with individuals with higher perceptions of cohesion and
Table 7

**Taxonomy of Models with Level 2 Predictors**

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<tr>
<th>Fixed Effects</th>
<th>Parameter</th>
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<th>Model 14</th>
<th>Model 15</th>
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<td>-.11*</td>
<td>-.11*</td>
<td>-.11*</td>
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~<sup>p</sup> < .10; *<sup>p</sup> < .05; **<sup>p</sup> < .01; ***<sup>p</sup> < .001
task orientation, combined with lower perceptions of leader control are associated with higher positive changes in social development goal orientation.

The reduction in the within-course variance component represented a 9.30 percentage point decline in within course residual variance between the unconditional model and Model 20. It could be said that approximately 9.3% of the “explainable” variance in within-in course changes in social development goal orientation is explained by previous NOLS course experience of participants, as well as student’s perceptions of cohesion, task orientation, and leader control.

In the fitted plot in Figure 2, it is evident that both course level and individual level predictors have a meaningful impact on students change in social development goal orientation. All variables labeled high or low are one standard deviation above or below the mean. It is seen in this plot that there are similar outcomes when students perceive high task orientation and low leader control combined with low course level NOLS experience, as opposed to the opposite where students perceive low task orientation and high leader control combined with high course level NOLS experience, at varying levels of course cohesion. The influence of aspects of the social climate, task orientation and leader control, are more influential than that of the make up of the course group. It creates an interesting juxtaposition to think about the influence of well-structured groups of peers as opposed to the role of instructors, a point to which I return in the discussion.

Figure 2 also makes clear that at the individual level, there were substantially larger gains in positive changes in social development goal orientation when students perceived high levels of cohesion, controlling for other factors. Given the linear nature of
the relationship, this also means the opposite is also true; low perception of cohesion is related to negative change in social development goal orientation.

Figure 2. Fitted Plot showing the impact of varying levels of Group-Mean Previous NOLS Course Experience with varying levels of individual perceptions of Task Orientation, Leader Control, and Cohesion on Social Development Goal Orientation Change Score

Instructor Reports of Course Characteristics Influence on Social Climate

To better understand what is occurring in aspects of the social climate of these courses that are included in the above models I investigated what course characteristics, from instructor reports, predicted key aspects perceptions of the social climate, focusing on those aspects that emerged as influencing the social achievement goals of students.
The instructor reports (see Instructor Questionnaire in Appendix D) contained measures of 'adversity', which was compiled from instructor perception of physical difficulty for students, amount of rain, amount of uncomfortable weather, food quantity, food quality, and bug issues, as well as the instructors report of 'playfulness / fun' and an approximate measure of frequency of games played throughout each course. These individual or course level predictors were first investigated through multiple regression analysis to determine what course characteristics predicted the perceptions of the social climate included in the final model.

First, I performed multiple regression analysis in which I regressed individual perceptions of post course cohesion on various predictor. I found that 'Fun / Playfulness' predicted increased perception of cohesion, \( \beta = .18, t = 2.71, p < .01 \), as did 'Uncomfortable Weather', \( \beta = .14, t = 2.03, p < .05 \). This model explained 4.2% of the variance in cohesion, \( F(2, 219) = 4.81, p < .01 \). Upon adding other predictors, none were significant.

When students perceived higher levels of cohesion within their course group it was shown to have positive effects on changes in social development goal orientation. This regression analysis found that on average, when instructors reported their

![Figure 3](image-url)

*Figure 3. Fitted plot showing the impact of Fun on Cohesion at High and Low levels of Uncomfortable Weather*
groups being more fun or playful, cohesion increased. Similarly, when students faced uncomfortable weather, cohesion also increased. Figure 3 demonstrates that on average, as fun / playfulness increase, so did student perception of cohesion regardless of what level of uncomfortable weather students experience.

Similar procedures were performed to determine what predicted student perception of task orientation. I began by conducting multiple regression analysis in which I regressed task orientation on several areas from the instructor reports meant to conceptually cause adversity, and then added what would typically be thought of as more positive influences to the model. The only significant predictor of increased task orientation was ‘Rain’, \( \beta = .17, t = 2.54, p < .05 \). This model explained 2.8% of the variance in task orientation, \( F(1, 225) = 6.45, p < .05 \). No other predictors were significant. This simple linear relationship is demonstrated in Figure 4, where it is evident from the fitted line that on average, as rain increases, students perceive their social climate to be more task oriented.

Lastly, I investigated predictors of leader control. I performed multiple regression analysis in which I regressed various predictors on individual perceptions of post course leader control. I found that the number of games played throughout the course negatively
predicted increased perception of leader control, $\beta = -0.16$, $t = -2.49$, $p < 0.05$, while 'adversity', which was compiled of instructor perception of physical difficulty for students, amount of rain, amount of uncomfortable weather, food quantity, food quality, and bug issues, positively predicted leader control, $\beta = 0.14$, $t = 2.17$, $p < 0.05$. This model explained 5% of the variance in leader control $F(2, 220) = 5.74$, $p < 0.01$. No other predictors were significant in this model.

As stated previously, on average, leader control had negative effects on changes in social development goal orientation, meaning that less leader control has what can be thought of as a positive impact on the social climate of a course, with regard to social development goals. This regression analysis found that on average, as adversity increased, so did leader control. In addition, an increased number of games played by the group were related to reduced leader control. Figure 5 demonstrates that on average, courses with higher a number of games played had lower perceptions of leader control, at various levels of course adversity.

While none of the above mentioned models explain a large amount of variance, all the conclusions make logical and intuitive sense while further providing explanation
of key areas of the social climate in this particular nonformal setting, central to which is believed to be the role of adversity or challenge in fostering camaraderie, aided by leaders who gradually withdraw control so groups increasingly feel responsible for their own achievements. Fun / playfulness of the course and uncomfortable weather are both aspects that bring course groups together and therefore it seems logical they predict students' perception of cohesion. Increased rain on a course would logically increase the group's task orientation; they need to get things done to stay warm and dry. Lastly, leader control, a negative predictor of changes in social development goal orientation, was negatively predicted by playing a greater number of games, and positively predicted by adversity. When there is increased adversity on a course, on average, students perceive their instructors taking greater control, possibly to help their group succeed – and also likely as a risk management strategy. The facilitation of games seems to convey the impression that instructors imparted less control.

**Course Characteristics Relationship to Changes in Social Development Goals**

To address the second part of this question, the information gathered from instructor reports were also utilized as additional level-2 predictors. A combination of physical difficulty, weather, insect issues, and food issues were combined to make an "adversity scale" for each course, in addition to these aspects being analyzed individually. Each predictor was first tested in a means as outcomes model and if significant added to the best-fit model from the previous question to determine their significance within the model. Finally, the complete model was compiled with a
composite model of level-1 and 2 predictors and presented through the construction of fitted plots to aid in interpretation.

In looking at the means as outcomes analysis of instructor perceptions of each course level predictor, it is evident that food and fun play a vital role in changes in social development goal orientation. The only significant predictors of social development goal orientation were the reversed idea of food quality (meaning lower number is higher quality food) $\gamma_{015} = -.09 \ (p < .10)$, the reversed idea of food quantity (meaning lower number is more food) $\gamma_{016} = .12 \ (p < .05)$, and fun / playfulness of the course $\gamma_{017} = .11 \ (p < .01)$. Essentially, this revealed that when instructors believe their students have higher quality food and an adequate quantity of food without being too much, as well as perceiving their group as fun or playful, their students have greater changes in their social development goal orientation.

Predictors related to physical difficulty, weather, bugs, and the total aggregated scale for adversity were not significant predictors of changes in social development goal orientation.

When the above mentioned significant predictors were added to the best fit model from the previous section, only the additions of fun / playfulness $\gamma_{017} = .11 \ (p < .01)$ contributed to improving the goodness-of-fit and reduced within course variance (Table 8). This best-fit final model inferred that on average, courses that consist of a greater proportion of students with previous NOLS course experience in which the instructors believe students are having fun and being playful during the course, where students have higher perceptions of cohesion and task orientation, combined with lower perceptions of
leader control were more likely to result in positive changes in social development goal orientation.

**Model 30 - Best-Fit Model:** Fixed Coefficient Model, with perception of cohesion, task orientation, and leader control as the level-1 predictors and the course mean level of previous NOLS experience and Instructor perception of fun / playfulness of the course as the level-2 predictors.

**Level 1:** Within Courses (Individual): \( \text{DEV\_CHNG}_{ij} = [\beta_{0j} + \beta_{1j} (\text{COHESION\_C}_{ij}) + \beta_{4j} (\text{TASKORIENT\_C}_{ij}) + \beta_{6j} (\text{LEADERCONTROL\_C}_{ij})] + r_{ij} \) where \( r_{ij} \sim N(0, \sigma^2) \)

**Level 2:** Between Courses: \( \beta_{0j} = \gamma_{00} + \gamma_{07} \text{Experience\_C\_mean}_j + \gamma_{07} \text{Fun\_C}_j + \mu_{0j} \sim N(0), (\tau_{00}, \tau_{02}) \)

\[
\begin{align*}
\beta_{1j} &= \gamma_{10} \\
\beta_{4j} &= \gamma_{40} \\
\beta_{6j} &= \gamma_{60}
\end{align*}
\]

**Composite Model:** \( \text{DEV\_CHNG}_{ij} = [\gamma_{00} + \gamma_{07} \text{Experience\_C\_mean}_j + \gamma_{07} \text{Fun\_C}_j + \gamma_{10} \text{COHESION\_C}_{ij} + \gamma_{40} \text{TASKORIENT\_C}_{ij} + \gamma_{60} \text{LEADERCONTROL\_C}_{ij}] + [\mu_{0j} + r_{ij}] \)

**Estimated Fitted Model:** \( \text{DEV\_CHNG}_{ij}' = [.06 + 1.38 \text{Experience\_C\_mean}_j + .11 \text{Fun\_C}_j + .04 \text{COHESION\_C}_{ij} + .09 \text{TASKORIENT\_C}_{ij} - .03 \text{LEADERCONTROL\_C}_{ij}] \)

The reduction in the within-course variance component represented a 16.28 percentage point decline in within course residual variance between the Unconditional Model and Model 30. It could be said that approximately 16.28% of the “explainable”
variance in within-in course changes in social development goal orientation is explained by previous NOLS course experience of participants, the fun and playfulness of the course, as well as student's perceptions of cohesion, task orientation, and leader control.

In the fitted plot of the best-fit model (Figure 6), it was increasingly evident that both course level and individual level predictors had a meaningful impact on students’ change in social development goal orientation. For the purpose of this graph, variables labeled high or low were one standard deviation above or below the mean score. It can be seen in this plot that fun, and the general way the group is facilitated in terms of fun / playfulness, task orientation, and leader control is substantially more influential to social development goal orientation than the makeup of the course.

Figure 6. Fitted plot of best-fit model showing the impact of group-mean previous NOLS experience and instructor perception of fun / playfulness with varying levels of individual perceptions of task orientation, leader control, and cohesion on social development goal orientation change score.
Table 8

**Taxonomy of Models with Best-Fit Final Model**

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<th>Parameter</th>
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Goodness-of-fit

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Note: ~\( p < .10; * p < .05; ** p < .01; *** p < .001 \)
CHAPTER V

DISCUSSION

This study examined students' expectations of the social climate of outdoor adventure education courses, how students reported actually experiencing the social climate during their course, how these expectations and perceptions influenced social achievement goals of students and the influence of environmental conditions and characteristics of the course such as adversity and fun as reported by instructors. It sought to identify how organized nonformal activities such as outdoor adventure education courses may alter how adolescents view social situations, and as a result, develop social goals that help them adapt to new social situations in the future. The study contributes to our understanding of what contributes most to changes in youth participants' social motivations and perception of the social climate of outdoor adventure courses, as these elements of adventure programming have not previously been examined extensively or tied to specific and desired outcomes. The overall aim was to improve the practical and theoretical understanding of the social climate and the potential importance of the ability to facilitate a social climate that promotes adaptive forms of social motivation.

The purpose of this chapter is to further discuss the results of the study, interpret the results in terms of their implications on the structure of extended wilderness courses that are meant to promote youth development, critique the methodology and procedures
used, and propose recommendations for future research. This chapter is organized into four sections:

1. Interpretation of results for each research question
2. Discussion of primary implications
3. Critique of study methodology and procedures
4. Recommendations for future studies

**Interpretation of Results**

This section contains the interpretation of the results reported in the previous chapter. It will follow the same order, from (a) interpreting the changes in each form of social achievement goal orientation, to (b) interpreting the expectations of the social climate, followed by (c) interpreting the relationship between the social climate and social development goals, then (d) adding course level predictors, and (e) instructor reports of course characteristics and their influence on group social climate, and finally (f) the interpretation of how those course characteristics factored in to the social development goal orientation of participants.

**Interpretation of Changes in Social Achievement Goals**

Changes in social development goal orientation. In this study, changes in social development goal orientation were used as an indicator of adaptive changes in the social domain; i.e. how participants approach interactions with peers. Changes from pre-course to post-course scores in social development goal orientation, the adaptive form of social achievement goals according to the theory and prior research, were the outcome or dependent variable in this study. The results contradict the hypotheses that social
development goals would change in an adaptive direction during these extended wilderness courses. On average, students’ orientation toward social development goals decreased, at a level that cannot be attributed to chance. This finding prompted subsequent investigations into the social climate and a variety of other predictors to better understand why these results disconfirmed previous pilot studies and the related hypotheses.

Results showed an average change of -.11 points. While this was not a large shift, it did represent a trend away from the adaptive social development goal orientation, on average, for these adolescent participants, suggesting that after their courses, students on average were less oriented towards developing social competence with peers, such as trying to improve their social skills, deepen the quality of relationships, or develop their social abilities in general (Ryan & Shim, 2006, 2008; Shim et al., 2013). The concern here is that something(s) about their participation in an extended wilderness course altered students’ social motivation so they became oriented away from a social development goal orientation. Moving away from this orientation during their course can be understood as a maladaptive shift that could have negative implications for participants’ social goal orientation in other settings, and therefore, other aspects of their lives could be negatively affected if the trends here indicate a more general shift away from a social development orientation. Of particular concern is the role extended wilderness courses might play in fostering such a shift. Knowing that such a general shift is maladaptive makes it important to understand why this shift is occurring, and especially what are significant on-course predictors, because the results could provide
insights into the core elements and design of social climates that facilitate youth goals shifting in an adaptive direction.

There are alternative explanations for the decline in social development goal orientation. The high pretest scores have set a ceiling. Based on my pilot work, which had similarly high pretests but significantly increased posttest scores, I do not believe that is the case. While the initial number, on average, is high, it has previously been demonstrated that it can and does increase with after experiences. I also believe the corresponding negative difference in perceptions of cohesion from expectations, coupled with the strong connection between cohesion and changes in social development goal orientation provides a viable explanation. The other possible explanation for the negative change could be an instrumentation issues with Ryan's scale, perhaps people have a tendency to overestimate at pretest and this could be mitigated in the future by using a proxy pretest with this instrument and or reworking Ryan's instrument with the goal of lowering the mean scores.

Changes in social demonstration goal orientation. Although not an explicit focus in this study, changes in social demonstration goals were observed and deserve brief mention. There was no change in the social demonstration-approach goal orientation of participants, on average. However, there were negative changes in the social demonstration-avoid goal orientation if the alpha level is reduced to .10 – a finding that can be interpreted as positive. On average, students are less motivated toward avoidance behaviors in relationships with others after participation in these courses. While this change of .09 points was not a large shift, it did represent an average shift in this sample,
with students moving in an adaptive direction, away from the goal of avoidance in social situations.

In both social demonstration - avoid and social demonstration - approach goals, attention focuses on the appearance of the self, especially in relation to others. Ryan and Shim (2006; 2008) established that social demonstration avoid goals are associated with maladjustment in both concurrent and longitudinal analysis as well as negatively associated with positive relations, self-acceptance, personal growth, and autonomy. It appears that orienting towards demonstration-avoid in the social world creates an unpleasant profile where individuals are generally dissatisfied with relationships and allow the opinions of others to interfere with independent decision making. This hinders the potential for personal growth and heightens insecurity in being able to socially interact, concern about social integration, and produces a generally low self-regard. Ryan and Shim’s research provides convincing evidence that a focus on avoiding negative judgments from peers is associated with social behaviors that undermine social adjustment in youth and generally constitutes a maladaptive pattern of motivation (see also Mouratidis & Sideridis, 2009).

Moving away from this maladaptive orientation is clearly advantageous and the findings here can be taken as evidence that extended wilderness courses – at least as NOLS conducts them – fosters a shift away from the more maladaptive demonstration-avoid orientation. Therefore, students’ experiences on NOLS courses may have contributed to fewer maladaptive avoidance orientations. This finding makes sense in light of NOLS’s emphasis on developing leadership and technical skills amidst a peer group that provides regular feedback on progress. The decline in social development
orientation further suggests that students sought to demonstrate their competence although they did not simultaneously seek to develop deeper relationships with peers. Nonetheless, this shift away from avoidance behaviors may be meaningful in the lives of participants especially if they strive to become skilled outdoorspeople and leaders, and could be related to a variety of different aspects of the social climate.

While the shift away from the demonstration avoid orientation was not the main focus of this project, it makes sense in the context of NOLS, an outdoor school that has historically focused on teaching leadership and technical skill competency rather than striving to reach general development aims. In order for participants to be successful on their course they must step into a variety of new situations and engage with peers not just as members of a supportive group, but as technically proficient leaders whose skills are emerging. Avoidance of any sort is likely to be discouraged by course instructors, possibly noticed and critiqued by others, and in the context of an immersion experience of this sort, hard to sustain under such close and ongoing scrutiny. Accordingly, one might expect an emphasis on demonstrating technical skill and competence as well as the social confidence necessary to lead. This emphasis on fostering approach over avoid orientation could have positive implications throughout participants' lives and is something NOLS likely wants to maximize.

The primary focus of this study, however was on predictors of changes in social development goals, since they have been shown elsewhere to be related to individuals' adaptation in other settings and are therefore especially important for youth programs to consider. While it is interesting to note that on average, participants did shift away from maladaptive avoidance orientation, it is not the focus of subsequent analysis. For the
remainder of this chapter, the relationships to social climate and instructor reports will be discussed as they relate to social development goal orientation since this outcome relates to general aims of outdoor adventure programs more widely. Understanding what about the social climate was related to shifts in social development goals will add depth and understanding of what areas were related to adaptive changes in social motivation in settings such as NOLS courses – which, to some extent, can be considered prototypical of extended, immersion-style wilderness courses. This focus is chosen because of (a) the presumed relationship between social development goal orientation and benefits in other settings, and (b) the enduring belief that extended wilderness courses as one type of adventure-based, nonformal youth program should seek to maximize developmental benefits in this manner.

**Interpretation of Expectations of the Social Climate**

Examining the relationship of students’ expectations of the social climate to their actual perceptions provided insight into factors that shape outcomes in one nonformal setting. While the setting of experiences is important, antecedent factors influence all experiences, including extended wilderness courses (Sibthorp, 2003a). The preconceived notions that students have prior to their courses inevitably influence their experiences on course. In this study, participants demonstrated a range of expectations for the social climate of their courses, some of which were met, and some of which were unmet. It was evident that expectations for task orientation were evenly met, expectation for leader support, leader control, independence, and order and organization exceeded expectations, and expectations of cohesion were not met.
Cohesion was anticipated to be an important predictor of change in this study, and in some senses it was. The finding that students expected a more cohesive group than they experienced appeared to have meaningful implications for participants' overall experiences as well as their social motivation. These unmet expectations of group cohesion could significantly alter the manner in which youth interact with one another and therefore may substantially affect outcomes. In speculating about why change scores in social development goal orientations were negative, the gap between expectations and actual perception of cohesion represents a compelling direction for future research.

This finding might be usefully understood as a form of adaptation to the motivational climate of the immediate environment. Extensive educational research has shown how influential the classroom environment is toward students' motivational goals (Ames, 1992; Anderman & Maehr, 1994; Dweck, 1986; Dweck & Leggett, 1988; Kaplan et al., 2002; Lau & Nie, 2008; Meece et al., 2006; Shim et al., 2013). Students adapt their goals to fit cues provided by teachers and by the wider school. Applying this logic to a wilderness setting, when the social climate has less of an emphasis on group cohesion than participants anticipated, youth likely adapt to cues that promote demonstrating competence rather than developing relationships. Said another way, participants desiring a cohesive environment but finding these wishes unfulfilled might result in self-consciousness about fitting in, particularly when they are pressed to display proficiency in new skills, which in turn could spur a preoccupation with one's social appearances. On average, the NOLS students in this study entered their courses anticipating they would be part of a cohesive group, and, on average, actual perceptions were lower than what was anticipated. The skill focus in NOLS courses might have heightened this
condition unless cohesiveness was explicitly cultivated by the leader and achieved by participants. On courses, it seems plausible that some instructors did not emphasize group cohesion as an important aspect of the experience, contradicting participants’ expectations. This phenomenon might also be related to “cultural scripts” that circulate about outdoor adventure courses for teenagers, which contain messages of self-improvement and character growth in the context of a supportive group (Holyfield & Fine, 1997); it is possible that students’ pre-course expectations are shaped by these messages and adaptation is required when cues from the organization, from leaders, and from peers instead stress competence in new and unfamiliar areas.

Interestingly, there was one area where expectations were met; task orientation. On average, those who thought they would be part of a task focused course, reported that they were, and vice versa. This led to task orientation scores that were not changed from expectations to actual perceptions. This too can conceivably be related to beliefs about challenge and skill development in outdoor programs that circulate in the broader society; that extended wilderness courses involve collaborative work and acquisition of new skills is a widely held notion. It therefore is understandable that students would expect this and that these expectations would be met, particularly in a NOLS course where this is likely a main focus.

A further picture of the relationship between expectations and perceptions of NOLS social climate is created by student perceptions of leader control, leader support, independence and order and organization. Paired samples t-tests demonstrated that on average, students received greater leader support than they anticipated, as well as lower levels of leader control. In addition, there was an effect of expectations of leader control
on post course perceptions of leader control. When students thought they would have
courses with greater or lesser control, they did report experiencing this. This can be
combined with data that supports the idea that on average, students experienced greater
independence during their course than they anticipated as well as greater levels of order
and organization.

Again, it is useful to interpret findings about cohesion, task orientation, leader
support, leader control, and order and organization in light of NOLS’s mission, goals, and
practices. NOLS advertises itself as a leadership school, in which students are right to
expect a fairly high level of task orientation, and it is therefore somewhat unsurprising
that these were met. In addition, instructors place a premium on equipping students with
the skills to lead one another and manage themselves with decreasing levels of
supervision. It is therefore sensible that instructors, who emphasize high levels of order
and organization, become less controlling and more supportive over time. Although it
deserves more thorough examination, a possible area for program development might be
to try and maintain stability in these signature areas, while also achieving greater
correspondence between expectations and actual perceptions of cohesion – particularly
because cohesion is strongly correlated with improvements in social development
orientation. I will discuss this point further shortly.

A final comment on expectations: when there is a discrepancy between
expectations and perceptions in an experience, it creates dissonance. Students might feel
like something they expected did not happen and, if what they expected is also something
they desired, it can have adverse effects on their overall experience. In this case, the
dissonance created by the difference between what they expected versus what they
experienced of cohesion on their courses could be interpreted in light of the negative results for changes in social development goal orientation, creating questions about what is occurring in the social dimensions of these courses and how it could be improved to achieve greater uniformity in higher levels of more general developmental outcomes. Subsequent analysis regarding the relationship between course characteristics and social development goals more thoroughly addresses what instructors believed was occurring on their courses and how that relates to students’ reports about the social climate.

**Interpretation of Social Climate and Social Development Goals**

A complex and interesting picture was created through the measurement of social climate on the 45 NOLS courses I studied. On the one hand, findings are unsurprising since, as an outdoor skill and leadership school, these outcomes are consistent with NOLS’s mission and program descriptions. On the other hand, insofar as NOLS wishes to realize broader developmental outcomes for participating youth, the general decline in social development goal orientation from pre- to post-test might present an area for organizational reflection and development. Below, I will speak to the way the data seem to accurately represent consistency between NOLS’s mission and approach, before discussing nuances in the data that point to areas that should be of interest among outdoor adventure organizations promoting more general developmental outcomes.

The mission of the National Outdoor Leadership School is to be the leading source and teacher of wilderness skills and leadership that serve people and the environment.
The NOLS community – its staff students, trustees, and alumni – shares a commitment to wilderness, education, leadership, safety, community, and excellence. These values define and direct who we are, what we do, and how we do it.

(Retrieved 2/20/2013 from: http://www.nols.edu/about/values.shtml)

This statement of mission and values reflects the educational institution NOLS strives to be. The emphasis is on teaching skills and leadership, a self-characterization that corresponds with NOLS’s broader reputation. The mission does not purport to emphasize group cohesion and clearly states their primary goals as teaching wilderness skills and leadership. This can be contrasted with Outward Bound, which uses words such as “character development” and “compassion” in its mission statement (Retrieved 2/20/13 from http://www.outwardbound.org/about-outward-bound/philosophy/). Colloquially, Outward Bound is known stereotypically as spending all of its time ‘processing’ and emphasizing relationships at the expense of building technical and leadership skills. This distinction between the two organizations has even been the focus of ‘insider’ jokes.

Findings regarding students’ perception of the social climate of their courses and related changes in social development orientations are perhaps best understood in light of NOLS’s mission and values. In general, the average students perceiving average levels on all core social climate indicators, experienced declines in social development goal orientation. A closer look, however, reveals interesting patterns that parallel my summer 2011 pilot study in suggesting cohesion and task orientation as elements of the social
climate play an important part in fostering social development goals. Similar to the 2011 study, the present study also found that individual perceptions of cohesion and task orientation were related to increasing social development goal orientation change score while perceived leader control was negatively related and had a substantial impact on goodness of fit (Table 6). According to this model, courses wherein students had higher perceptions of group cohesion and task orientation combined with lower perceptions of leader control were more likely to have larger positive changes in their social development goal orientation change score.

When students' perceived their courses as having high levels of leader control, the change in social development goal orientation moved in a negative direction. However, on average, students felt their courses had less leader control than they anticipated. It appears that NOLS instructors emphasized what needed to be done, or stressed completing tasks, without controlling how they were done and without interfering with the social dynamics of the group; this had a positive relationship with adaptive changes in social motivation.

Students' perception of the task orientation of their group was thus related to changes in social development goal orientation. On average, when students perceived higher task orientation, it related to greater positive changes in social development goal orientation. In practical terms, a task-oriented group has the potential to keep participants focused on a common goal, which might not necessarily promote cohesion itself, but perhaps keeps the group maintaining functional relationships. This task-oriented group is the impression NOLS conveys in its literature and, consistent with its reputation and mission, this also appears to be one factor that facilitates social growth. This effect was
heightened when combined with perceptions of cohesion and lower levels of leader control. Again, this is a core element that NOLS likely wants to maintain and maximize.

**Interpretation of Course Level Predictors and Social Development Goals**

Course level perceptions of the social climate and most subgroup differences did not predict changes in social development goal orientation. However, additional course level investigations revealed the impact of courses with participants having previous NOLS experience. Students who return to NOLS for a second course are likely to understand the mission and goals of the program, as well as being practiced in the norms of ‘expedition behavior,’ and can help a participant group to function well together.

At NOLS, expedition behavior or ‘EB’ is emphasized; in the NOLS Leadership Educators Notebook (2009) there is an entire chapter dedicated to it. The first article about EB, entitled *Expedition Behavior: Creating a Positive Culture and Learning Environment on NOLS Courses*, concludes: “Be the kind of person others want as a tent-mate on an expedition where you know you will be working hard together, through difficult challenges. Being a thoughtful, contributing member of a team” (Gookin & Leach, 2009, p. 16). It is plausible that if NOLS students return for a second course, they understand, support, and have benefitted from the idea of EB, and they are able to share that with others on their course both directly and also informally through modeling proper expedition behavior. Having individuals who have chosen to come back for a second NOLS course as part of the participant group positively influences the social climate, which appears to contribute to changes in social development goal orientation of participants.
In looking carefully at this data and the related graph (Figure 2), it is evident that when students perceive high task orientation and low leader control combined with low course level NOLS experience, as opposed to the opposite where students perceive low task orientation and high leader control combined with high course level NOLS experience, two vastly different experiences result in similar changes in social development goal orientation. Figure 2 also makes clear the substantially larger gains in social development goal orientation when students perceive high group cohesion, and how the opposite is also true; low perception of cohesion is related to negative change in social development goal orientation. It is evident that the makeup of the student group matters to the outcomes of a course, as does group cohesion, task orientation, and level of control by instructors.

The slope of the lines in Figure 2 makes evident the relationship between group cohesion and changes in social development goals. As students’ perceive higher levels of group cohesion, on average, their social development goal orientations changes are negative, but at a lesser magnitude, and in some cases may become a positive change. These data suggest that cohesive groups foster a social climate where students are less preoccupied with their appearance of social competence and instead focus on building meaningful relationships. One can imagine the ideal course, represented by the top line in Figure 2, where a returning NOLS students is modeling good EB, being thoughtful and kind to others while also doing their fair share of work; instructors are providing support, but need not apply too much control beyond providing the clear task objectives and teaching the necessary skill lessons. This group likely has high levels of cohesion and the
participants have increased positive changes in their social development goal orientations.

Figure 2. Fitted Plot showing the impact of varying levels of Group-Mean Previous NOLS Course Experience with varying levels of individual perceptions of Task Orientation, Leader Control, and Cohesion on Social Development Goal Orientation Change Score

In models of the related data, the influence of what could be considered factors within the instructors' control such as task orientation, leader control, and cohesion outweighed the positive peer influence of student groups with participants with higher ratios of students with previous NOLS experience. This points to possible benefits of expanding and emphasizing the role of instructors to facilitating the group, in addition to instructing the skill and leadership dimensions of the course. In other words, returning NOLS students evidently do some of the work establishing a positive social climate, irrespective of the leader, whereas this task falls more heavily on leaders in courses without returning participants. In these latter courses, leaders who are perceived as
controlling seem especially to dissuade participants from adopting social development goals.

In further examining the instructional environment on courses it is important to consider the "how" involved. This research supported the idea that instructors should aim to create settings where student groups are cohesive, tasks are clear and focused, and the leader is not controlling, but is instead supportive is. This is similar to many of the ideas of a mastery-focused environment in schools. The teacher is trying to create an environment that facilitates cooperation instead of competition, the manner in which tasks are structured influences how participants think about those tasks, how grouping are made has meaningful influence, and the social dimension has great importance (Patrick, Ryan, Anderman, Middleton, Linnenbrink, Hruda, L. Z., et al. 1997). According to this literature, the instructional framing or focus is key to creating an environment that promotes mastery as opposed to the less adaptive orientation of performance. In order to do this instructors must try to frame courses as being focused on individual improvement instead of a particular achievement, and approach all aspects of group creation and management with this in mind.

**Interpretation of Course Characteristics Influence on Group Social Climate**

This section of analysis takes the understanding of the social climate one step further and attempts to addresses the 'black box' of what is happening in outdoor course that relates to positive changes in youth, at least in the social domain. This section provides empirical evidence that should aid in making stronger, more precise claims about what practices and emphases specifically predict what outcomes, positively and negatively.
The foregoing analysis was based on instructor reports (see Instructor Questionnaire in Appendix E) that contained measures of ‘adversity’, an omnibus indicator that was compiled from instructor perception of physical difficulty for students, amount of rain, amount of uncomfortable weather, food quantity, food quality, and bug issues, as well as the instructors report of ‘playfulness / fun’ and an approximate measure of frequency of games played throughout each course. I used these instructor reports to conduct multiple regression analysis in order to determine what course characteristics predicted the areas of the social climate that were included in the final model.

I first regressed various course characteristics as predictors of individual perceptions of post course cohesion. I found that ‘Fun / Playfulness’ as well as ‘Uncomfortable Weather’ predicted increased perception of cohesion. This regression analysis demonstrated that on average, when instructors reported their groups being more fun or playful, cohesion increased. Similarly, when instructors reported their courses having faced uncomfortable weather, cohesion also increased. Regression procedures were also performed to determine what predicted student perception of task orientation. This analysis resulted in evidence that the only predictor of increased task orientation was ‘Rain.’ Essentially, as rain increases, students perceive their course to be more task oriented. This makes logical sense; when you are being drenched by rain, the focus becomes getting things done so you can be sure to stay warm and dry.

There is nothing surprising in this finding. It reinforces empirical evidence, corresponds with various training manuals, and matches common understandings of adventure programs. Persevering in the face of adversity, such as uncomfortable weather, helps bond a group by making them work together even to meet basic needs. It
may simply be that this shared adversity fosters mutual respect and support among group members and this promotes cohesion, or it may yield a task focus during challenging times that helps people to work together and, as a result, form social bonds. Regardless of why uncomfortable weather helps increase group cohesion, it is helpful for instructors and organizations to realize the opportunity for cohesion in the difficulty that uncomfortable weather represents. Importantly, there might be limits to this: too much or too severe bad weather could cause a leader to exert more control, especially if risk management becomes a concern. There is probably a ‘right amount’ of bad weather for the promotion of cohesion, and, although impossible to program into a wilderness course, further research could examine what this right amount is and how to help achieve it by managing participants’ perceptions and attitudes.

The finding that fun / playfulness has a meaningful impact also might influence practice in beneficial ways. This data supports the idea that when students are having fun, group cohesion is enhanced. This finding echoes my summer 2011 pilot study that used Adventure Treks courses as a sample, an organization that emphasizes fun as a primary goal in everything they do. At staff orientation, instructors see are immersed in a culture that embraces fun and they are encouraged to be silly. This is evidenced by a staff packing list, which is generally sparse, but includes some sort of item of “flair” which could be a silly summit suit of costume. Staff orientation even includes a flair contest of sorts. Adventure Treks courses had consistently high levels of cohesion, which positively related to changes in social development goals in that sample (Mirkin, 2012).

My point here is not to suggest that NOLS should be more like Adventure Treks. Rather, I am suggesting that, for some organizations, this general finding across two
studies points to areas that could be emphasized to engender fun and playfulness in nonformal youth programs, which even here predicted positive changes in a desired developmental outcome when it yielded perceptions of a cohesive group climate. Indeed, NOLS could query existing staff about their practices or approaches that promote fun and playfulness in ways that also reinforce the core, traditional values and goals around leadership and skill acquisition.

Lastly, I investigated predictors of leader control. I found that the number of games played throughout the course negatively predicted increased perception of leader control, while ‘adversity’, which was compiled of instructor perception of physical difficulty for students, amount of rain, amount of uncomfortable weather, food quantity, food quality, and bug issues, positively predicted leader control. As stated previously, on average, leader control had negative effects on changes in social development goal orientation, meaning that less leader control has what can be thought of as a positive impact on the social climate of a course, with regard to changes in social development goals. This regression analysis found that on average, as adversity increased, so did leader control. In addition, an increased number of games played by the group were related to a reduced perception of leader control. Again, there appears to be a ‘right amount’ of adversity – one that promotes a task orientation within a group, but does not become so much as to require excessive group management or intervention by the leader. How leaders achieve and mange this balance would be an interesting area for interview research or organizational self-study.

All of the results drawn from this section of data analysis and the related discussion make logical and intuitive sense while further providing explanation of key
areas of the social climate. It seems to follow logically that fun / playfulness of a course and uncomfortable weather both tend to build cohesion, but likely for very different reasons. Increased rain on a course increases a group’s task orientation; they need to get things done to stay warm and dry. Lastly, leader control, a negative predictor of changes in social development goal orientation, was negatively predicted by playing a greater number of games, and positively predicted by adversity. It appears that during courses with more adversity, instructors tend to take greater control, likely to help their group succeed or to manage environmental risks that are out of their control. Contrastingly, playing games seem to empower students to solve problems on their own while allowing leaders to step back and exert less control.

**Interpretation of Course Characteristics and Social Development Goals**

To address the second part of this question, concerning how the instructor reports of course characteristics related to changes in social development goals, the information gathered from instructor reports were also used as additional group level predictors. Initial analysis of instructor perceptions of each course level predictor provided evidence that food and fun play a vital role in changes in social development goal orientation.

The only predictors of social development goal orientation were the reversed idea of food quality (meaning lower number is higher quality food), the reversed idea of food quantity (meaning lower number is more food), and fun / playfulness of the course. Surprisingly, other predictors related to physical difficulty, weather, bugs, and the total aggregated scale for adversity did not predict changes in social development goal orientation.
When the above-mentioned predictors were added to the best-fit model from the previous section, only the additions of fun / playfulness contributed to an improved goodness-of-fit and reduced within course variance (Table 8). This best-fit final model enabled me to infer that on average, courses that consist of a greater proportion of students with previous NOLS course experience in which the instructors believe students are having fun and being playful during the course, where students have higher perceptions of cohesion and task orientation, combined with lower perceptions of leader control were more likely to result in positive changes in social development goal orientation. This paints a rough picture of an 'ideal' NOLS course.

In the fitted plot of the best-fit model (Figure 6), it was evident that both course level and individual level predictors had a meaningful impact on students change in social development goal orientation. It can be seen in this plot that fun, and the general way the group is facilitated is substantially more influential to social development goal orientation that the makeup of the course. Essentially, this means that much of what researchers and program providers are conceiving as outcomes are within the control of instructors; how instructors facilitate the group makes a difference in how participants view and adapt to the immediate social world.

These results raise the question of how critical the 'adversity' aspect of adventure is, or if it is more critical for the experience to be an 'immersion' experience that contains elements such as the isolated and intense small group experience. What is occurring might be more complex than it first appears; the adventure element might be first and foremost a draw for youth because of its role in popular culture and perhaps in the imagination of parents who want to build certain character traits in their children. But, in
actuality, the element of risk and challenge might not directly foster positive social development changes. Instead, the risk and adversity elements of adventure experiences might play a mediating role, acting as a catalyst for task orientation that in turn fosters group cohesion, which was shown here to correlate with developmental benefits.

An implication of this is that adventure might be useful as a marketing device – projecting a desirable organizational quality that youth want to identify with – but in terms of actual developmental benefits, in practice leaders would only need ‘enough’ risk, challenge, and adversity to get participants pulling together to accomplish a shared goal. Further preoccupation with or staging of risk and challenge might not necessarily realize additional benefits; it could require heightened leader control, foster a maladaptive preoccupation with social competence among participants, and might in fact add unnecessary danger and liability that provides limited return. This is a matter for future research as well as a point on which organizations, program designers, and leaders might reflect. The larger question for organizations that structure youth experiences in nonformal settings then becomes: does the task have to be an adventure experience, or does the adventure experience merely serve as a motivator to attend and a mediator of other more crucial social qualities? Are other experiences better suited to achieving developmental goals, and would these have the same appeal as adventure courses? For instance, trailwork, conservation, or service programs could be one alternative for organizations or communities who do not have access to sites where adventure is possible, do not have the resources to run programs safely, and do not possess staff trained to facilitate effectively. Alternatively, the physical risk and challenge inherent in adventure could be a crucial element fostering cohesion; studies that compare
programmatic conditions and social climates across types of youth programs, and measures these against similar outcomes, would be a fruitful direction for future research.

**Primary Implications**

This section focuses on the main implications of this dissertation. I attempt to discuss and summarize in nontechnical terms some of the key information learned from this study that can be applied to youth development setting in general, as well as specifically addressing wilderness programs field practices and organizational decisions. I also attempt to take the next step and make recommendations for practice based on the conclusions of this dissertation.

One strength of this study is that it presented some nuances as to how, specifically, high quality outdoor education courses can promote inter and intra personal development. Extensive educational research has shown how influential the classroom environment is toward students' motivational goals (Ames, 1992; Anderman & Maehr, 1994; Dweck, 1986; Dweck & Leggett, 1988; Kaplan et al., 2002; Lau & Nie, 2008; Meece et al., 2006). Applying this logic to a wilderness setting, when the social climate has less of an emphasis on group cohesion than participants anticipated, youth likely adapt to cues that promote demonstrating competence rather than developing relationships. In this study, when students' expectations group for cohesion were not met and when the social aspects of courses were likely not emphasized by instructors, the social growth that might be hoped for as a result of outdoor adventure education courses did not occur, and on average shifted in the opposite direction to what was hypothesized and what is generally considered adaptive or beneficial to the participant.
At the present time, this review of participant expectations compared to perception of reality portrays NOLS instructors as generally supporting and empowering their students to make their course function efficiently, while providing them with tasks and the structure and organization to complete them. This is an excellent way to train future leaders, which is what NOLS has specialized in since its inception in 1965. In this study, it was evident that expectations for task orientation were met; students felt they expected to be oriented towards completing tasks and they were. However, at present time, NOLS also offers courses for adolescents' who are not necessarily looking to become outdoor instructors and instead may just be seeking a fun and different experience while making friends and growing in new directions.

The lack of variability between courses as opposed to significant variability within courses suggests that there is strong consistency in how NOLS achieves its aims, but that the social aspects of NOLS courses might be strengthened to achieve more general developmental outcomes across courses. One challenge to NOLS, if staff members wish to pursue these directions, is to not sacrifice the traditional goals of skill, leadership, and conservation in favor of wholesale change toward more 'social' focuses. This does not appear to be required; even in this sample, some instructors successfully created environments that many students apparently perceived as cohesive, and this shaped those students' goal orientation in positive ways. A good next step would be to survey instructional staff about practices they believe promote positive social climates under a variety of circumstances – good weather and bad, bugs or no bugs, prior NOLS experience or no, and so on. Moreover, involving existing field staff in this kind of conversation could lend credibility and weight to any desired changes instead of trying to
Implications for Positive Youth Development

Positive youth development (PYD) involves believing youth have the capacity for Competence, Confidence, Connection, Character, and Caring/Compassion and that in order to support developing these areas, youth need a foundation of developmental assets. In general, the more assets youth have, the less likely they are to engage in risky and potential detrimental behaviors. Increased assets produce significant improvement in indicators related to thriving (Benson, 2006). Some settings contain features that tend to maximize the possibility for positive development for youth (Eccles & Gootman, 2002). Additionally, research supports the idea that young people learn best when they are engaged, and development is triggered by engagement (Pittman, et al., 2003). Wilderness courses engage youth in a setting outside of school and have the potential to be an ideal setting where the acquisitions of social and interpersonal assets are gained through meaningful and engaging experiences.

While this study did not demonstrate gains in social development goal orientation, it did point to ways to maximize those gains in the future and these findings were in line with Eccles & Gootman’s (2002) suggestions for maximizing positive developmental settings. Looking at this data, many nonformal educational settings could likely increase their participants’ social development goal orientation if they try to build cohesive groups, have set task for them to try to accomplish, and encourage leaders to support their students’, but not control them. Similarly, youth development literature suggests,
opportunities to belong - similar to building cohesion, appropriate structure – similar to
task orientation, and supportive relationships – as opposed to controlling.

To facilitate this type of setting requires training for the leaders. Many nonformal
educational programs use volunteers who want to help, but have not acquired the
necessary tools to successfully work with youth, possibly resulting in them feeling the
need for increased control. Some foundational training focused building cohesion
amongst groups, possibly through empowering games where the facilitator can step back
and let the group solve manageable problems could be extremely helpful. Essentially,
many youth programs are trying to engage youth in a task to accomplish a larger goal.
Leaders need to understand their role is to frame the experience and support students in
reaching their goals.

**Targeted Improvement of the Social Climate**

Just as in classrooms, there is a constellation of features in the learning
environment or social climate of a NOLS course or any organized nonformal youth
program for that matter, that shape participants’ social goals. This study noted several
areas that seem to impact these orientations on wilderness courses, not least of which was
the perception of a cohesive group climate. One of the most interesting and revealing
findings was the unmet expectations for cohesion, specifically (a) a higher mean and
lower standard deviation in *expectations* for cohesion pre-course, and (b) a lower mean
and higher standard deviation in actual *perceptions* of cohesion post-course.

In other words, student expectations for cohesion were more uniformly high
before they attended their NOLS courses, and during their courses their perceptions of
cohesion both decreased and became more dispersed. While there was a wide range of
how cohesive students perceived their group to be, this was generally below their expectations. Identification of this pattern might help understand the overall -.11 point decline in social development goal orientation as an outcome variable, especially if social cues and environmental conditions more promoted social demonstration goals, as appears to be the case. Recognition of this point helps put a finger on a core issue in these data: getting students to more uniformly perceive higher levels of cohesion should, given its role in promoting development orientations, help turn around the outcome scores. Other findings suggest some ways forward toward this goal.

After gathering information from instructors, if NOLS is aiming for uniformly higher perceptions of cohesion, hence changes in social development goal orientation across all courses, organizational leaders could combine what they learn from their instructors with empirical evidence from this study to base decisions about higher-level staffing and participant assignments. I want to propose an “offset model” that focuses on the areas shown to be beneficial to group cohesion and overall gains in social development goal orientation. Course directors could assign returning students on as many trips as possible, using them strategically, and ‘offsetting’ student distributions with key staffing assignments in other courses. This would require looking at the strengths of instructors – i.e., ones who are known to be more fun and playful – as well as where the course is going – i.e., to locations that might provide a relatively predictable amount of adversity. Courses staffed by instructors known to be more controlling could be coupled with strong returning NOLS students, to ‘offset’ the effects, or in locations where risk management might be more of a concern. Courses without returning students, on the other hand, might be staffed by fun/playful instructors in locations that are
unlikely to require significant leader control to manage risk. This kind of approach could help craft more adaptive social climates across all courses, but for different reasons. This recommendation should be taken as provisional, given the relatively few returners in my study, but could be a promising foundation to some experimental manipulations in future seasons and studies if NOLS was amenable.

NOLS marketers and administrators could also use these findings for several additional practical purposes. Encouraging participants to return for a second or third course is obviously good for business, but it appears also to be good for other participants. Offering returning students discounts, especially those with particularly high evaluations and strong assessments of expedition behavior, could benefit NOLS’s ability to achieve desired outcomes more uniformly across a wider array of courses. Such a peer effect could outweigh an overly controlling instructor or, more optimistically, allow that instructor to step back because they are seeing positive things in how their course group is functioning. The benefits to the returning student in terms of leadership development could also be enhanced. If instructors enter a course knowing they have a returning student, they can empower that student to help set positive groups norms, which could be extremely powerful for youth who may not be impacted in the same way by instructors.

The unmet expectations of cohesion are an area that could benefit from further attention. It is possible this could also be altered through a combination of programming, and speculating beyond my data, marketing. I will discuss these in turn. While NOLS does not advertise itself as having a goal of relationship building, it appears that participants still expect to gain close relationships as part of their experience. The
primary suggestion for practice revealed through the analysis of expectations is to consider emphasizing group cohesion or the relationship aspects on extended wilderness courses when they involve adolescent participants, provided courses are structured to meet these expectations. For example, the predictors of cohesion in this study were the fun and / or playfulness of the group along with uncomfortable weather. While NOLS administrators cannot control weather, they can look at programming locations and yearly trends and consider these factors in to their staffing while manipulating what they can to some degree control - the fun or playfulness of the social climate of their youth courses. NOLS instructors are well trained in many areas including risk management, leadership, and conflict resolution, but might be less comfortable deliberately building group cohesion, perhaps because of their work with adult populations in courses that stress different goals and allow greater autonomy. However, this is worth further investigation for NOLS adolescent courses. It might be worth having an additional training module for youth instructors that focuses on bringing an atmosphere of 'fun' and building group cohesion along with the more typical development of skills and leadership.

The key elements of the social climate in promoting an increase in social development goal orientation in this study were increasing cohesion and task orientation, while decreasing leader control. Knowing that: fun / playfulness as well as uncomfortable weather are predictors of increasing cohesion; rain is a predictor of increasing task orientation; and that the number of games played and / or lessening the overall adversity of a course is shown to decrease students' perception of leader control, could be used to carefully craft instructor teams for specific course areas. The objective factors of the course are the location and how it relates to seasonal weather patterns, and
the somewhat related adversity of the course. Some areas, such as Alaska in the summer, are likely to have more rain and bugs during the summer months when youth are typically on courses; those courses might not need the instructor who is a playful game master, as much as an August course in the sunnier Wind River Range does. The summer Wind River course, often having less rain or adverse weather, is, in a sense in greater need of the playful instructor to aid in building cohesion, while the Alaskan course is more likely to be assisted in that by uncomfortable weather. Combining the strategic empowerment and use of returning students with staffing related to weather trends and the ‘fun’ level of instructors, might create greater uniformity in gains in the social development goal orientation of NOLS participants. Again, these are elements that could be manipulated and examined in future studies.

One final word: it is important to acknowledge that the outcome being measured here, a change in the social development goal orientation of participants may not actually be of concern to NOLS. However, it serves as one way to understand the type of social climate, or as stated in classroom research, the learning environment, that is created during these kinds of courses. In light of this research and the finding that on average, students enter expecting greater group cohesion than they perceive, NOLS may begin to see benefits to more explicitly promoting a cohesive course group, especially on social/developmental outcomes that they might wish to promote and that developmentalists generally recognize as beneficial for youth. Group cohesion and changes in the social motivation of participants will probably never be NOLS’s primary goal, but may serve as a means to reach the ends of enhanced learning and positive experiences for their participants. This study has hopefully helped to highlight ways in
which managers and leaders of outdoor programs could, if they choose, attempt to create uniformly higher changes in social development goal orientation through the manipulation of factors in the social climate.

Critique of Study Methodology and Procedures

This section critiques my study methodology and procedures. Given the size and scope of this project and the remoteness of the courses being surveyed, the procedures went relatively well. However, I do have three critiques that would strengthen the validity of all claims. First, an additional posttest to measure retention could have strengthened claims about the extent to which social development goals are beneficial to participants. Due mainly to convenience and simplicity as well as desire for a larger sample size, the posttest was given at the end of the course, while in the field. An additional posttest measuring of perceptions one month or one year after course to see if changes occurred over time, would add greater depth to the study. Second, due to 10 of 54 questions being left off the posttest of the GES, the use of standardized scoring was not possible. Third, due to both methodology and theory, I must also acknowledge the possible bidirectional influence of social development goal orientation and cohesion. Lastly, due to the late decision to include the question about inclusion of the decision to attend question, several groups were not given that question.

Some authors have argued that the pre / post model is not the best option in recreation research (Sibthorp, Paisley, Gookin, & Ward, 2007b). Essentially, these researchers found a “response bias shift” where individual’s self-knowledge changed as a result of their recreation experience, making comparison of pre and posttests problematic.
Sibthorp et al. (2007b) suggest a retrospective pretest as a way to address this issue, where after their experience, students are essentially asked to reflect about how they felt before the experience compared to after. If this bias occurred here, the -.11 change has overestimated the extent to which social development goals declined. This kind of approach could be adopted in studies of future NOLS courses, adapting the design I established here.

For the purpose of this study, the GES was narrowed to six sections each containing nine questions. However, due to an administrative error in creating scantrons, which I did not catch, several courses were given the GES without 10 of the 54 questions. These 10 questions were then eliminated from all surveys and scores were tabulated accordingly. This resulted in not being able to compare the scoring to the normalized data or previous studies. It is therefore impossible for me to relate the outdoor courses I studied to other, similar youth settings.

Third, I must also acknowledge the possible bidirectional influence of social development goal orientation and cohesion. There is a real possibility that students with high social development goal orientations perceive and create cohesive environments for themselves, not just the other way around. This is always this possibility with correlational and regression analyses, which in this case also makes some theoretical sense.

Lastly, at the defense of my proposal of this dissertation, I was encouraged to include a question about who made the decision to attend NOLS; parent, student, or mutual. I believe this is an interesting question that could have implications on social motivations, social climate, and other outcomes. However, due to several groups taking
the survey prior to this question being added, the data was not included in the final analysis.

**Recommendations for Future Studies**

I have subdivided this section because I believe there is still additional work to be done with this data, in addition to additional future research.

**Using this Data**

I intend to continue to work with this dataset to answer additional questions beyond what was covered in this dissertation. I would like to first look more carefully at expectations of social climate and how that aligns with changes in social development goal orientations. Specifically, I plan to study how the relationship between expectations of cohesion and perception of cohesion (or other climate factors) act as a predictor of changes in social development goal orientation. I believe this could be achieved by looking at the direction of difference in expectation to perception of cohesion, then dichotomize based upon that perception, and put it into OLS regression with change scores of social development goal orientation. This would help in understanding the possible importance of alignment between expectations and perceptions in shaping outcomes versus just post-course perceptions independently.

The other area I would like to investigate is changes away from the social demonstration-avoid orientation. This is an adaptive change is worthy of greater attention. Similar analysis to what occurred in this dissertation could aid greatly in understanding predictors of students shifting away from social demonstration-avoid goal orientations. One might expect that the same factors that promote adoption of social
development goals also reduce the likelihood that individuals will adopt social
demonstration-avoid goals.

Other Future Research

This research project has spurred several ideas for additional research projects, most
notably:

- In a similar study to this one in terms of outcomes and predictors, utilizing a
  sample from different organizations with different missions, such as NOLS,
  Outward Bound, and Student Conservation Association in order to investigate
  how the mission of the organization and the nature of their programs relates to the
  social climate of its courses, and how this shapes outcomes (Kellert, 1998).
  Attending and observing staff training for each organization would also add depth
to the analysis.

- An additional investigation of social climate, but in relationship to other
developmental outcomes, such as the valued NOLS outcomes of communication,
leadership, small group behavior, judgment in the outdoors, outdoor skills, and
environmental awareness. This could create a greater understanding of social
climate in relationship to different dependent variables, such as belief in
leadership abilities. This could aid administrators in determining what aspects of
the social climate should be focused on to enhance gains in students’ beliefs about
their leadership (or whatever outcome is deemed valuable) abilities, in light of
different program goals.

- Utilize a retrospective pretest to reduce the risk of response bias shift. The
  additional benefit of this format is that it would increase sample size because all
participants would take the survey at the close of their course and could therefore give a more complete picture across a wider range of experiences.

- Conduct a similar study comparing a “typical” camp group to that of an adventure program of similar duration. Having a control group, such as a traditional camp, could help examine claims about the unique properties of wilderness programs.

- Include exit interviews to further understand the patterns discovered and ask the participants with the strongest effect why they answered the way they did. This could add a greater depth of understanding to what is occurring in the social climate or the individual that is facilitating growth.

- Additional investigations into the idea of the role of ‘fun’ in development of youth. By exploring the role of fun, a greater understanding of its purpose in youth development settings could be further understood and applied.

- Continued investigation in to role of risk in group cohesion. It seems important to understand if there is a point where increased risk is no longer beneficial to participant development, in order to maximize developmental benefits without increasing risk for the sake of risk.

**Conclusion**

This dissertation examined participants’ expectations of the social climate on extended wilderness courses, how students’ actually experienced the social climate during their course, how these expectations, perceptions, and the influence of environmental characteristics impacted their social development goal orientation. It was found that, on average, students’ social development goals changed, but not in the
predicted direction. This maladaptive shift in social development goal orientation could have implications for participants’ social motivation in other settings, making it important to understand why this shift occurred and what significant on-course predictors were, in order to facilitate youth goals shifting in an adaptive direction.

According to the model created with this data, courses in which students had (a) higher perceptions of group cohesion and task orientation combined with (b) lower perceptions of leader control, and (c) course groups contained participants with previous NOLS experience had higher positive changes in their social development goal orientations. Additional analysis used instructor reports to understand other factors influencing youth. Findings showed that having fun and playful courses predicted group cohesion, and when students perceive higher levels of cohesion within their course group it was shown to positively predict changes in social development goal orientation.

This information could be used to create an ‘offset model’ to engineer courses with the potential for a universally higher level of positive changes in social development goal orientations. However, at this point, this recommendation should be taken as provisional, given the relative uniqueness of my study to the outdoor course setting, but could be a promising foundation to future programming and research.
References


Appendix A

NOTE: All appendixes have formatting issues not on the original documents due to the size and spacing of this dissertation


Benjamin Mirkin, Doctoral Candidate, Education Department
Jayson Seaman, Assistant Professor, Kinesiology Department

Introduction
The proposed study will examine students’ expectations of the social climate of National Outdoor Leadership School (NOLS) courses, how students actually experience the social climate during their course, and how these expectations and perceptions influence peer interactions in adaptive or maladaptive ways. This research builds upon the knowledge gained from two completed pilot studies which suggest that peer interactions during outdoor adventure education (outdoor adventure education) courses change in ways that promote the development of meaningful relationships, and these changes are related to several specific aspects of the social climate such as the cohesiveness of the group as well as the emphasis that is placed on accomplishing tasks (Mirkin, 2012).

A main value within outdoor programming, and presumably NOLS, is the value of good communication, high quality instruction, and rich social interaction as cornerstones of using outdoor adventure in a group context to promote growth. It is assumed that NOLS exemplifies these values and practices, however it may be beneficial to operationalize peer interactions more precisely and to better understand how the quality of peer interactions is related to the social climate of courses. Understanding students’ expectations of the social climate of their upcoming course experience could give insights into additional factors that shape outcomes. For instance, perhaps it is not only a student’s perception of the social climate of a course, but alignment between their expectations for a certain type of social experience and the realization of that expectation that influences outcomes. Additionally, reports from adult instructors at the close of trips will help clarify course characteristics that make the context of an individual course unique.

Students’ perception of the social climate during outdoor adventure courses is likely to shape their experience and relate to each individuals’ social goals. Achievement goal theory provides a theoretical framework for describing individual motivation and the Group Environment Scale (Moos, 2002) will assist in assessing aspects of the social climate. Currently, there has been little research of achievement goal theory in an outdoor education context. Achievement goal theory conceives of motivation not as a quantity (e.g. students are more or less motivated), but as a quality of the motivational goals that individuals hold and has emerged as a prominent approach to achievement motivation (Ames, 1987; Meece, et al., 2006; Midgley, et al., 1998; Weiner, 1990). Recently, the achievement goal framework has been extended to an examination of social goals (Ryan & Shim, 2006, 2008), proposing different goal orientations within the social domain of the academic classroom context. A social development goal is concerned with developing social competence with peers. The focus is on learning new things, growth
and improvement. Success is judged by whether one is improving social skills, deepening the quality of relationships, or developing one’s social skills in general. A social demonstration-approach goal is focused on demonstrating social competence, and gaining peers’ positive judgments that one is socially desirable. A social demonstration avoid goal concerns a focus on demonstrating that one does not lack social competence. With both social demonstration goals, attention focuses on the appearance of the self, especially in relation to others (Ryan & Shim, 2006; Ryan & Shim, 2008). Essentially, a social development goal sets in motion social beliefs and behaviors that facilitate the formation of positive personal relationships. Social development goals are positively related to self-acceptance, positive relations and personal growth while social demonstration avoid goal are negatively associated with positive relations, self-acceptance, personal growth, and autonomy (Ryan & Shim, 2006). The relation of these goals to outcomes has begun preliminary investigations.

A primary purpose of many wilderness trips is the development of positive interpersonal relationships and group experiences that lead to enhanced sense of community among members. Prior studies have examined important outcomes of wilderness trips such as self-efficacy, community, and belongingness, (Breunig, et al., 2007; Mitten, 1999) however, there has been little investigation of individual social goals and how they are related to various aspects of the group environment created in outdoor adventure programs. This study will examine the relation of the group environment to social achievement goals in this context.

To expand the understanding of how these social achievement goals interact on outdoor trips the current research will administer The Group Environment Scale. This well established assessment tool is divided into three dimensions: 1) The Relationship dimension, 2) the Personal Growth dimension, and 3) the System Maintenance and Change Dimension (Moos, 2002) to assist researchers in gaining a greater understanding of participants’ perception of the group environment.

**Specific Aims**
This study plans to address the following questions:
1. Prior to NOLS courses, do participants’ expectations of the social climate relate to their perceptions of their actual experience?
2. At the close of NOLS courses, has the manner in which participants’ conduct their peer interactions changed?
3. At the close of NOLS courses, what specific aspects of the social climate relate to participants social achievement goals?
4. Does the variation in perceptions of the social climate and the social development goals vary by course type, duration of the experience, age, gender, and / or race of participants?
5. If NOLS hopes to facilitate adaptive forms of social motivation for their participants, what aspects of the social climate are most essential to emphasize? How does this vary in terms of course type, duration of the experience, age, gender, and / or race of participants?
6. How do characteristics of the course, such as food, weather, level of challenge, etc. influence the social climate on NOLS courses?

Research Protocol

Setting

This will be a pre and posttest survey study. A sample of approximately 500 students, age 14-19, coming from approximately 50 different National Outdoor Leadership School (NOLS) courses as well as one instructor from each course will be asked to volunteer as subjects in this study. These courses take place in various wilderness settings across the US. An electronic copy of the survey, as well as IRB and passive consent forms will be sent to families prior to the summer in order to obtain parent approval. All data will be identifiable with the NOLS ID code, which will be removed once pre and post data are matched. Instructors will be notified of the study in advance and given a consent form when they receive the survey packet for their course.

Protocols

NOLS Research will determine appropriate participants for this survey, within the specified age and course parameters. NOLS will also make all direct contact to families via their established connections to them. Pretests will be administered through Qualtrics, a company specializing in academic research, with emails sent from “NOLS Research” to participants providing an email link to the pre course survey, 1 month prior to the start of a course. As is NOLS typical procedure for pre course survey reminders, follow up emails will be sent the next 2 weeks and if necessary, a phone call reminders will be made to participants 5 days prior to the start of their course, if they have not completed their pretest. There will be 5 headlamps raffled off as incentive for students to participate in the pretest. This will be done after all pretest have been administered, through random selection of participants by their email addresses. Winners will then be notified through those email addresses.

Posttests will be administered at the close of NOLS courses. They will be carried in to courses by NOLS staff with the final food ration. Students will put their completed surveys in an envelope, which will then be sealed by the last student and given to the instructor so that the instructor cannot see the responses. The instructor will take his/her survey at the same time and then put the completed survey in a separate envelope. The sealed envelopes will then be passed off to course supervisors, to NOLS Research, and mailed to me.

The packet of surveys will include candy bars as a thank you gift to instructors for their participation and assistance. Instructor reports of trip characteristics will be completed at the close of the trip, while students are completing their course evaluations and surveys and included in the same sealed envelope. The nature of extended wilderness courses has partially determined the data collection procedures used here.

Procedure for obtaining consent

Currently, it is a standard practice for NOLS to administer their in-house questionnaire at the end of each course. They use this information a variety of research purposes but do not pursue consent from parents – it is a routine part of the course.

I will be building on this routine practice but will, since I am asking for information in addition to what NOLS typically asks for, implement a parental consent
procedure. I am requesting a waiver of parental documentation of consent (i.e. passive consent) as well as waiver of documentation of participant assent; completion of the survey will signal assent. The reason for this request is at the request of NOLS, so they do not have to manage paperwork in addition to what they normally require. NOLS desires to support this project and has agreed to administer the survey to all or most students. The opportunity to partner with a leader in field-based adventure programming combined with the minimal risk involved with this survey, in my view, makes passive consent a suitable approach. My experiences in my pilot studies also suggest this will make sampling more straightforward since the principal researcher will work remotely and through a partner organization.

Parents who do not give permission for their child to participate in this survey will be instructed to return an email to NOLS indicating this. Furthermore, students will be given assent information during the pre and posttest. In order for them to participate in the computer based pre test, they will have to click and verify assent in order to proceed. At posttest, they can simply decline to take. Students will also be verbally made aware when surveys are handed out that they can choose not to participate at any time in the process. Their assent will be implied by deciding or not deciding to take part in the survey.

Students will have the option to participate or choose to cease participation at any time. If an instructor does not wish to participate in this study, they can simply decline participation and not fill out the related survey form.

Incentives

5 headlamps will be raffled to those who complete the pre test survey.

Investigator Experience

I have extensive experience working for The White Mountain School and bring strong knowledge of outdoor field-based programs to this endeavor. I completed my first similar pilot study during the summer of 2010 and then another two-part study during 2011. I am working toward publication of the second study. My advisor, Dr. Jayson Seaman, has collected data in field of outdoor education and the classroom contexts for several research studies over the last decade and will be supporting me in this process.

Data collection, management, and analysis

Confidentiality will be maintained as much as possible while NOLS is assisting with data collection and entry. During the collection phase, while NOLS is handling data, individual data cases will all be identifiable via a NOLS ID code (assigned to all students on all courses regardless of their participation in this study). These codes will be visible to NOLS office staff during data entry. Upon completion of data entry, NOLS will send the principal researcher original copies of the surveys as well as spreadsheet files. Upon receipt by the principal researcher, NOLS ID codes will be removed once pre and post data are matched. At this time the principal researcher will notify NOLS and supply them with the recoded anonymous dataset and ask them to delete their related files. Paper copies of surveys will be kept by the principal researcher in his residence, which is locked when no one is home, for three years before they will be shredded.
Analysis for this study will largely occur from November – April of the upcoming academic year. Data analysis will primarily include multilevel modeling (MLM) to enable data from this study to be analyzed accurately by representing individuals (Level 1) nested in groups (Level 2). It will be reported both on an individual level, as well as aggregated to the group level. Data will primarily be used for the purpose of my dissertation as well as future publications or presentations. Additionally, NOLS may use the research to modify their programs or promotional materials.

Risks
This study poses minimal risks to participants. Procedures are in place to protect participants’ identification as much as possible and the survey content is not sensitive in nature. The participants will be aware that they will be able to withdraw at any time during the study. Information from this study will remain confidential to the extent possible and will not be shared on an individual basis. Information will become anonymous once ID codes are removed, as described above.

Benefits
Outdoor adventure trips provide an opportunity for promoting social development in adolescents but participants’ motivation and perception of the group environment of these trips have not been examined extensively. This study proposes to improve our practical and theoretical understanding of the potential importance of trip structure to facilitate adaptive social development. By advancing our understanding of group environment during these trips, new insights into strategies for effectively engaging youth in this context can be gained. Using existing motivational frameworks to examine outdoor education may contribute to our understanding how those theories fit with different contexts and may help promote better educational practices. Additionally, this study will contribute to achievement goal theory by examining motivation in a context other than classrooms.

There are no direct benefits to participants for in this study.
Dear Parent or Guardian,

During summer 2012 NOLS is supporting research by University of New Hampshire Doctoral Candidate Ben Mirkin, who is trying to see how the characteristics of small groups are related to students' learning experiences on courses. NOLS is supporting this research by surveying approximately 500 participants on 50 courses, and would like for your child to participate.

Prior to the start and end of the course, students will be invited to take a brief survey. The pre course survey invitation will come in the form of an email, while the post course survey will be given to them in paper form at the end of the courses. If your child does not wish to participate, he or she may decline to take the survey. Both surveys will take approximately 15 - 20 minutes. Students may refuse to answer any question and/or withdraw from the study at any time without any impact on their participation in the course.

All contact with participants will be done through NOLS. Although data will be tracked by NOLS ID codes for the purpose of matching pre and posttests, the information will not be used by NOLS to evaluate individual students. Your child's identity is anonymous to the researcher, but for the limited time that the code is attached, the responses are identifiable to NOLS office staff. Once pre and posttest are matched, the code will be removed rendering the data anonymous. The researcher will keep the surveys and only use them for research purposes. The data will be shared with NOLS, but only used for the sole purpose of program research. You will have the opportunity to read a summary of the study's findings at the end.

The researcher plans to maintain the confidentiality of all data and records associated with your child's participation in this study. However, you should understand that any form of communication over the Internet does carry a minimal risk of loss of confidentiality. Data will be reported in the researcher's dissertation as well as future publications or presentations.

This study is designed to present minimal risk to your child. The contribution to research is the only direct benefit your child will obtain. As an incentive to participate, participants will have the possibility of winning one of five randomly selected raffled headlamps.

Your decision to allow your child participate in the study is voluntary. Whether or not you allow your child to participate in this study will not affect his/her participation or evaluation in their course. Your child will still participate in NOLS whether or not you agree for him/her to be part of this study. You may withdraw your child from the study at any time.

If you do not wish for your child to participate in this study please indicate by emailing NOLS research at research@nols.edu

If you consent to your child's participation in this study, no action is necessary.

Thank you for your consideration of this request. Should you have questions or concerns, please feel free to contact either Mandy Pohja at mandy_pohja@nols.edu at NOLS or the primary researcher, Ben Mirkin ben.mirkin@whitemountain.org at the University of New Hampshire. If you have any questions about your child's rights as a research subject you may contact Dr. Julie Simpson in the UNH Research Integrity Services at 603-862-2003 or julie.simpson@unh.edu to discuss them.

Please print and hold on to this in case you have any questions. Thank you very much for your participation.
National Outdoor Leadership School Research Participation Permission

General Assent Form

Dear Student,

During summer 2012 NOLS is supporting research from the University of New Hampshire Doctoral Candidate Ben Mirkin to see how group learning experience is related to students' peer interaction. NOLS will be surveying approximately 50 courses and 500 participants.

Prior to the start and end of the course, you will be invited to take a brief survey and asked to complete it. The pre course survey invitation will come in the form of an email while the post course survey will be given to you by your instructors in paper form. Both the pre and post-trip survey will take approximately 15 - 20 minutes. You may refuse to answer any questions and/or withdraw from the study at any time without any impact on your participation in the course.

All contact with you will come directly from NOLS. The information gathered will not be used by NOLS to evaluate individual you and will be tracked only by NOLS ID codes for the purpose of pairing pre and posttests. The codes are anonymous to the research team, but for the limited time that the code is attached, the responses they are identifiable to NOLS office staff. Once pre and posttest are matched, the code will be removed rendering the data anonymous. Data will be shared with NOLS, but only used for the sole purpose of research and not to investigate personal information about you or your opinions.

The researcher plans to maintain the confidentiality of all data and records associated with your participation in this study. However, you should understand that any form of communication over the Internet does carry a minimal risk of loss of confidentiality. All data used in this study are identifiable via your individual NOLS ID code, which will be removed once pre and post data are matched. Data will be reported in the researcher's dissertation as well as future publications or presentations.

This study is designed to present a minimal risk to you. Your contribution to research in this field is the only direct benefit will obtain. As an incentive to participate, there is the possibility of you winning one of five of the raffled headlamps randomly selected by the computer program after completion of the pre course survey.

Have a fantastic summer with NOLS!

If you or your parents have questions or concerns, please feel free to contact either Mandy Pohja at mandy_pohja@nols.edu at NOLS or the primary researcher, Ben Mirkin ben.mirkin@whitemountain.org at the University of New Hampshire. If you have any questions about your rights as a research subject you may contact Dr. Julie Simpson in the UNH Research Integrity Services at 603 862-2003 or julie.simpson@unh.edu to discuss them.

Please print and hold on to this in case you have any questions. Thank you very much for your participation.
Dear Instructor,

During summer 2012 NOLS is supporting research from the University of New Hampshire Doctoral Candidate Ben Mirkin to see how group learning experience is related to students’ peer interaction. NOLS will be surveying approximately 50 courses and 500 participants.

Near the end of your course, you will be invited to take a brief survey and asked to complete it. This survey will be given to you in paper form and will take approximately 15 - 20 minutes. You may refuse to answer any questions and/or withdraw from the study at any time without any impact on your employment with NOLS.

The information gathered will not be used by NOLS to evaluate your job performance, but rather for research purposes. Data will be shared with NOLS, but only used for the sole purpose of program research and not personal information or evaluation of your performance as an instructor.

The researcher plans to maintain the confidentiality of all data and records associated with your participation in this study. The data pertaining to you is connected to you by your course code, which will be removed once pre and post data are matched and groups are labeled appropriately. Data will be reported in the researcher’s dissertation as well as future publications or presentations.

This study is designed to present a minimal risk to you. Your contribution to research in this field is the only direct benefit will obtain. The researcher does want to give each instructor a candy bar as a simple way to say thank you!

Have a fantastic summer with NOLS!

If you have questions or concerns, please feel free to contact either Mandy Pohja at mandy_pohja@nols.edu at NOLS or the primary researcher, Ben Mirkin ben.mirkin@whitemountain.org at the University of New Hampshire. If you have any questions about your rights as a research subject you may contact Dr. Julie Simpson in the UNH Research Integrity Services at 603 862-2003 or julie.simpson@unh.edu to discuss them.

Please hold on to this in case you have any questions. Thank you very much for your participation.
19-Apr-2012

Mirkin, Benjamin
Education, Morrill Hall
371 West Farm Road
Bethlehem, NH 03574

IRB #: 5441
Approval Date: 19-Apr-2012

The Institutional Review Board for the Protection of Human Subjects in Research (IRB) has reviewed and approved the protocol for your study as Expedited as described in Title 45, Code of Federal Regulations (CFR), Part 46, Subsection 110.

Approval is granted to conduct your study as described in your protocol for one year from the approval date above. At the end of the approval period, you will be asked to submit a report with regard to the involvement of human subjects in this study. If your study is still active, you may request an extension of IRB approval.

Researchers who conduct studies involving human subjects have responsibilities as outlined in the attached document, Responsibilities of Directors of Research Studies Involving Human Subjects. (This document is also available at http://unh.edu/research/irb-application-resources.) Please read this document carefully before commencing your work involving human subjects.

If you have questions or concerns about your study or this approval, please feel free to contact me at 603-862-2003 or Julie.simpson@unh.edu. Please refer to the IRB # above in all correspondence related to this study. The IRB wishes you success with your research.

For the IRB,

Julie F. Simpson
Director

cc: File
Seaman, Jayson
RESPONSIBILITIES OF DIRECTORS OF RESEARCH STUDIES INVOLVING HUMAN SUBJECTS

University of New Hampshire (UNH) tenure-track faculty, lecturers, senior lecturers, visiting faculty with rank, research faculty with rank, clinical faculty with rank, and permanent staff may serve as directors of research studies (researcher) involving human subjects. Adjunct faculty, courtesy faculty (affiliate, affiliate research, and affiliate clinical), and graduate and undergraduate students must be sponsored by an individual who qualifies to serve as a project director.

A. Researchers are responsible for complying with
   II. UNH’s Federalwide Assurance (FWA) (http://www.unh.edu/osr/compliance/support/ohrp.pdf), and

B. Researchers are responsible for gaining familiarity with, and adhering to, the ethical principles stated in The Belmont Report (http://www.hhs.gov/ohrp/humansubjects/guidance/belmont.htm).

C. Researchers must submit all proposed research activities involving human subjects to the UNH Institutional Review Board (IRB) for review before commencing. Researchers must not involve human subjects in research activities until the researcher has received written, unconditional approval from the IRB for the study.

D. Researchers are responsible for protecting the rights and welfare of human subjects in their research studies.

E. Researchers are responsible for keeping co-researchers and all research staff informed about the nature and goals of the study, and the need to adhere to ethical and responsible practices.

F. Researchers are responsible for adhering to the IRB-approved protocol and consent process, including providing a copy of the IRB-approved and signed informed consent document to each subject at the time of consent, unless the IRB has specifically waived this requirement. The researcher must retain all signed consent documents for at least 3 years after the end of the study.

G. Researchers must request IRB approval for proposed changes in previously approved human subject research activities before initiating them, except where necessary to eliminate apparent immediate hazards to the subjects.

H. Researchers are responsible for reporting progress of approved research to the IRB as often as, and in the manner, prescribed by the approving IRB on the basis of risks to subjects. For studies approved at the Expedited and Full Board review levels, this must be no less than once a year (365 days) from the last review date.

I. Researchers must report to the IRB any injuries or unanticipated problems involving risks to subjects and others within one working day of occurrence.

J. Researchers will not seek to obtain research credit for, or use data from, patient interventions that constitute the provision of emergency medical care without prior IRB approval. A physician may provide emergency medical care to a patient without prior IRB review and approval, to the extent permitted by law. However, such activities will not be considered research nor may the data be used in support of research.

K. Researchers who collaborate with colleagues at other institutions/sites have additional responsibilities. Researchers will advise the IRB, the Office of Sponsored Research, and appropriate officials of other institutions of the intent to engage human subjects in research studies for which the UNH FWA or any related Inter-Institutional Amendment or Non-institutional Investigator Agreement applies. Institutions in the collaboration must possess an OHRP-approved Assurance prior to the involvement of human subjects in a research study.
Thank you very much for your voluntary participation in this survey. This section should only take about 15 - 20 minutes.

Your parents / instructors / peers will not see your answers – they are being used only for the purpose of educational research.

Please be honest and candid.

**Personal ID Code:** Course code + course date + section + birth date
*Example: WRW2 6/11/12_1_12/10/1995*

**Demographic / Personal Information**

<table>
<thead>
<tr>
<th>Gender (circle one):</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (circle one):</td>
<td>14</td>
<td>15</td>
</tr>
</tbody>
</table>

Ethnicity (circle one):

White/Caucasian  Black/African American  Hispanic/Latino  Asian  Other

Previous courses with NOLS (circle one): 1 2 3 4 5

**Instructions**
Please think about the course you are about to be part of. There are 54 statements in this section the NOLS courses you are about to be part of. The group of participants on your
course is referred to as “course” in this survey. Answer each statement to describe what you think the course you are about to join will be like. You are to decide which of these statements are true of your course and which are not.

If you think the statement is True or mostly True of your group, circle T (true). If you think the statement is False or mostly False of your group, circle F (false). Please be sure to answer every item.

1. There will be a feeling of unity and cohesion in this course. T F
2. The instructors will spend very little time encouraging students. T F
3. Individual talents will be recognized and encouraged in this course. T F
4. There will be very little emphasis on practical tasks in this course. T F
5. The activities of the course will be carefully planned. T F
6. The course will be run in a pretty loose way. T F
7. There will be very little course spirit among students. T F
8. The instructors will go out of his or her way to help students. T F
9. In this course, students will be learning to depend more on themselves. T F
10. It will be a down-to-earth, practical course. T F
11. Each student will have a clear idea of the course’s goals. T F
12. The instructors will usually decide what the course will do next. T F
13. There will be a strong feeling of belonging in this course. T F
14. The instructors will not know the students very well. T F
15. Everyone in this course will be pretty much the same. T F
16. The course will rarely have anything concrete to show for its efforts. T F
17. It will sometimes be hard to tell just what’s going on in this course. T F
18. In a disagreement, the instructors will have the final say. T F
19. Students of the course will feel close to each other. T F
20. The instructors will explain things to the course. T F
21. Most students will “go along with the crowd.” T F
22. It will be a decision-making course. T F
23. There will be a great deal of confusion in the group at times. T F
24. The instructors will enforce the rules of the course. T F
25. Students will put a lot of energy into this course. T F
26. The instructors will help new students get acquainted with the course. T F
27. Students will be expected to take instructorship in the course. T F
28. It will be a planning course. T F
29. The rules of the course will be clearly understood by students.  T  F
30. Students who break the course’s rules will be corrected by the instructors.  T  F
31. A lot of students will just seem to be passing time in this course.  T  F
32. The instructors will take a personal interest in the students.  T  F
33. Students of this course will be encouraged to act independently.  T  F
34. Relatively little work will get done in this course.  T  F
35. It will be a well-organized course.  T  F
36. The instructors will often give in to pressure from the students.  T  F
37. The students will be very proud of this course.  T  F
38. The instructors will not expect much of the course.  T  F
39. Students will need the course’s approval of their decision before carrying them out.  T  F
40. The course will concentrate on dealing with everyday problems.  T  F
41. The instructors will make sure that discussions are always orderly.  T  F
42. Students might interrupt the instructors when he or she is talking.  T  F
43. It will be a rather apathetic course.  T  F
44. The instructors will tell course students when they’re doing well.  T  F
45. The course will help students to become more self-reliant.  T  F
46. This course will not help its students make practical decisions.  T  F
47. The course will have an agenda for each meeting.  T  F
48. The instructors will have much more influence on the course than the other students. T  F
49. The course will be a good place to make friends.  T  F
50. Students could count on the instructors to help them out of trouble.  T  F
51. There will be a good deal of pressure to conform in this course.  T  F
52. The course will help its students learn new skills.  T  F
53. Sometimes even the instructors will not know what to do next.  T  F
54. The instructors will often tell students how to do things.  T  F

Here are some questions about you as an individual, in general. Please circle the answer that best describes what you think.
Your responses are confidential. Please be honest and candid.

55. I like it when I learn better ways to get along with friends.
   A  B  C  D  E
56. It is important to me to have “cool” friends.

A  B  C  D  E
not at all true  somewhat true  very true

57. When I am around other students, I mostly just try not to goof up.

A  B  C  D  E
not at all true  somewhat true  very true

58. When I am around other students, I don’t want to be made fun of.

A  B  C  D  E
not at all true  somewhat true  very true

59. It is important to me to be seen as having a lot of friends.

A  B  C  D  E
not at all true  somewhat true  very true

60. I try to avoid doing things that make me look foolish to other students.

A  B  C  D  E
not at all true  somewhat true  very true

61. My goal is to show other students how much everyone likes me.

A  B  C  D  E
not at all true  somewhat true  very true

62. I feel successful when I learn something new about how to get along with friends.

A  B  C  D  E
not at all true  somewhat true  very true

63. It is important to me that other students think I am popular.

A  B  C  D  E
not at all true  somewhat true  very true

64. One of my goals is that my friendships become even better over time.

A  B  C  D  E
not at all true  somewhat true  very true

65. I try to do things to make me look good to other students.

A  B  C  D  E
not at all true  somewhat true  very true
66. It is important to me to learn more about other students and what they are like.

A  B  C  D  E
not at all true  somewhat true  very true

67. I try not to do anything that might make other students tease me.

A  B  C  D  E
not at all true  somewhat true  very true

68. I want to be friends with the “popular” students.

A  B  C  D  E
not at all true  somewhat true  very true

69. It is important to me that I don’t embarrass myself around my friends.

A  B  C  D  E
not at all true  somewhat true  very true

70. I try to figure out what makes a good friend.

A  B  C  D  E
not at all true  somewhat true  very true

71. One of my main goals is to make sure other students don’t say anything bad about me.

A  B  C  D  E
not at all true  somewhat true  very true

72. In general, I try to develop my social skills.

A  B  C  D  E
not at all true  somewhat true  very true
Appendix D

Dear NOLS Student,

Your course has been selected to be part of a research project in conjunction with the University of New Hampshire. The following survey should take 15-20 minutes. Personal identifiers will not be reported with the data. Your decision to participate in the study is voluntary. This research project is not connected to your NOLS evaluation in any way and you will not be penalized if you decide not to take it.

If you have any additional questions about this survey or want to be in contact with the researchers please notify your instructors or the Program Supervisor in your debrief.

We hope you had a fantastic NOLS course!

NOLS Research Team

Please fill out all information entirely

Branch Course Code  Course Start Date  Your Date of Birth

<table>
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<th>Pacific Northwest</th>
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Instructions
There are 54 statements in this section. They are statements about NOLS courses. Your group of participants on your course is simply referred to as "course". You are to decide which of these statements are true of your group and which are not.

If you think the statement is True or mostly True of your group, fill in T (true).
If you think the statement is False or mostly False of your group, fill in F (false).
Please be sure to answer every item.

1. There is a feeling of unity and cohesion in this course.
2. The instructions spend very little time encouraging members.
3. Individual talents are recognized and encouraged on this course.
4. There is very little emphasis on practical tasks in this course.
5. The activities of the course are carefully planned.
6. This course is run in a pretty loose way.
7. There is very little course spirit among members.
8. The instructors go out of his or her way to help members.
9. In this course, members are learning to depend on themselves.
10. This is a down-to-earth, practical course.
11. Each member has a clear idea of the course’s goals.
12. The instructors usually decide what the course will do next.
13. There is a strong feeling of belongingness in this course.
14. The instructors don’t know the members very well.
15. Everyone in this course is pretty much the same.
16. The course rarely has anything concrete to show for its efforts.
17. It’s sometimes hard to tell just what’s going on in this course.
18. In a disagreement, the instructors have the final say.
19. Members of this course feel close to each other.
20. The instructors explain things to the course.

(See Back for More Questions)
True/False Continued

If you think the statement is True or mostly True of your group, fill in T (true).
If you think the statement is False or mostly False of your group, fill in F (false).
Please be sure to answer every item.

31. A lot of members just seem to be passing time in this course. T
32. The instructors take a personal interest in the members. F
33. Members of this course are encouraged to act independently. T
34. Relatively little work gets done in this course. F
35. This is a well-organized course. T
36. The instructors often give in to pressure from the members. F
37. The members are very proud of this course. T
38. The instructors don’t expect much of the course. F
39. Members need the course’s approval of their decision before carrying them out. T
40. This course concentrates on dealing with everyday problems. F
41. The instructors make sure that discussions are always orderly. T
42. Members may interrupt the instructors when he or she is talking. F
43. This is a rather apathetic course. T
44. The instructors tell members when they’re doing well. T
45. The course helps members to become more self-reliant T
46. This course does not help its members make practical decisions. F
47. The course has an agenda for each meeting. T
48. The instructors have much more influence on the course than the other members do. T
49. The course is a good place to make friends. T
50. Members can count on the instructors to help them out of trouble. T
51. There is a good deal of pressure to conform in this course. F
52. The course helps its members learn new skills. T
53. There is a great deal of confusion in this group at times. F
54. The instructors often tell members how to do things. T

Here are some questions about you as an individual, on your course. Please circle the answer that best describes what you think. Your responses are confidential. Please be honest and candid.

55. I like it when I learn better ways to get along with friends. T
56. It is important to me to have “cool” friends. F
57. When I am around other students, I mostly just try not to goof up. T
58. When I am around other students, I don’t want to be made fun of. T
59. It is important to me to be seen as having a lot of friends. T
60. I try to avoid doing things that make me look foolish to other students. T
61. My goal is to show other students how much everyone likes me. F
62. I feel successful when I learn something new about how to get along with friends. T
63. It is important to me that other students think I am popular. F
64. One of my goals is that my friendships become even better over time. T
65. I try to do things to make me look good to other students. T
66. It is important to me to learn more about other students and what they are like. F
67. I try not to do anything that might make other students tease me. T
68. I want to be friends with the “popular” students. T
69. It is important to me that I don’t embarrass myself around my friends. T
70. I try to figure out what makes a good friend. T
71. One of my main goals is to make sure other students don’t say anything bad about me. T
72. In general, I try to develop my social skills. T

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Appendix E

Instructor Report – Course Characteristic Questionnaire

Course Code and Start Date: ____________________________ Course Leader: ____________________________

1. What would you consider the degree of physical difficulty for students on this course?

   | 1 | 2 | 3 | 4 | 5 |
---|---|---|---|---|---|
**Never a struggle** | Struggle ½ the time | Always a struggle

2. How much rain did you receive during your course?

   | 1 | 2 | 3 | 4 | 5 |
---|---|---|---|---|---|
**Never rained** | Rained ½ the time | Rained every day

3. How much uncomfortable weather did you have (too hot or cold)?

   | 1 | 2 | 3 | 4 | 5 |
---|---|---|---|---|---|
**Very little** | Average amount | Every day

4. How was the food quantity for participants on this course?

   | 1 | 2 | 3 | 4 | 5 |
---|---|---|---|---|---|
**Too little** | Just right | Too much

5. How was the food quality for participants on this course?

   | 1 | 2 | 3 | 4 | 5 |
---|---|---|---|---|---|
**Poor** | Average | Excellent

6. How bad were the bugs on this course?

   | 1 | 2 | 3 | 4 | 5 |
---|---|---|---|---|---|
**Hardly any bugs** | Bugs ½ the course | Bugs the whole course

7. What was the level of fun / playfulness on this course (i.e. were participants joking around with one another / were their relationships businesslike?)

   | 1 | 2 | 3 | 4 | 5 |
---|---|---|---|---|---|
**Low fun** | Average fun | Extremely fun

8. How often did you play games (initiatives or games – beyond scheduled course elements), facilitated by instructors or other students, on your course?

   Please circle an answer for each week:

   **During the 1st week:**
   - 1-3 games
   - 4-6 games
   - 7-10 games
   - More than 10 games

   **During the 2nd week:**
   - 1-3 games
   - 4-6 games
   - 7-10 games
   - More than 10 games

   **During the 3rd week:**
   - 1-3 games
   - 4-6 games
   - 7-10 games
   - More than 10 games

   **During the 4th week:**
   - 1-3 games
   - 4-6 games
   - 7-10 games
   - More than 10 games

9. Please list the three words (adjectives) that best describe your students as a group:

   ___________________________________________  ___________________________________________  ___________________________________________

10. Is there anything else that you think had a major impact on your course?

    Explain:

    ___________________________________________  ___________________________________________  ___________________________________________
Appendix F

Adolescent Social Achievement Goals in an Outdoor Adventure Education Context

Benjamin Mirkin

University of New Hampshire

April 28, 2011
Abstract

The current research reports on a summer 2010 pilot study of participant social achievement goals for a sample of 231 adolescents ages 12-18, who completed 16-29 day multi-sport adventure experiences run by Adventure Treks, a U.S. adventure program for teens. At the end of their courses, volunteer participants completed a self-report survey on motivational climate, social goals, perceptions of belonging, prosocial behaviors, and overt aggressive behavior. Significant relations include the finding that social development goals are strongly correlated with prosocial behaviors and perceptions of belongingness and moderately correlated with loneliness (reversed) (p < .01). It appears that students who adopt development vs. demonstration goals in the social domain are more likely to have other adaptive behaviors and thus greater social benefits.

Introduction

The focus of Kurt Hahn’s original vision for learning through adventure was adolescent development. He clearly made the distinction that his goal was to train youth through adventure not for adventure (Miner & Boldt, 1981). In a time when the Internet has become a social context for adolescent development, there is substantial concern that it displaces activities important for adolescent development such as physical activity and social interaction with peers (Subrahmanyam, 2002; Subrahmanyam & Lin, 2007). As of 2008, the average American adolescent spent one third of their day with some form of electronic media (Escobar-Chaves & Anderson, 2008). In this digital era, the need to address and understand social competence and the manner in which adolescents approach human interaction is essential. Successful peer interaction at school has been associated with student engagement, cognitive strategies, problem solving, adjustment to school,
academic achievement, and self-regulation (Berndt & Keefe, 1995; Dimant & Bearison, 1991; Ryan & Patrick, 2001; Wentzel, 1998). Outdoor adventure education (outdoor adventure education) may provide an ideal setting for enhancing the goal orientations of adolescents in social situations and positively contribute to adaptive forms of adolescent social development.

Despite the fact that social growth is a stated goal of many outdoor programs (Hattie, et al., 1997; Mitten, 1999), little is known about participants' motivation to achieve social growth, which is an important factor in adolescent development (Eccles & Gootman, 2002). It is apparent that the social environment and the importance of quality social interactions can contribute to learning in outdoor adventure education (Sibthorp, 2003b). Adolescents are a group who highly value peer approval, but is it solely this validation from peers that makes teens confident in their social abilities? Do some adolescents seek to demonstrate their social competence to their peers while others seek alternative forms of peer interaction to develop competence with peer interactions? Are these orientations toward interactions present on outdoor trips? Are social goal orientations related to other adaptive or maladaptive patterns of behavior?

**Achievement Goal Theory**

The conceptual framework for this research is social achievement goals (SAG), which comes from achievement goal theory (Ryan & Shim, 2006, 2008). Goal theories of motivation focus on types of goals individuals pursue in achievement situations (Meece, et al., 2006) and view behavior as intentionally focused toward the attainment of certain goals (Schunk, et al., 2008). Specifically, achievement goal theorists focus on goals involving the demonstration or development of competence (Meece, et al., 2006). The
achievement of social competence is part of the theoretical framework of achievement goal theory, which is related to a larger body of knowledge of motivational behavior.

**Social Achievement Goals as a pathway to achieve social competence.**

Regardless of what an individual is looking for in a social situation, it is likely they desire a feeling of social competence. In order to obtain this feeling of competence, some individuals are: (a) motivated to develop their social competence by developing relations with others in a peer interacting manner, while other individuals seek (b) to demonstrate their social competence, (c) simply try to avoid looking incompetent, or (d) possibly all three at different times and in different situations. Each of these orientations to the social world has implications for individual beliefs and behaviors (Ryan & Shim, 2008).

**Social development goals.** The first form identified above, social development goals, focuses on developing social competence with peers. Individual's attention is on learning new ideas, growth, and improvement. Social development goals are considered an adaptive form of development because the outcomes associated with this form of achievement are beneficial in a variety of situations. Success is judged by whether an individual is improving social skills, deepening the quality of relationships, or developing one's social abilities in general (Ryan & Shim, 2006, 2008). In previous classroom studies, social development goals were positively associated with several meaningful outcomes such as positive relations, self-acceptance, personal growth, social self-efficacy, and instructor reports of social adjustment. These findings support the idea of focusing on developing social competence to create a positive orientation toward the social world, which sets in motion adaptive beliefs and behaviors that facilitate adjustment in a variety of contexts (Ryan & Shim, 2006, 2008).
Ryan and Shim (2008) also demonstrated that social development goals are associated with increased prosocial behavior (friendly, helpful, cooperative, kind, and considerate), decreased aggressive behavior, and increased perceptions of positive qualities in close friendships. In a follow up study Mouratidis and Sideridis (2009) demonstrated that social development goals are positively related to perceived belongingness and negatively related to perceptions of loneliness at school.

**Social demonstration-approach goals.** The second form, social demonstration-approach goals, focus on demonstrating social competence to gain peers' positive judgments that one is socially desirable. Ryan and Shim (2006) established that social demonstration-approach goals are primarily correlated with negative outcomes such as decreased perceptions of personal growth, autonomy, and increased social worry while being positively associated with aggressive behavior and negatively associated with prosocial behavior. Previous classroom studies showed that the social demonstration-approach goal was positively related to perceived popularity. These results suggest that the pursuit of judgments by peers as cool or popular may be associated with unprincipled behaviors. According to both the self-reports and teacher reports of behavior, it appears that the more students are focused on demonstrating social desirability, they are less likely to act in helpful or cooperative ways (Ryan & Shim, 2008).

**Social demonstration-avoid goals.** The third form, social demonstration-avoid goals, focus on demonstrating that one does not lack social competence. Ryan and Shim (2006; 2008) established that social demonstration-avoid goals are associated with maladjustment in both concurrent and longitudinal analysis as well as negatively associated with positive relations, self-acceptance, personal growth, and autonomy. This
creates an unpleasant profile where individuals are dissatisfied with relationships, allowing the opinions of others to interfere with independent decision making, the potential for personal growth, insecurity in being able to socially interact, concern about social interaction, and generally low self-regard. There is convincing evidence that a focus on avoiding negative judgments from peers is associated with social behaviors that undermine social adjustment in middle school (Ryan & Shim, 2008).

The concept of social achievement goals represent a different theoretical framework for the field of outdoor education to further understand how social relationships, and related interpersonal growth, develop during outdoor experiences. This is different than a content approach to social goals where the focus is on the outcomes individuals pursue and categories of goals are identified in order to characterize what individuals are striving to achieve (Grant & Dweck, 2003; Wentzel, 2000). This is also true with self-efficacy where the focus is based on beliefs individuals hold about their ability to act in specific situations or perform certain tasks of varying difficulty (Bandura, 1977; Usher & Pajares, 2008).

Related Research in Outdoor Education

Organized outdoor adventure education programs such as Outward Bound gained popularity in the US in the 1960’s and 70’s and thereafter many new programs successfully began to operate (Raiola & O’Keefe, 1999). With this growth came the need to explain the value and societal worth of outdoor trips (Hattie, Marsh, Richards, & Neill, 1997). Walsh and Golins (1976) created the Outward Bound model and proposed that a unique social environment co-created by the participants and the program leaders is an essential component of the adventure process. Since Walsh and Golins’ (1976) early look
at outdoor trips, many studies have documented outcomes in outdoor education programs such as enhancement of self-concept, leadership, academic, interpersonal gains, personality, and adventuresomeness (Hattie, et al., 1997).

During the 1970’s and 1980’s low self-esteem was believed to be, “at the root of individual and thus societal problems and dysfunction” (Baumeister, Campbell, Krueger, & Vohs, 2003, p. 3). Trying to show that outdoor adventure education increased these all-important traits aided the growing field in gaining widespread acceptance and facilitating a greater desire for outdoor adventure. However, this is confounded by what gains in these areas actually mean to individual development. With a thorough review of empirical findings about self-esteem, Baumeister et al. (2003) compiled evidence disputing many claims concerning the positive value of self-esteem and establishing support for the idea that high self-esteem does not prevent undesirable outcomes. Therefore, the value of “self” areas as an outcome remains questionable, with domain specific self-efficacy appearing the most promising.

A large amount of research in outdoor adventure education has demonstrated benefits to individual self-efficacy gained through outdoor experiences. Several previous studies support the idea that outdoor adventure education experiences increase self-efficacy (Ferguson & Jones, 2001; Jones & Hinton, 2007; Kelley & Coursey, 1997; Paxton & McAvoy, 1998; Propst & Koesler, 1998). While achievement goals have some notable similarities to self-efficacy and would likely be correlated in research, both coming from the social cognitive perspective, they are separate constructs with separate meanings, ways of looking at human motivation, and goals (Midgley, et al., 1998). A primary difference in social achievement goals is the idea of individuals having different
orientations toward obtaining social competence as opposed to having or not having a belief about efficacy.

In reference to achievement goal theory, very little has been investigated in outdoor education. One study related to achievement goal theory investigated Australian sailing training for adolescents was financed by the Department of Education and published in *The Australian Journal of Psychology*, concluded that if goal setting is built into programs, participant efficacy is enhanced (Crane, et al., 1997). The application of achievement goal theory in outdoor education is lacking research. However, the need for greater understanding of the social value in outdoor adventure education has been noted (Sibthorp, 2003; Walsh & Golins, 1976).

Sibthorp (2003) engaged in a qualitative program evaluation of adolescents’ to determine what was learned, how students learned on outdoor trips, and what type of learning was most likely transferred to their home environment. The conclusion states that it is time to move beyond global measures such as self-esteem and to look to more targeted outcomes consistent with course goals and likely to be transferred, such as leadership, tolerance, and social skills.

The critical idea of transfer, transferring skills or knowledge learned during outdoor adventure education to other life situations (Preist & Gass, 1997), is an ever-present theme in the promotion and justification of outdoor adventure education. It has been concluded that the social environment is a primary source of learning on adventure programs (Sibthorp, 2003; Walsh & Golins, 1976) yet currently, there is no conclusive way to define and investigate the social environment or individuals social goals in outdoor adventure education. It has been shown that students’ believe life skills,
including social skills are acquired through outdoor adventure education and are likely to be transferred to their everyday lives (Sibthorp, 2003).

There is no current research investigating the relationship of social achievement goals in outdoor adventure education. Outdoor educators often explain their decision to utilize adventure in education, despite possible risks or costs, in terms of personal growth, complex lessons about life, virtue, and a variety of self-focused outcomes. Understanding how different orientations to social relationships relate to meaningful outcomes such as a sense of perceptions of belongingness, prosocial behaviors, and loneliness can enhance the field of outdoor education.

**Social Outcomes: Belonging, Prosocial Behaviors, and Loneliness**

**Perceptions of Belongingness.** Conceptual ideas come from studies on the innate human need to belong (Baumeister & Leary, 1995; Maslow, 1943). Baumeister and Leary (1995) summarized a large body of empirical research and found that the need to belong meets the metatheoretical requirements to be considered a human need. In additional, there is strong evidence supporting the link between sense of belonging and positive affect, such as happiness and joy, as well as positive academic outcomes (Baumeister & Leary, 1995). Since that time, additional researchers have concluded that a sense of school belongingness facilitates students’ motivation, adjustment, and well being (Anderman & Freeman, 2004).

It is known that people tend to feel pleasure or positive affect from social contact and the innate human desire for relatedness makes people want to be positive parts of a group. Formation of social attachments under adverse conditions are even greater (Baumeister & Leary, 1995), such as the shared adversity experienced on a difficult
backpacking trips. This formation of social bonds is associated with positive emotions. High belongingness should produce an abundance of positive affect (Baumeister & Leary, 1995) and facilitate other adaptive behaviors within individuals and a group. The learning environment outdoor trips create is likely to foster social development goals, which might also be related to individuals' feelings of belongingness.

The three elements comprise the operationalization of perceptions of belongingness are: “peer support,” “teacher support,” and “general belonging,” all of which are positively associated with interest and expectations for success in academic tasks (Goodenow, 1993). Perceptions of belongingness have been shown to be a potential factor that facilitates student motivation (Anderman & Midgley, 2002; Anderman & Freeman, 2004). Belongingness is expected to be positively related to social development goals, negatively related to social demonstration-avoid goals, and have little correlation with social demonstration-approach goals (See Figure 1).

**Prosocial Behaviors.** The concept of prosocial behavior fits logically with the idea many outdoor programs are trying to convey. Prosocial behaviors are operationalized with five items: “friendly,” “helpful,” “cooperative,” “kind,” and “considerate” (Cassidy & Asher, 1992; Crick, 1996; Ryan & Shim, 2008). These behaviors represent socially desirable behaviors that are adaptive in a variety of settings. Similarly to belongingness, prosocial behaviors are

![Figure 1. Hypothesized relationships between social achievement goals and outcomes](image-url)
predicted to be positively related to social development goals, negatively related to social demonstration-avoid goals, and have little correlation with social demonstration-approach goals (See Figure 1).

**Feelings of Loneliness.** Loneliness is often defined by researchers as an internal emotional state emanating from an awareness of a deficit in one's social and personal relationships and the ensuing affective reactions of sadness, emptiness, or longing (Asher & Paquette, 2003). When students feel rejected by their peers, they tend to express this as feeling loneliness (Cassidy & Asher, 1992). The concept of feelings of loneliness essentially equates to the antithesis of perceptions of belonging and seeks to investigate for comparison the negative side of this idea. Loneliness is not necessarily pathological but does have a negative effect on other aspects of students' adjustment (Asher & Paquette, 2003). Feelings of loneliness are expected to be negatively related to social development goals, positively related to social demonstration-avoid goals, and have little correlation with social demonstration-approach goals (See Figure 1).

**Summary of Present Research**

This study investigates a sample of outdoor adventure education programs, trips ranging from 16-28 days, involving adolescents age 12 – 18 to determine if these goals exist in the context of outdoor adventure education, and if so, will different social achievement goals be differentially related to prosocial behaviors, perceptions of belonging, and / or loneliness? In addition, the research will explore how these variables are related to the age, and gender of participants.

Social benefits of adventure trips are likely related to the motivational goals adopted by students. When students adopt a goal of social development rather than social
demonstration, they are likely to have other adaptive behaviors and thus greater social benefits. A goal of many adventure programs is to enhance social development (Hattie, et al., 1997; Mitten, 1999), but it is unclear how students develop socially on outdoor adventure education trips. One key element may be their social goal orientation. Social achievement goals are relevant to adolescents' social striving with peers and will advance the understanding of their social adjustment (Ryan & Shim, 2008).

Through investigations of social achievement goals in the school settings, it is known that students adopt goals that focus on either improving and developing relationships or on demonstrating and proving their competence (Ryan & Shim, 2006, 2008). It has also been shown that social development goals promote social beliefs and behaviors that facilitate the formation of positive relations with others. (Ryan & Shim, 2006, 2008). However, it has not been tested if adolescents hold similar goals in an outdoor adventure education context.

Methods

This research is a pre-experimental design meant for exploratory purposes with related limitations. While none of the results infer causation, these early finding will guide future researchers by helping understand if these relationships involving social achievement goals can be identified and related to other outcomes in the context of outdoor adventure education. Descriptive statistics, correlation between variables, and regression modeling will be discussed in the Results section.

Participants

Adolescents' who participated in this study were clients of Adventure Treks, a commercial provider of summer adventure trips for teenagers. Data was collected from
231 participants (136 male, 84 female, and 11 did not specify) on 13 different trips, with locations in North Carolina, New England, Northern California, Washington, Oregon, the Canadian Rockies, and Alaska. All Adventure Treks trips included traditional adventure education processes such as group agreements on goals, leadership responsibilities, and structured feedback typically in the form of an evening meeting. The overt program goals, in addition to having fun included, safety, building a community, teamwork, leadership skills, and personal responsibility.

The instructors for Adventure Treks come from a variety of backgrounds. They have an instructor return rate over 60%; some are year round professional outdoor educators or schoolteachers, while others are accomplished travelers with varying levels of instructional backgrounds. All staff attended a minimum of one-week training session where they learned the program philosophy and reviewed necessary skills and protocols.

Participants selected a specific course that is age and skill level appropriate as judged by them, their parents, and the Adventure Treks office staff. All trips are multi-sport, all of which included backpacking, but likely included some combination of rafting, sea kayaking, whitewater kayaking, canoeing, mountaineering, mountain biking, sailing, rock climbing, canyoneering, and caving. A typical trip involved 24 students with 6 instructors (4 to 1 student to instructor ratio).

**Design**

Near the close of each trip, while students were completing their general evaluations of their trip they were also asked to fill out a research survey. University of New Hampshire Internal Review Board (IRB) approval was obtained and related standards for participation in this study were upheld. Compliant with IRB stipulations,
parents were contacted in advance for permission and students are told that this is not required, and that if at any point they do not want to participate, they do not have to participate. Participants were also assured that all information would be kept confidential.

This study was a pre-experimental, exploratory design with a variety of related limitations, listed below. The results of this study are intended for insight for future studies.

**Limitations**

The results of this study should be interpreted considering the following limitations:

1. Due to utilizing a posttest only design, many threats to internal validity are present, such as: history threat, maturation threat, selection threat, testing threat, etc.

2. The subjects in this study volunteered to participate in the adventure program and volunteered to participate in the research study.

3. The cost of participation, over $2,600 for most participants (with about 25% financial aid), and nature of the adventure program, may limit the generalizability of the study's results to participants with similar interests and demographics.

4. Since data was collected at the program location, physical location and surroundings often depended on program constraints.

5. Each of the 13 different groups, while having similar itineraries and goals, had different experiences.

6. The investigator was unable to personally administer and collect all the data, but written instructions were given to instructors assisting with the data collection in an effort to make data collection consistent.
7. The Hawthorne effect and post group euphoria are regarded as confounding problem in the measurement of adventure program outcomes (Ewert, 1988; Hattie, et al., 1997). It is possible that because the respondents know that they are part of a research study, they indicate what they believe to be post-program gains. If participants think that they should grow or develop as a result of the program, it is possible that positive post program self reports are the result of this expectation or of a positive affect towards the adventure experience in general.

Measures

The volunteers who chose to take part in the study completed a self-report survey at the end of their course to investigate the motivational climate (PALS; Midgley, et al., 1998 & 2000), social goals (Ryan & Shim, 2006), perceptions of belonging (Roeser, Midgley, & Urdan, 1996), prosocial behaviors (Ryan & Shim, 2008), and loneliness (Asher, Hymel, & Renshaw, 1984). The measures being used in this study were all developed for use in classroom settings and have been adapted slightly for the context of outdoor adventure programs by changing the word teacher to instructor and classroom to trip. Because the change in context of use, factor analysis was performed and each instrument was found to factor independently.

Due to a low Cronbach Alpha ($\alpha = .56, .53, \text{ and } .68$) measures of learning environment were not included in this analysis and thus not discussed during this paper. A different measure of the learning environment is being explored for future research. Additionally, one of the six questions representing both social demonstration-approach and avoid orientations were eliminated to increase the Cronbach alpha and thus reliability.
Social achievement goals. In order to create a measure of social achievement goals that is appropriate for a broad range of participants, Ryan and Shim (2008) utilized information they had previously gathered with college age students combined with newer information gathered through additional pilot testing with younger students. The end result is an 18-item measurement scale with very encouraging factor and reliability analysis indicating the three social achievement goals scales have good internal consistency and all factor loadings above .47 on their primary factor. All together indicating that this measurement instrument is useful for a variety of ages (Ryan & Shim, 2008). All of the following measurements are assessed on a five point Likert scale with A relating to statements being not at all true and E relating to very true; for example:

It is important to me to learn more about other kids and what they are like.

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>not at all true</td>
<td>somewhat true</td>
<td>very true</td>
<td></td>
<td>true</td>
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</tbody>
</table>

For the quantitative purposes of this research, one is related to A and five to E.

Results from this administration of the survey demonstrated Cronbach Alphas of ($\alpha = .78$), ($\alpha = .79$), and ($\alpha = .75$) for social development goals, social achievement-approach goals, and social achievement-avoid goals respectively.

Perceptions of belongingness. The three elements comprising perceptions of belongingness are: “peer support,” “teacher support,” and “general belonging,” all of which are positively associated with interest and expectations for success in academic tasks (Goodenow, 1993). To measure the concept of perception of belongingness, a measure established by Roeser, Midgley, and Urdan (1996) is utilized ($\alpha = .76$). However, due to the lack of emphasis of their “school belonging” questions on teacher support, this research includes three additional questions ($\alpha = .81$) from another section
of the same survey focused on “perceived teacher-student relationship.” In this research all items factored together and had a Cronbach Alpha of (α = .77).

**Prosocial behaviors.** The concept of prosocial behavior fits logically with the idea many outdoor programs are trying to convey. Prosocial behavior will be assessed with a measure that consists of five items: “friendly,” “helpful,” “cooperative,” “kind,” and “considerate,” all of which will be measured on a scale that ranges from 1 (never) to 5 (always). The measure was adapted by Ryan and Shim (2008) from original works by Cassidy and Asher (Cassidy & Asher, 1992) and Crick (Crick, 1996). The student reported scale was reliable in their sample (α = .84). This research found similar reliability (α = .82).

**Feelings of loneliness.** Loneliness is often defined by researchers as an internal emotional state that emanates from an awareness of a deficit in one’s social and personal relationships and the ensuing affective reactions of sadness, emptiness, or longing (Asher & Paquette, 2003). To measure feelings of loneliness there are five pertinent questions utilized from this frequently used assessment tool (Asher, et al., 1984). This research found a Cronbach Alpha of (α = .75).

**Results**

Descriptive statistics and a correlation matrix are displayed in Table 1 and Figure 2 depicts the hypothesized and actual correlations between variables.

**Social development goal.** Within this study, a mean score of 4.08 was found, with a standard deviation of .73. Therefore, it is believed that on average, students on these adventure trips are pursuing social development goals. The data is positively skewed, meaning the highest number of students believe they are strongly focused on the
goal of social development with progressively fewer feeling a weaker connection to social development goals. As hypothesized, social development goals have a large (Cohen, 1988) and significant positive correlation with prosocial behaviors and perceptions of belongingness, as well as a medium correlation loneliness (reversed), all at a .01 significance level (see Table 1).

Previous studies have shown there to be overlap between the idea of social development and social demonstration-approach goals. In order to be sure this was not the case within this sample, a two-tailed one-sample t-test at a significance level of .05 was utilized. It is evident that there is a statistically significant difference between responses to the construct of social development goals as opposed to social demonstration-approach goals.

**Social demonstration-approach goals.** Within this sample a mean score of 2.26 was found for social demonstration-approach goals with a standard deviation of .85. Through this mean score, it is seen that on average, students on these outdoor trips more closely align themselves with social development goals than social demonstration-approach goal orientations. The standard deviation shows that on average, relative to social development goals, social demonstration-approach has larger variability in responses.

Social demonstration-approach goals have a large and significant correlation with social demonstration-avoid goals and a small but statistically significant correlation with perceptions of belongingness and a small, negative correlation to loneliness (reversed) (see Table 1). Meaning that on average, individuals who are striving to demonstrate to
others their skills are making significant attempts to avoid looking foolish, and feel that they belong, yet, on average, do have perceptions of loneliness.

**Social demonstration-avoid goals.** Within this sample a mean score of 2.59 was found for social demonstration-avoid goals with a standard deviation of .89. Surprisingly, this would indicate that on average, student in this sample of adventure trips were slightly more likely to have a social demonstration-avoid orientation than a social-demonstration approach orientation. However, participants in this sample were far more likely to have a social development goal than either social demonstration goal. The standard deviation was similar to, but slightly higher than social demonstration-approach goals.

Similarly to social demonstration-approach goals but with slightly higher correlations, students who identified with social demonstration-avoids goals also have a small but statistically significant correlation with perceptions of belongingness, a large correlation with social demonstration-approach goals, as well as the negative correlation with the reversed idea of loneliness, with all of the similar implications (correlations seen below in Table 1).

<table>
<thead>
<tr>
<th>Variables</th>
<th>M</th>
<th>SD</th>
<th>Range of scores</th>
<th>1.</th>
<th>2.</th>
<th>3.</th>
<th>4.</th>
<th>5.</th>
<th>6.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Social development goals</td>
<td>4.08</td>
<td>.73</td>
<td>1-5</td>
<td>------</td>
<td>-.11</td>
<td>-.04</td>
<td>.53**</td>
<td>.53**</td>
<td>.40**</td>
</tr>
<tr>
<td>2. Social demonstration-approach goals</td>
<td>2.26</td>
<td>.85</td>
<td>1-5</td>
<td>-.11</td>
<td>------</td>
<td>.54**</td>
<td>-.17**</td>
<td>-.03</td>
<td>-</td>
</tr>
<tr>
<td>3. Social demonstration-avoid goals</td>
<td>2.59</td>
<td>.89</td>
<td>1-5</td>
<td>-.04</td>
<td>.54**</td>
<td>------</td>
<td>-.19**</td>
<td>-.08</td>
<td>-</td>
</tr>
<tr>
<td>4. Belongingness</td>
<td>4.3</td>
<td>.68</td>
<td>1-5</td>
<td>.53**</td>
<td>-.17**</td>
<td>-.19**</td>
<td>------</td>
<td>.43**</td>
<td>.62**</td>
</tr>
</tbody>
</table>
Perception of Belongingness. Formation of social bonds is generally associated with positive emotions. High belongingness should produce an abundance of positive affect (Baumeister & Leary, 1995) and hopefully help facilitate other adaptive behaviors within individuals and a group. Within this sample, the mean score of 4.3 in out of a scale of 5, with a standard deviation of .68 reflects that on average, students in this sample felt a sense of belongingness to their group. The mean score data demonstrated a severe positive skew, which would indicate that many more people had a feeling of belongingness than did not.

In this sample, perceptions of belongingness have a large and significant relationship to the social development goal orientation and loneliness, moderate correlation with prosocial behaviors, and a small but significant negative relationship to both forms of social demonstration goal orientations (see Table 1).

Perception of Prosocial Behaviors. Prosocial behavior represents the idea that an individual is: “friendly,” “helpful,” “cooperative,” “kind,” and “considerate.” This sort of behavior is strongly encouraged on outdoor trips. In this sample, the measure of prosocial behaviors had a mean score of 3.91, with a standard deviation of .57. As seen by the standard deviation, prosocial behavior has a strong central tendency around the mean. From this one could infer that on average, students on the trips in this sample consider themselves to be friendly, helpful, cooperative, kind and considerate during their outdoor experience. Prosocial behavior has strong and significant correlation with social
development goals, as well as moderate correlations with belongingness and loneliness, as hypothesized.

Figure 2. Hypothesized and actual correlation relationships between social achievement goal orientation and related outcomes

Perception of Loneliness. The concept of feelings of loneliness essentially equates to the antithesis of perceptions of belonging and in this investigation demonstrates that comparison. In this sample, with loneliness is related to a lower score on the 1 to 5 scale. With a mean score of 4.38 and a standard deviation of 64, it is seen that on average, students in this sample did not feel lonely. Additionally, the largest correlation in this study was found between loneliness and feeling of belongingness (.62), meaning that students who feel a sense of belongingness do not feel lonely. Loneliness has a moderate significant positive relationship with social development goals and prosocial behaviors, as well as a small negative relationship with both forms of social demonstration goals. The negative relationship between social demonstration goals and loneliness could lead one to believe that individuals who adopt a social orientation where
they seek to demonstrate ability or avoid demonstrating a lack of ability generally feel lonely.

**Gender.** In moving beyond the central tendencies and correlations of the sample and investigating gender, an interesting picture emerges. This sample contains 136 males (59%), 84 females (36%), and 11 individuals (5%) who declined to include gender. Utilizing two tailed independent sample t-tests at a significance level of .05, it is seen that there are statistically significant differences between males and females with regard to their perceptions of social development goals, social demonstration-approach goals, and prosocial behaviors.

Interestingly, within our sample, female students had a significantly higher perception of having social development goals while the opposite is true about social demonstration-approach goals. Additionally, females had a higher perception of their prosocial behaviors than their male counterparts. This creates the picture of our adolescent females trying to form meaningful relationships a help those around them while our adolescent males are more likely to be trying to demonstrate their skills and show others what they can do.

**Multiple Regression Analyses**

Regression is used to create a model that can provide a richer description of how variables interact, help explain variability, and help predict how different variables will affect the outcomes. In order to understand the strength of relationships involved in the complex learning environment on outdoor trips, multiple regression analysis was performed.
Social development goal orientation is the dependent variable or outcome, with all other variables acting as potential predictors. Through exploration involving creating different models to determine statistical significance, power, and goodness of fit, the best-fit model was created. The final model contains age, gender, perceptions of belongingness, and prosocial behaviors to predict a general relationship with social development goal orientation. Loneliness was eliminated because it was not statistically significant within this model. In terms of goodness of fit, an $R^2$ of 0.39 was found; meaning that 39% of variability in social achievement goal orientation is explained by age, gender, perceptions of belongingness, and prosocial behaviors.

The resulting fitted regression model is:

\[
\hat{Social Development} = 0.385 + 0.427 \text{(Prosocial behaviors)} + 0.343 \text{(Belongingness)} + 0.249 \text{(Gender)} + 0.081 \text{(Age)}
\]

![Figure 3. Graphic representation of the fitted relationship between social development goal orientation and perception of prosocial behaviors, controlling for gender, belongingness, and age. The four prototypical regression lines represent average age (~15) for males and females with high and low sense of belongingness.](image-url)
Different levels of belongingness have a large impact on the experience students have. On average, students with a high sense of belongingness also believe they exhibit prosocial behaviors, and are adopting a social achievement goal orientation. As seen in Figure 3, when controlling for gender, belongingness, and age there are on average substantial gender differences in how male and female adolescents perceive of their behavior.

The piece missing from this puzzle is a measure of learning environment. It is likely that with this predictor in place the $R^2$ would rise and lead to a greater understanding of the factors contributing to this adaptive form of social achievement goals.

**Discussion**

In the present study, the relationship between social achievement goals and the social outcomes of prosocial behaviors, feeling of belongingness, and perceptions of loneliness were examined. The hypothesis that social development goals would relate positively to each of predictor was fully supported. The present data indicates that a strong relationship may exist between social development goal orientation and the adaptive constructs of sense of belongingness to their group, prosocial behaviors, and not feeling lonely. These results are in line with recent studies of social achievement goals in the classroom setting (Ryan & Shim, 2006, 2008).

The findings related to gender differences bring up some interesting questions. Are these differences typical at this age? Is there something about the learning environment that fosters this type of difference? Does this affect the quality of the
experience for the young people involved? Could this be changed and if so, how? While this study does not answer these questions, it does demonstrate that the difference exists and point to the usefulness of thinking about the gender differences of participants on outdoor trips.

The missing piece of this puzzle may be found in discovering what about the learning environment created on outdoor adventure trips is contributing to participants adopting social development goals? Future studies seek to investigate the learning environment on outdoor trips through the lens of achievement goal theory in hopes of gaining a greater insight to the causes of adaptive social behaviors.

**Conclusion.** The present study demonstrates that adolescents’ who participated in this survey generally adopted social achievement goals, representing motivational processes in the social domain, with different social achievement goals relating to different social outcomes. Social development goals were positively and significantly related to prosocial behaviors, perceptions of belongingness, and loneliness (reversed). Both forms of social demonstration goals were negatively related to perceptions of belongingness and loneliness (reversed). Essentially, the individuals who oriented themselves toward social development, on average, experienced other adaptive outcomes, such as a feeling of belongingness.

These finding suggest that researchers of outdoor adventure experiences should examine the concepts of social development goal orientation with stronger research designs to validate if the concept suggested in this paper are true. If so, practitioners should encourage adolescents to adopt a social development goal orientation due to the relationship with positive social outcomes and the avoidance of the negative. Instructors
emphasizing group belongingness and prosocial behaviors, as some programs already do, may do a better job facilitating the creation of an adaptive environment, which facilitates a social development goal orientation among participants.

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Appendix G

The Social Climate and Social Motivation in Outdoor Adventure Education

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After several years of designing outdoor adventure education (outdoor adventure education) trips and leading students through exciting adventures, I have begun to believe that the core of students' experience is not the mountains we climbed or the rivers we rafted, but the interpersonal relationships formed within our groups. I wonder if the value of the experience has less to do with the activities and more to do with the social climate wilderness based experiences help to foster and if we can further enhance those benefits.

I was recently backpacking with a group of adolescents through New Hampshire’s wilderness and was struck as two fifteen-year-old students, hiking in front of me, who 10 days earlier had been constantly trying to demonstrate how ‘cool’ they were, were engaging in a complex two-way dialogue about their future aspirations and the related issues they saw in society.

The social climate is the ‘personality’ of a setting or environment... Each setting has a unique personality that gives it unity and coherence. Like people, some social environments are friendlier and more supportive than others (Moos, 2003a, p. 254).

The social climate in outdoor adventure education may have the potential to alter how adolescents view social situations, relationships with their peers, and as a result, their social goals. However, participants’ motivation and perception of the social climate of these trips have not been examined extensively. Once in the wilderness, with technology and distractions removed, it seems that many adolescents begin to more deeply learn about each other and thus value each other’s unique qualities. The consistent level of care and support between peers is seen in different and more meaningful ways than in the school setting. However, at this point I am unsure of what exactly this phenomenon is, if it is truly occurring, and if so, why it occurs and how to further facilitate it. Through these investigations, I hope to gain greater understanding of
what student's social motivation is and why individual social goals seem to evolve through prolonged exposure to the social climate of outdoor adventure education.

When speaking of social goals, I am referring to the theoretical framework of achievement goal theory. Goal theories of motivation focus on types of goals individuals pursue and view behavior as intentionally focused toward the attainment of certain goals (Schunk, et al., 2008). In the case of social goals, the goal involves obtaining a feeling a social competence. How an individual achieves that feeling may have broader implications on their related beliefs and behaviors. In order to obtain this goal of a feeling of competence, some individuals are: (a) motivated to develop their social competence by developing relations with others in a peer interacting manner, while other individuals seek (b) to demonstrate their social competence, (c) simply try to avoid looking incompetent. Each of these orientations to the social world has implications for individual's beliefs and behaviors (Ryan & Shim, 2006, 2008). Research on this topic has the possibility of yielding a greater understanding of the motivational dynamics and social / group relationships on outdoor trips.

Adolescence is a time of important social growth and development. outdoor adventure education is a context outside the parameters of traditional school and peer groups that are likely less encumbered by preconceived notions of peer relationships and thus create a unique opportunity of adaptive forms of social motivation. Despite the fact that social growth is a stated goal of many outdoor programs (Breunig, et al., 2007; Hattie, et al., 1997; Mitten, 1999), little is known about the social motivation of participants or the perception of the social climate created during these trips.
Through the use of mixed methods, involving phenomenological interviewing, this research aims to improve the practical and theoretical understanding of the social climate in outdoor adventure education and the potential importance of the ability to facilitate a social climate that promotes adaptive forms of social motivation. By advancing understanding about the social climate and the social goals of participants in these experiences, new insights into strategies for effectively engaging youth in this context can be gained. Using existing motivational frameworks developed in the classroom to examine outdoor adventure education may contribute to our understanding of how classroom motivation theories fit with different contexts and may help promote better educational practices in the outdoors.

**Review of Related Literature**

**Social Achievement Goals**

Social achievement goals are part of the theoretical framework of achievement goal theory, which is related to a larger body of knowledge of motivational behavior. In general, goal theories of motivation focus on types of goals individuals pursue in achievement situations (Meece, et al., 2006) and view behavior as intentionally focused toward the attainment of certain goals (Schunk, et al., 2008). Specifically, achievement goal theorists focus on goals involving the demonstration or development of competence (Meece, et al., 2006).

**Social development goals.** A *social development goal* focuses on developing social competence with peers. An Individual with this social goal orientation is trying to improve their social skills, deepen the quality of relationships, or develop their social abilities in general (Ryan & Shim, 2006, 2008). Their goal is to form meaningful
relationships, their success is self-determined, and their attention is on learning new ideas, growth, and improvement. Social development goals are an adaptive form of development because the outcomes associated with this form of achievement are beneficial in a variety of situations.

In previous classroom studies, social development goals have been positively associated with several meaningful outcomes such as positive relations, self-acceptance, personal growth, social self-efficacy, perceived belonging, and instructor reports of social adjustment. These findings support the idea that focusing on developing social competence creates a positive orientation toward the social world that sets in motion adaptive beliefs and behaviors that facilitate adjustment in a variety of contexts (Ryan & Shim, 2006, 2008).

With a group of students in the outdoors, the qualities of a social development goal orientation are easily recognized. Interesting conversations on trail involve learning about each other’s home lives, family, friends, sports and much more. It is common after a 4-day backpacking trip to hear students say, “I already know you guys better than my friends at home!” The depth of relationships is far greater than what often happens in a school setting where each individual often striving to prove him or herself worthy of attention and gain popularity.

**Social demonstration-approach goals.** A *social demonstration-approach goal* focuses on demonstrating social competence to gain peers’ positive judgments that one is socially desirable. Essentially, people who orient themselves to the social world in this way attempt to establish their social competence by showing off or demonstrating that they are socially competent and judge themselves based on the opinions of others. Ryan
and Shim (2006) expected that social demonstration-approach goals would have both positive and negative relationships with adaptive behaviors, yet there is little evidence supporting anything other than maladaptive outcomes. In 2006, they found correlations with decreased perceptions of social growth, autonomy, an increased social worry, which were not significant in the multivariate models once controlling for other goals. In a follow up study, Ryan and Shim (2008) found this construct to be positively associated with aggressive behavior and negatively associated with prosocial behavior, leaving the relationship only with maladaptive outcomes. Mouratidis and Sideridis (2009) also found support for social demonstration-approach goals relationship to maladaptive outcomes; specifically a negative relationship to peer acceptance, demonstrating a less than ideal motivational pattern. This conclusion was supported by social demonstration-approach goals positive correlation with negative emotions (Mouratidis & Michou, 2011) and has contributed to a growing body of evidence that social demonstration-approach goal orientations has negative implications for adjustment. According to both the self-reports and teacher reports of behavior, it appears that the more students are focused on demonstrating social desirability, they are less likely to act in helpful cooperative ways (Ryan & Shim, 2008).

Typically, when groups of adolescents come together in a new setting, such as the start of an outdoor trip, demonstrating social competence is how they begin their interactions. It appears that these youth are trying to show others their strengths, as opposed to trying to learn about each other and form friendships. My hypothesis is that over time in a non-competitive setting such as outdoor adventure education, individual social goals will shift toward development. While the demonstration-approach
orientation to social interaction is difficult for group dynamics, at this point, much of the research suggests it is not as harmful to the individual as the need to avoid feeling incompetent in social situations.

**Social demonstration-avoid goals.** A *social demonstration-avoid goal* focuses on demonstrating that one does not lack social competence. Individuals with this orientation often remain very quiet as their primary goal is simply to avoid looking foolish in the eyes of others. Ryan and Shim (2006; 2008) established that social demonstration avoid goals are associated with maladjustment in both concurrent and longitudinal analysis as well as negatively associated with positive relations, self-acceptance, personal growth, and autonomy. Additionally, Mouratidis and Sideridis (2009) found support for previous research, finding the social demonstration-avoid goal orientation positively related to perceptions of loneliness and concluded that it constitutes a maladaptive motivational pattern. It appears that orienting towards demonstration-avoid in the social world creates an unpleasant profile where individuals are generally dissatisfied with relationships, allowing the opinions of others to interfere with independent decision making, the potential for personal growth, insecurity in being able to socially interact, concern about social interaction, and generally low self-regard. This provides convincing evidence that a focus on avoiding negative judgments from peers is associated with social behaviors that undermine social adjustment in youth (Ryan & Shim, 2006, 2008) and generally constitutes a maladaptive pattern of motivation (Mouratidis & Sideridis, 2009; Ryan & Shim, 2006, 2008).

Individuals who adopt a social demonstration avoid goal orientation generally tend to be very quiet at the start of outdoor trips and try to blend into the background of a
group. However, I hypothesize that during the course of their experience, if they have a feeling of group cohesion or belonging, this orientation will shift. I have been fortunate enough to work with wonderful groups of adolescents and believe I have seen this on many occasions. The people who initially exhibit avoidance behaviors are often afraid of looking foolish and being made fun of, and begin the trip by being very quiet. Over time, with others trying to draw them into the cohesive group, their orientation to the social world seems to change.

In applying social achievement goals to how the typical adolescent experiences life in a traditional school, as opposed to time spent involved with outdoor adventure education, I speculate large differences. Over an extended period of time in the context of outdoor adventure education, with individuals having the freedom to interact throughout the day in a somewhat unstructured manner, while needing to work together to accomplish common goals, most individuals step beyond demonstrating social competence and move towards developing meaningful relationships. This is a stark contrast with a traditional classroom, where an adolescent often has limited social interaction and may feel pressure to demonstrate that they are competent or not incompetent when they have the chance. The next question becomes, what about the social climate of these trips could foster this type of adaptive changes in social motivation?

The Group Environment Scale (GES)

The GES was designed to measure the relevant dimensions of the social climates of group settings and was created through theoretical and empirical methods with the purpose of helping researchers discover why settings differ so greatly in the quality of
relationships, different instructional strategies, and levels of organization and clarity (Moos, 2002). Moos and other researchers utilized the concept of social climate to create an empirically based perceptual measure grounded in Moos’s social or transactional ecological model (Moos, 2003a, 2003b; Salter & Junco, 2007), stressing the importance of the proximal contexts on individual behavior and the integration of psychological and contextual concepts to person-environment exchanges (Moos, 2003b). In other words, this model attempts to account for contexts that alter individuals; even though they are not directly participating in.

The end result is 90 true/false items making up the 10 scales of the GES. A score is tabulated for each construct from 0-9 with a low score indicating a deficit or lack of that characteristic in a setting. In order to standardize this instrument, Moos sampled 305 groups and more than 2,400 individuals and found internal consistencies ranging from .69 to .86 and a one-month retest reliability estimates ranging from .69 to .83. The groups involved with the initial sampling of GES included task oriented groups such as treatment teams in correction facilities; social recreation groups such as canoeing and backpacking groups; psychotherapy and supervision groups including both in and outpatient settings; and self-help and mutual support groups composed of mentally ill patients residing in the community (Moos, 2002).

GES Predictors Related to Other outdoor adventure education Research

While the GES has had limited use in outdoor adventure education, the constructs I will utilize from the GES to understand the social climate of these experiences, are not new. A primary focus of outdoor adventure education has become the idea of creating positive group experiences. This idea is embodied in research as sense of community,
group cohesion, and interpersonal relationships (Breunig, et al., 2007; Mitten, 1999; Sharpe, 2005; Todd, et al., 2008). Research supports the idea that sense of community is positively related to trip duration and balanced leadership styles (Todd, et al., 2008; Todd, et al., 2007) and that group cohesion plays significant roles in individual perceptions of development (Sibthorp, et al., 2007). Group cohesion is specifically assessed in GES and could be used as an outcome as well as a predictor in future research.

It is hypothesized that outdoor trips can create a social climate that fosters social development goals is likely related to individuals’ feelings of belongingness and the resulting perception of group cohesion. This may be the most meaningful and influential factor in the social climate of outdoor adventure education experiences. People tend to feel pleasure or positive affect from social contact and the innate human desire for relatedness makes people want to be positive parts of a group. Formation of social attachments under adverse conditions are even greater (Baumeister & Leary, 1995), such as the shared adversity experienced on a difficult backpacking trips. The need to belong is a fundamental human motivation (Baumeister & Leary, 1995; Maslow, 1943). A sense of school belongingness facilitates students’ motivation, adjustment, and well being (Anderman & Freeman, 2004). Belonging has been used as both an outcome and a predictor in a variety of studies (Anderman & Freeman, 2004). Baumeister and Leary (1995) present this idea in their Belongingness hypothesis, which suggest that human culture is partly adapted to enable people to satisfy the psychological need to live together thereby assigning some fundamental causal power to psychological forces related to belonging (Baumeister & Leary, 1995).
High group cohesion, as belongingness is conceptualized through the Group Environment Scales (GES), should produce an abundance of positive affect and likely facilitate other adaptive behaviors within a group and is therefore central to an adaptive social climate of a trip. Theoretically, if individuals feel they are part of a cohesive group and that they belong, they are more likely to obtain greater developmental benefits from the experience. The meaningful relationships that lead to group cohesion are also what likely foster a shift in social development goals. When individuals feel they belong, they stop feeling the need to demonstrate their social competence and are able to form meaningful relationships. However, group cohesion is not the sole contributor to the social climate or its hypothesized relationship to social achievement goals.

The relationship between field instructors and participants is a critical component of outdoor adventure education program success (Raioli, 2003). Student perception of rapport with instructors has been shown to be a significant predictor in gains in communication for NOLS students (Sibthorp, et al., 2007). Within the GES this is represented with two constructs; leader control and leader support. While these two ideas are not mutually exclusive, initial findings support the hypothesis that greater leader support and less control will likely lead to developmental benefits due to their affects on feeling of independence or autonomy.

Independence is assessed within GES as a similar construct to autonomy. Deci and Ryan (2000) consider autonomy as one of three basic innate psychological needs that underlie self-determined behavior. They state that people need to feel ownership over their own behavior. “Those who are more autonomous tend to show greater congruence among personality, awareness, and behavior” (Deci & Ryan, 2000, p. 254). Supporting
that idea, research in outdoor adventure education on self-determined behavior found that intrinsic motivation positively predicted satisfaction (Wang, Ang, Teo-Koh, & Kahlid, 2004). The authors state that explaining the rationale and importance of participation prior to programming can promote internalization and lead to feelings of autonomy.

Order and Organization refers to the formality of the group and individual roles within it. It is part of the larger system of the outdoor adventure education organization and how instructors interpret and portray those ideas and principles to students. It seems to be related to Task Orientation, which emphasizes the idea of accomplishing tasks such as developing hard skills (e.g. setting up camp, using an ice axe, etc.) and improving decision-making abilities. The idea of organizations creating a structure and providing an incremental and well sequenced problem solving task is at the center of the outdoor adventure education experience (McKenzie, 2003; Walsh & Golins, 1976), but the degree and manner to which it should be emphasized is not well understood.

In summary, the present research was designed to investigate achievement goal theory in the social domain to gain a greater understanding of how social achievement goals relate to the social climate of outdoor adventure education experiences. In Study 1, data was collected using utilizing an explanatory sequential mixed methods design where the collection and analysis of quantitative data was followed by phenomenological interviewing to help explain the quantitative results. The interview process in Study 1 is necessary because unlike in surveys, listening to participants discuss these experiences in their own words can deepen our knowledge of what aspects of the social climate seem to facilitate adaptive shifts in social achievement goal orientations and on these outdoor adventure education experiences. Data from Study 1 was used to narrow the
subcategories of the GES for use in Study 2. In Study 2, a larger sample was obtained, where participants engaged in a longer treatment and assessed their perception of the social climate as well as changes in social achievement goals.

STUDY 1

METHOD

Participants and Procedures. Questionnaires were collected from 72 students, ages 14-19, before and after completing 5-day field courses run by a private boarding high school in New England. Students were told the purpose of the study was to better understand the social aspects of trips and participation was voluntary. Field course instructors, who are also teachers at the school, gave pre and posttests one week prior to the course and one week after the course, respectively. After the collection and initial analysis of data, the sample was stratified to obtain confirming and disconfirming cases of perception of group cohesion, a theoretically important predictor. We found the mean score and standard deviation in terms of cohesion, then selected and interviewed 4 individuals who rated cohesion one standard deviation above the mean and 2 individuals who rated cohesion one standard deviation below the mean; striving for diversity of age, gender and race in our selection of interviewees. With these interviews, we are attempting to utilize the interview methods proposed in Seidman’s (2006) process for phenomenological interviewing to create a progression of questions to be asked in two interviews, one week apart.

Measures. For the pretest, students responded to Ryan and Shim’s (2006) 18-question survey assessing their social goal orientation prior to the trip. This instrument was developed for the classroom and used with ages ranging from elementary to college
age students and utilizes a 5-point scale (1 = not at all true to 5 = very true). At the close of the field courses, to better understand the context of the potential changes in social achievement goals, participants were given the Group Environment Scale (GES) survey (Moos, 2002) in addition to the posttest social achievement goals survey. The GES was designed to measure the relevant dimensions of the social climate of group settings. It was created with thorough theoretical and empirical methods for the purpose of helping researchers discover why settings differ so greatly in the quality of relationships, different instructional strategies, and levels of organization and clarity (Moos, 2002). The end result is 90 true / false items making up the 10 scales of the GES. A score is tabulated for each construct from 0-9 with a low score indicating a deficit or lack of that characteristic in a setting. In order to standardize this instrument, Moos sampled 305 groups and more than 2,400 individuals and found internal consistencies ranging from .69 to .86 and a one-month retest reliability estimates ranging from .69 to .83. After conversion to standardized scores, all areas have a mean score of 50 and standard deviation of 10 (Moos, 2002). We will utilize this standardization for our data.

Interviews were used after initial analysis of the surveys in order to enhance our understanding by looking at the experience of participants openly and in participants’ own words. Participants’ thoughts about the experience then become the data. In the first interview, with each of the participants, questions were meant to be conversational, to establish rapport and to make participants more comfortable while progressively probing deeper (Table 1).

Prior to the second interview, one week later, we summarized their interview responses and presented them to the participants to obtain approval that our paraphrasing
was an accurate description of what participants had experienced and used that to review our previous meeting and begin our second interview. This round of questions was more specific and asked students to reflect on their trip and how it related to areas of interest in this research (Table 1).

The primary researcher analyzed transcripts to identify sections relevant to the research questions. 123 meaningful quotations were pulled from the transcripts of twelve interviews with the six interviewees. On average, over 20 segments of responses from each individual were analyzed. The selected sections were then reread and coded to find emerging themes; resulting in 7 primary themes. The second researcher also reviewed segments identifying stated themes and the two met to resolve discrepancies in themes and collaborated to clarify codes. A final coding was done and an inter-rater reliability of 93% was found. The unresolved quotations were discarded, leaving 115 quotations remaining for the analysis.

<table>
<thead>
<tr>
<th>Table 1: Guiding questions for interviews</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Interview one:</strong></td>
</tr>
<tr>
<td>1. How did you first become interested in doing outdoor trips?</td>
</tr>
<tr>
<td>2. Can you reconstruct for me the first time you remember going on an outdoor trip with a group of peers?</td>
</tr>
<tr>
<td>3. Can you describe the trip you just went on?</td>
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<tr>
<td>4. Tell me everything you can remember about your group.</td>
</tr>
<tr>
<td>5. What were your highlights of spending this time with your group?</td>
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<tr>
<td>6. What was your biggest challenge involved with living with your group?</td>
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<tr>
<td>7. Can you reconstruct a day of this trip, from wake up to sleep?</td>
</tr>
<tr>
<td><strong>Interview two:</strong></td>
</tr>
<tr>
<td>1. How was your relationship with people on the trip different than at school?</td>
</tr>
<tr>
<td>2. How was your relationship with your trip leaders different than when they are your teachers at school?</td>
</tr>
<tr>
<td>3. How important is texting and /or facebook in your normal daily life? What was it like to not have that connection? How were your interactions with your peers different?</td>
</tr>
<tr>
<td>4. Given what you said about your early experiences with working in groups and what you said about this experience, how do you understand the small group</td>
</tr>
</tbody>
</table>
social experience in your life now?
5. Is this something you will continue to seek out?

Additionally, the following four probes will be used in clarification:
1. Can you tell me more about that?
2. Can you elaborate / clarify what you mean by ________?
3. Can you give me an example of that?
4. Why do you think that is?

RESULTS

Survey Results. For social achievement goals, an exploratory factor analysis with varimax rotation was performed to assure all factors grouped together as predicted and so questions that did not, could be removed prior to analysis. The method of extraction was principal axis factoring. Using the Eigenvalues greater than 1 criterion, all 3 factors were retained, but several questions were eliminated. Social development goals retained 4 of the 6 questions and had Cronbach’s Alpha of .90; Social demonstration approach goals, retained 5 of 6 questions and had Cronbach’s Alpha of .83; while social demonstration avoid goals was had 2 questions eliminated, and retained a reasonable Cronbach’s Alpha of .73.

Mean scores for the all subcategories of the GES, a normalized scale, showed scores bunched around the predicted mean score of 50 (Table 2). Leader support, task orientation, order and organization, and leader control all were well above 50; while cohesion, expressiveness, anger and aggression, and innovation all fell very close to 50; and independence, and self-discovery were below 50 – which makes sense for the academic context; (Table 2). From this, we came to the initial conclusion that the GES is may be a valid way to assess the social climate of trips and that for these academic field courses, the normalization seemed accurate.
Table 2: Group Environment Scale Mean, Standard Deviation, and Correlations (n= 72).

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Cohesion</td>
<td>51.33</td>
<td>9.73</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>2. Leader Support</td>
<td>55.29</td>
<td>7.35</td>
<td>.45**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>3. Expressiveness</td>
<td>50.83</td>
<td>7.46</td>
<td>.22</td>
<td>.35**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Independence</td>
<td>48.89</td>
<td>8.97</td>
<td>.21</td>
<td>.38**</td>
<td>.25*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Task Orientation</td>
<td>53.42</td>
<td>8.12</td>
<td>.48**</td>
<td>.54**</td>
<td>.18</td>
<td>.23</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Self Discovery</td>
<td>48.43</td>
<td>8.56</td>
<td>.42**</td>
<td>.31**</td>
<td>.34**</td>
<td>.04</td>
<td>.11</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Anger and Aggression</td>
<td>50.39</td>
<td>7.78</td>
<td>.36**</td>
<td>-.14</td>
<td>-.03</td>
<td>-.02</td>
<td>-.13</td>
<td>.04</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Order and Organization</td>
<td>55.35</td>
<td>7.65</td>
<td>.43**</td>
<td>.49**</td>
<td>.19</td>
<td>.23*</td>
<td>.51**</td>
<td>.21</td>
<td>-.09</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Leader Control</td>
<td>56.17</td>
<td>6.54</td>
<td>.09</td>
<td>.13</td>
<td>-.24*</td>
<td>.11</td>
<td>.19</td>
<td>-.10</td>
<td>-.09</td>
<td>.30*</td>
<td></td>
</tr>
<tr>
<td>10. Innovation</td>
<td>51.85</td>
<td>6.86</td>
<td>.36**</td>
<td>.34**</td>
<td>.32**</td>
<td>.40**</td>
<td>.17</td>
<td>-.31**</td>
<td>-.11</td>
<td>.08</td>
<td>.26*</td>
</tr>
</tbody>
</table>

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).

Entering into this investigation of the social climate, the desire for cohesion and the concept of the human need to belong was hypothesized to be an important predictor. Results from Pearson’s correlation of post course GES demonstrate there are significant correlations from cohesion to leader support, task orientation, self-discovery, anger and aggression (reversed idea), order / organization, and innovation (p < .01) yet no relationship to leader control or independence (Table 1). Notably, there are little positive relationships with leader control in this sample. This short treatment (5 days) utilizing a small sample (n=72), did not produce significant change in social achievement goal orientations, on average, but individuals did shift goal orientations in an adaptive direction.

Interview Results. As stated above, the sample was stratified based on student perception of cohesion in their group. Interviews were used helped to further explicate students’ perception of the influence of the social climate and clarify essential attributes
of the social climate that facilitate adaptive forms of social motivation. Below are the themes that emerged and selected related quotes:

- **Social development goals.** Participants enact social development goals during these trips:

  *I just remember the things that really stick out the most to me is not the outdoor, not the hiking, not the actually physical activity but the things it does to your relationships with people, like its well when you’re hiking and you’re having conversations with someone, and when you’re done hiking and you’re cooking you’re talking with people, and then when you’re eating you’re talking with people, so you just learn a lot about who people.*
  
  -Suzanne (discussing previous positive outdoor trip experience – not this field course)

  *People don’t want to try and impress other people on field course, like as in school you usually want to try impress somebody or whatever. But on field course you could just completely be yourself and just show the real you and not try to be like, like somebody, like, being different to impress somebody else or just trying to make the group feel impressed about you.*
  
  -Mark (high perception of group cohesion)

- **Instructor Modeling.** Instructors play a meaningful role in the social experience of participants through modeling social development goal orientation and fostering a positive social climate:

  *Leaders on these trips are like your parents, but like funner parents... On these trips they (instructors) like go way out of their way to look out for you, like, you want to know the other people in the group, they (instructors) want to get to know you more.*
  
  -Amanda (high perception of group cohesion)

  *The idea that at XXX Summer (adventure program), you see the instructors working hard... eventually you just kind of realize that even if they (instructors) don’t tell you to do something, that you should just do it anyway and it’s a group effort its just the, I think it’s a different type of role model... Whereas here at the school trips its more uhm, maybe they don’t have, they haven’t had the really great outdoor experience that they have to rely on, so they don’t know how to be that type of instructor. Which changes the group effort, the group dynamic.*
  
  -Suzanne (low perception of group cohesion)

- **Leader support versus leader control.** Participants perceive a difference in leader support versus leader control and the related benefits:
Their (instructors) whole deal was that they wanted us to do it and not them to be guiding us through it, so I definitely think that kind of helped also because it kind of promotes independence and courage. - James (high perception of group cohesion)

The biggest challenge was kind of getting everybody to agree on anything. Whereas most of the time either Jonathan or Linda uh, the leaders of the group, were kind of telling what people to do. - William (low perception of group cohesion)

• Order and organization. Positive group dynamics are fostered through good order and organization, helping create a social climate where social development goals are fostered:

So when they (instructors) made groups, like cooking groups and cleaning groups they tried to mix every level of uhm, high school, so that not one person was not just the freshman or senior or sophomore group, and I think that definitely helped me out a lot because it helped me kind of integrate myself with everyone else versus just hanging out with the freshman and no one else. And the trip itself was really cool because it was really organized because I was completely new to all of this and it was really organized and uhm I had a definite sense of what we were going to do, what we were doing everyday and what we were going to do over the next couple of days. And I definitely felt safe because the instructors seemed very professional and very, really good about what they did and how they communicated it to the group, so everybody was pretty good about following directions and listening. – James (discussing a previous orientation trip)

I just felt like Jonathan and Linda (instructors) were not always on the same page with things, and she had kept reminding Jonathan to either put away or get something out of the van that just delayed us a little bit more... I just remember starting off the day with not enough food, Jonathan doing something not realizing it was irritating Linda because she had already warned him about something and uhm, everybody getting on the bus with their grumpy pants - William (low perception of group cohesion)

• Task focus. The need to work together to accomplish manageable tasks assists students in setting and achieving goals, aiding in group cohesion:

I feel like when you all have an objective, a specific like accomplishment like that you want to have, I feel like it makes everyone really really focused on that one thing, but then they seem, they’re more dedicated, they’re more interested at the thing... They work harder and usually they’re more interested in it and they, they’re happier. – Rose (high perception of group cohesion)
The biggest challenge was trying to make sure that everything was getting done... I never want to be the bad guy, especially if I am not supposed to be, and I think that was what was really hard. Especially in our group full of lazy people! – Suzanne (low perception of group cohesion)

- **The role of unstructured time.** During unstructured time, participants reverted to preexisting social groups. Trips with higher cohesion were those with less unstructured time and more time spent playing games and engaging in facilitated activities:

  *We played this game that would like connect us more with the other people.* – Mark (high perception of group cohesion)

  *Half of us were American and half of us were Chinese students. We, during, when we weren't on the ropes course we were segregated into the two groups.* – Suzanne (low perception of group cohesion)

- **The lack of technology.** Outdoor trips lack of technology leads to more quantity and quality of face-to-face communication – which is different than typical modern life:

  *There is not technology, nothing else to distract other people, so in that sense they're kind of diverted from what they would usually do with technology and computers and uhm, anything like that. So they’re kind of diverted to actually more kind of communicating with the group and forced to interact. So I think that definitely develops social skills a lot more because you’re kind of, you’re in the outdoors, you’re with a group of people that you’re going to be with for about five days, so you might as well get to know them better and try to integrate with what they’re doing, what they say.* – Mark (high perception of group cohesion)

From the combination of information gathered through the quantitative data followed by analysis of interviews, it was determined that the most influential and meaningful subscales of the GES are cohesion, leader support, independence, task orientation, order and organization, and leader control (Table 3). The GES subscales listed in Table 3 have become the subcategories of the GES utilized in Study 2. These
variables will be analyzed with reference to Ryan and Shim’s (2006) social achievement goals to better understand the relationship between specific aspects of the social climate and changes in social goal orientation of participants.

Table 3: Group Environment Scales utilized for future research on Social Climate

<table>
<thead>
<tr>
<th>Relationship Dimension</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cohesion:</td>
<td>The members’ involvement in and commitment to the group and concern for friendship they show for one another</td>
</tr>
<tr>
<td>Leader Support:</td>
<td>The amount of help, concern, and friendship the leader shows for the members</td>
</tr>
<tr>
<td>Personal Growth Dimension</td>
<td></td>
</tr>
<tr>
<td>Independence:</td>
<td>How much the group encourages independent action and expression among members</td>
</tr>
<tr>
<td>Task Orientation:</td>
<td>The emphasis on completing concrete, practical tasks and on decision making and training</td>
</tr>
<tr>
<td>System Maintenance and Change Dimension</td>
<td></td>
</tr>
<tr>
<td>Order and Organization:</td>
<td>The formality and structure of the group and the explicitness of rules and sanctions</td>
</tr>
<tr>
<td>Leader Control:</td>
<td>The extent to which the leader directs the group, makes decisions, and enforces rules</td>
</tr>
</tbody>
</table>

Definitions taken from: (Moos, 2002)

DISCUSSION

The results from Study 1 indicate that participants moving in the direction of an adaptive social achievement goal orientation is related to the context of being in the outdoors in general, but enhanced by instructor support including facilitation of games and fun activities as well as structured and organized tasks, which the group must work toward accomplishing. During unstructured time, cliques formed and maladaptive group behaviors often began to surface.

The essence of student’s positive group experience was about the interpersonal relationships within the group. Instructors play a vital role in how participants experience the group. A lack of instructor support, order and organization, or task orientation may
result in low group cohesion. The manner in which instructors modeled behaviors and facilitated the group greatly influenced the student experience. Those interviewed felt their instructors played a meaningful role in the way the group functioned and the social climate of the trip, and therefore group cohesion. This points to an understated idea in outdoor adventure education, that of the instructor as “social engineer”. During trips that have high group cohesion, the role of instructor goes far beyond keeping youth safe and extends into the social domain through careful and intentional groupings, facilitated games, and a generally supportive atmosphere.

In Study 2, we utilized the shortened GES survey with a larger sample of participants engaging in longer and more intensive adventure experiences. Study 2 was guided by three key aims. First, we examined if the three social achievement goals (development, demonstration-approach, demonstration-avoid) are distinct and reliable constructs in this context. Second, we investigated if there were changes in the social goals of participants. Third, we examined the relationship between changes in social achievement goal orientations and attributes or subcategories in the social climate.

STUDY 2

METHOD

Participants. The participants were 324 youth, ages 12-18, participating in 16-29 day multi-sport adventure experiences run by Adventure Treks, a commercial provider of adventure programs, during the summer of 2011. Eighty-six of those individuals completed pre and posttests, which explored social motivation, while the other 238 participated in the posttest only, addressing the social climate of their trip. The difference in the number of pre and posttest responses was due to the timing and method of
administration of the pretest. Prior to attending their Adventure Treks trip, registered
participants were mailed and emailed basic information about the study with links to the
Survey Monkey based pretest. This resulted in only 86 useable responses that we were
able to pair with posttest responses. Upon initial analyses, we compared those who only
completed posttest to those who completed both pre and post test and through paired
samples t-test established there was no significant differences between any of the
measures of social climate (p>.05). We believe the data from the 86 represents the
population of Adventure Treks students fairly accurately. All significance testing for
Study 2 was done on the sample of 86 that participated in both pre and posttests.

Procedure. The brief pretest survey was completed prior to trips via Survey
Monkey, with ID codes in place of names, so participants remain anonymous, yet can be
tracked to pair samples for the posttest. The posttests were given near the close of each
trip; at the same time students completed their evaluation of the course.

Measures. Consistent with Study 1, Ryan and Shim’s (2006) measure of social
achievement goals was utilized for pre and posttest (see retained questions in Table 3).
Additionally, the shortened version of the GES as described in Study 1, was used to
better understand the social climate of these trips. A variable, “change in social
development” was created after confirming the change in social development goal
orientation was significant, by subtracting pre from posttest scores of social development,
in order to assess correlation between these changes and the subcategories of the social
climate.

RESULTS
**Exploratory Factor Analysis.** For social achievement goals, exploratory factor analysis was performed using the Principal Axis Extraction Method and Varimax Rotation. The method of extraction was principal axis factoring. Using the criteria of eigenvalues greater than 1, all 3 factors were retained, but several items were eliminated; Table 4 shows all remaining items for the pre and posttests with their factor loadings.

Interestingly, identical questions were retained in both the pre and posttests.

<table>
<thead>
<tr>
<th>Item</th>
<th>Social Development</th>
<th>Social Demonstration -Approach</th>
<th>Social Demonstration -Avoid</th>
</tr>
</thead>
<tbody>
<tr>
<td>I try to figure out what makes a good friend.</td>
<td>Pre: .76</td>
<td>Post: .67</td>
<td></td>
</tr>
<tr>
<td>It is important to me to learn more about other kids and what they are like.</td>
<td>Pre: .60</td>
<td>Post: .56</td>
<td></td>
</tr>
<tr>
<td>In general, I try to develop my social skills.</td>
<td>Pre: .59</td>
<td>Post: .73</td>
<td></td>
</tr>
<tr>
<td>I feel successful when I learn something new about how to get along with friends.</td>
<td>Pre: .57</td>
<td>Post: .60</td>
<td></td>
</tr>
<tr>
<td>It is important to me that other kids think I am popular.</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>It is important to me to have “cool” friends.</td>
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<td></td>
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<tr>
<td>I want to be friends with the “popular” kids.</td>
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<tr>
<td>My goal is to show other kids how much everyone likes me.</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>It is important to me to be seen as having a lot of friends.</td>
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<td></td>
<td></td>
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<tr>
<td>I try not to do anything that might make other kids tease me.</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>I try to avoid doing things that make me look foolish to other kids.</td>
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</tr>
<tr>
<td>When I am around other kids, I don’t want to be made fun of.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>It is important to me that I don’t embarrass myself around my friends.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cronbach’s alpha</td>
<td>.72</td>
<td>.74</td>
<td>.79</td>
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</table>


**Changes in social achievement goals.** A Paired Samples t-test compared differences in social development goal mean scores before and after the course.

Supporting our hypothesis, scores were higher after these outdoor adventure education experiences ($M = 4.32, SD = .64$) than prior to the experience ($M = 4.11, SD = .70$), $t(86) = -2.57, p < .05$ (Figure 2). This reveals that on average, students are more motivated
toward developing meaningful relationships with others, and their focus is shifting more toward learning, growth, and improvement of relationships.

While there was no significant change in the social demonstration-approach goal orientation of participants, there was significant change in the social demonstration-avoid goal orientation. A Paired Samples $t$-test compared differences in social demonstration-avoid goal mean scores before and after the course and as expected, scores were lower after these outdoor adventure education experiences ($M = 2.64, SD = .87$) than prior to the experience ($M = 2.84, SD = .86$), $t(86) = 2.07, p < .05$ (Figure 2). Essentially, this tells us that on average, students are less motivated toward avoidance behaviors in relationships with others at the close of their trips than they were prior to these experiences.
Correlations between social achievement goals and social climate. There were several significant relationships between aspects of the social climate in this sample. As we look at the correlations for group cohesion (Table 5), we see significant correlations with leader support, independence, task orientation, order and organization (p < .01) and change in social development (p < .05). Interestingly, leader control has only leader support for a significant relationship (p < .05), while leader support is significantly related to independence (p < .05), task orientation (p < .01), and order and organization (p < .05), in addition to leader control (p < .05).

Figure 2. Graphs of significant difference (p < .05) between pre and post social development and social demonstration-avoid goal orientation scores (n=86).
In investigations of how aspects of the social climate relate to changes in social development, only cohesion and task orientation were significantly related to changes in social achievement goals (p < .05).

Table 5: Study 2 Mean, Standard Deviation, and Correlations (n=86).

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<thead>
<tr>
<th></th>
<th>Mean</th>
<th>SD</th>
<th>1</th>
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<th>3</th>
<th>4</th>
<th>5</th>
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<tr>
<td>1. Cohesion</td>
<td>56.87</td>
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<tr>
<td>2. Leader Support</td>
<td>58.76</td>
<td>3.79</td>
<td>.447**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Independence</td>
<td>52.45</td>
<td>7.27</td>
<td>.401**</td>
<td>.222*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Task Orientation</td>
<td>57.12</td>
<td>7.32</td>
<td>.540**</td>
<td>.372**</td>
<td>.354**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Order and Organization</td>
<td>57.02</td>
<td>7.29</td>
<td>.374**</td>
<td>.264*</td>
<td>.360**</td>
<td>.290</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Leader Control</td>
<td>58.24</td>
<td>7.25</td>
<td>.009</td>
<td>.232*</td>
<td>-.082</td>
<td>-.130</td>
<td>.099</td>
<td></td>
</tr>
<tr>
<td>7. Change in Social Development</td>
<td>.21</td>
<td>.76</td>
<td>.223*</td>
<td>.028</td>
<td>.155</td>
<td>.250*</td>
<td>.044</td>
<td>.106</td>
</tr>
</tbody>
</table>

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).

Using ordinary least-squares regression, change in social development was regressed on each subcategory of the social climate. Supporting predictions, higher perceptions of group cohesion predicted changes in social development goal orientation, β = .22, t(84) = 2.01, p < .05. However, group cohesion only explained a small portion of the variance in changes in social development, $R^2 = .05, F(1, 84) = 4.40, p < .05$.

Additionally, higher perceptions of task orientation predicted changes in social development goal orientation, β = .25, t(84) = 2.36, p < .05. However, task orientation also only explained a small portion of the variance in changes in social development, $R^2 = .06, F(1, 84) = 5.58, p < .05$.

DISCUSSION
In this study, social motivation is utilized as an indicator of adaptive behaviors and group cohesion, or the idea of the human need to belong, is hypothesized to be an important predictor. It appears that having individuals with a social development goal orientation is related to creating cohesion within a group and having a clear task orientation. Therefore, this analysis supports previous outdoor adventure education research in saying that a focus on group cohesion is important to students experience in a variety of ways (Breunig, et al., 2007; Mitten, 1999; Sharpe, 2005; Todd, et al., 2008).

The results of this research also emphasize the instructor role as very broad and can include important duties as a social engineer. If programs have a goal of moving participants towards more adaptive behaviors, administrators and field instructors should focus on creating group cohesion and be sure the task and goals for the program are clearly stated, while allowing participants the autonomy to solve the problems that the program structures for them.

Amongst many other roles outdoor adventure education instructors juggle, they are there to support students, keep them safe, and often to teach them about leadership and being part of a group. In order to facilitate the highest levels of adolescent social development goal pursuit, it is likely that instructors should attempt to provide high levels of support with low levels of control, which theoretically relates to greater feelings of independence and group cohesion for participants. Additionally, organizations should provide clear parameters for field instructors about the level of order and organization that is expected in the field. For example, administrators may provide appropriate skill progressions for various activities as well as possible activities and game progressions that are appropriate for various times within a program.
Lastly, instructors need to frame aspects of the experience so that it is clear to students that there is an expectation that they work together to accomplish certain problem solving tasks. It is then the responsibility of the organization and instructors to make sure these tasks are structured and supported logically to set students up for a manageable and consequential learning experience.

Outdoor adventure education trips provide an opportunity to promote social development goals in adolescents, but participants' motivation and perception of the social climate on these trips will benefit from continued examination, interpretation, and discussion. Future studies could improve the practical and theoretical understanding of the social climate and the potential importance of the ability to facilitate a climate that promotes adaptive social motivation.

CONCLUSION

With a continued increase in the use of technology to communicate combined with modern education emphasizing standardized testing, the manner in which programs outside of school address how adolescents orient themselves to the social world is of increasing importance. Outdoor adventure education can help enrich youth as it relates to these modern societal gaps in our educational system.

Potentially, answers to questions about social development and social climate could help inform what institutions and/or instructors providing these outdoor adventure education experiences do to further reinforce this adaptive motivational orientation in the social domain. Emphasizing aspects of the social climate that are shown to be most related to a social development goal orientation could help field instructors focus their energy in a way that will directly benefit their participants. Each of these orientations to
the social world has implications for individual’s beliefs and behaviors, and what instructors emphasize could help determine whether they are reinforcing adaptive or maladaptive behaviors. Research on this topic has the possibility of yielding a greater understanding of the motivational dynamics and social / group relationships in outdoor adventure education and helping shape the practices of this industry.

References


Quay, J., & Seaman, J. (manuscript in preparation). *Outdoor Education: A Deweyian Historical Analysis*.


Appendix F.

Patterns of Adaptive Learning Scales (PALS)

Perception of Classroom Goal Structures

This refers to students’ perceptions of the purposes for engaging in academic work that are emphasized in the classroom.

Classroom Mastery Goal Structure

This scale refers to students’ perceptions that the purpose of engaging in academic work in the classroom is to develop competence.

59. In our class, trying hard is very important.
61. In our class, how much you improve is really important.
63. In our class, really understanding the material is the main goal.
66. In our class, it’s important to understand the work, not just memorize it.
68. In our class, learning new ideas and concepts is very important.
70. In our class, it’s OK to make mistakes as long as you are learning.

Alpha: .76

Descriptive Statistics

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<tr>
<th>Items</th>
<th>Mean</th>
<th>Standard Deviation</th>
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<td>70</td>
<td>3.98</td>
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Scale

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<tr>
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<th>Standard Deviation</th>
<th>Skewness</th>
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<tbody>
<tr>
<td>4.11</td>
<td>0.72</td>
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</table>

* Numbers refer to the items in the sample student survey (see page 40).

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5 The classroom goal structure scales (mastery, performance-approach, performance-avoid) are not intended to be used in the same analysis with teacher goal structure scales (mastery, performance-approach, performance-avoid).
Patterns of Adaptive Learning Scales (PALS)

Perception of Classroom Goal Structures

Classroom Performance-Approach Goal Structure

This refers to students' perceptions that the purpose of engaging in academic work in the classroom is to demonstrate competence.

62. In our class, getting good grades is the main goal.
64. In our class, getting right answers is very important.
71. In our class, it's important to get high scores on tests.

Alpha: .70

Descriptive Statistics

<table>
<thead>
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<td>71</td>
<td>3.49</td>
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Scale

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<th>Standard Deviation</th>
<th>Skewness</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.34</td>
<td>0.98</td>
<td>-0.20</td>
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</tbody>
</table>

* Numbers refer to the items in the sample student survey (see page 40).
Patterns of Adaptive Learning Scales (PALS)

Perception of Classroom Goal Structures

Classroom Performance-Avoid Goal Structure

This refers to students' perceptions that the purpose of engaging in academic work in the classroom is to avoid demonstrating incompetence.

60. In our class, showing others that you are not bad at class work is really important.
65. In our class, it's important that you don't make mistakes in front of everyone.
67. In our class, it's important not to do worse than other students.
69. In our class, it's very important not to look dumb.
72. In our class, one of the main goals is to avoid looking like you can't do the work.

Alpha: .83

Descriptive Statistics

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Scale

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* Numbers refer to the items in the sample student survey (see page 40).