

The effects of an adventure based program: Mechanisms promoting resilient outcomes among youth in transition from childhood to adulthood

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Abstract

For many adolescents, the transition from childhood to adulthood is challenging. As expected, research suggests that risk and protective factors influence adolescents' transition outcomes, and their successful completion of developmental tasks. Developmental researchers have found that adventure-based-programs (ABPs) have the capacity to promote positive youth development. However, little is known about the specific mechanisms in adventure-based-programs (ABPs) that lead to positive youth development. This thesis includes a comprehensive overview of the relevant ABP empirical studies, indicating predominantly positive evaluations of these programs. Further, the research design for this thesis was active interactive and multi-methods, including focus group and personal interviews and a survey, to explore the mechanisms by which a 7-day ABP promotes resilient outcomes among youth. The findings include identifying risk and protective factors present in adolescent participants' lives; the mechanisms by which the ABP promotes resilient outcomes; the transferability of the protective factors acquired during the program; and the participants' perceptions of the program. In sum, this 7-day rock-climbing program promoted resilient outcomes among the participating youth.

Keywords: resilience, protective factors, risk factors, adventure-based-programs, positive youth development.

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CHAPTER 1: STATEMENT OF THE PROBLEM AND THEORETICAL PERSPECTIVE

Adolescence is the pivotal period between childhood and adulthood it is the time when youth need to acquire the attitudes, competencies, values, and social skills that will carry them forward to successful adulthood. It is also the time when they need to avoid choices and behaviors that will limit their future. (Eccles & Gootman, 2002, p.1)

Introduction

For many adolescents, a supportive environment often facilitates the process from childhood to adulthood as described by Eccles and Gootman (2002, p.1). Although for other adolescents, the environment might be unsupportive or even destructive (Austrian, 2008). Evidence suggests that risk and protective factors influence both positive and negative adolescent transition outcomes, as well as successful completion of developmental tasks (See Catalano *et al.*, 2004). The presence of risk factors in adolescence can be a strong predictor of problem behavior (e.g., Arthur, Hawkins, Pollard, Catalano, & Baglioni, 2002; Gibbons, 2004). Specifically, risk factors are conditions that increase the likelihood of a young person to engage in delinquent or violent behavior, substance use, school dropout, teen pregnancy, or develop a mental disorder (Arthur *et al.*, 2002; Newman 2000; Fergus & Zimmerman, 2005). Research on healthy youth development is necessary to better understand this significant life phase and transition from childhood to adulthood.

Factors that are considered to increase the risk of problem behavior among adolescents include (among other factors) low levels of parental involvement, family conflict, poverty, availability of drugs, exposure to violence and racial prejudice, neighborhood adults involved in crime, and having to work long hours while in high school (e.g., Hawkins *et al.*, 2000; Werner, 1993). The Cambridge Study in Delinquent Development found that the youth rate of conviction for violent crimes was greater for those with four or more risk factors (31%) than for those with no risk factors (3%) (Farrington, 1997). The National Center for Health Statistics (2000) reported that the proportion of young people dropping out of high school in the United States is particularly high among Hispanic students and adolescents living in poor environments (as cited in Eccles & Gootman, 2002, p.6). This suggests that Hispanic students and adolescents living in poor environments might be at a higher risk of dropping out of school. Two studies found that parental offending history was strongly associated with youth suicide attempts (See Evans, Hawton, & Rodham, 2004). Gibbons (2004) found that adolescents living in high-risk neighborhoods were more inclined towards substance abuse and are more likely to use drugs and alcohol. These data support the idea that risk factors can influence negative outcomes in terms of adolescents' problem behaviors. Moreover these data suggest that higher numbers of risk factors are correlated with higher levels of problem behavior (Olsson, Bond, Burns, Vella-Brodrick, & Sawyer, 2003).

The good news is that, despite exposure to multiple risk factors, there are many adolescents who are able to make a healthy transition to adulthood (e.g., Werner 1993, Resnick *et al* 1997; Fergus & Zimmerman, 2005). Further, Eccles and Gootman (2002)

report that several measures of adolescent well-being and behavior in the United States have shown significant progress over the past 20 years. Several researchers attribute these positive outcomes in part to the increasing participation of youth in non-school programs or activities (Shek & Lee 2007; Armour, Sandford, & Duncombe, 2012). Similarly, some studies indicate that voluntary participation in non-school activities is related to the development of a positive identity, positive relationships with peers and adults, academic improvement and better outcomes during adulthood (for a review see Eccles & Gootman, 2002). However, the data presented above regarding risk factors suggest that there are still many adolescents who are in need of support. Further, Newman (2000) points out that adolescents from low-to moderate income families are the least likely to have access to non-school programs, due to financial and/or transportation constraints.

A promising approach to prevention and intervention of problem behavior in adolescence is the outdoor experiential education approach, also referred to as adventure-based-programs (ABPs). Developmental researchers have found that such programs have the capacity to promote positive youth development (Lubans, Plotnikoff, & Lubans, 2012; Neill & Dias, 2001; Beightol, 2012; Hattie, Marsh, Neill, & Richards, 1997; Nakkula & Toshalis, 2010; Neill, 2003). Nakkula & Toshalis (2010) explain that experiential education is built around positive risk taking. In such programs, participants are presented with degrees of challenge and then, through reflective practices, learn lessons from confronting challenge and adversity. For example, participants are presented with a challenging rope course, after they have figured out how to overcome the obstacle, they can reflect on the strategies used to overcome the course and learn from them. However, little is known about the specific mechanisms in adventure-based-programs

that lead to positive youth development (Armour, 2012; Lubans *et al.*, 2012; Holt & Jones, 2008). In other words, what are the lessons learned that promote positive development and how do they translate into the everyday life of an adolescent?

Theoretical Perspective

Resilience theory provides a good framework for understanding positive outcomes in the face of context-based risk factors. Resilience is defined as the process of coping, or sustaining competent functioning in the face of adversity and chronic life stressors (Fergus & Zimmerman, 2005; Neill & Dias, 2001). Therefore, resilience increases an individual's capacity to overcome the odds, as well as recover from traumatic events (Neil & Dias 2001; Werner, 1993). Fergus and Zimmerman (2005) point out that resilience requires the presence of both risk factors *and* promotive factors (also referred to as protective factors) (e.g., Garmezy, 1985; Werner, 1993; Green *et al.*, 2000). Further, resilience theory parts from a concern about risk factors, but the focus is on strengths, namely the protective factors, rather than deficits (Fergus & Zimmerman 2005). Thus, resilience is understood as the interactions between risk factors and protective factors that lead to healthy development.

According to Fergus and Zimmerman (2005), a resilience approach emphasizes promoting personal assets and making resources available to youth. This, in turn, enables individuals to draw from a variety of assets and resources that will help them attain a positive outcome when faced with challenging life circumstances. Understanding resilience as a *process* in which individuals draw from a set of available assets and resources, and not as a trait in itself, allows for a more comprehensive, multifactor, and

context-based understanding of the mechanisms by which some adolescents are capable of overcoming risk exposure (Luthar & Cicchetti, 2000; Fergus & Zimmerman, 2005). It also suggests that in order to foster resilience one has to promote assets and make resources available to youth (Fergus & Zimmerman, 2005). In other words, programs that foster resilience as a process are those that promote assets and resources.

Assets that are believed to help reduce the negative effects of risk include social and interpersonal skills (e.g., responsiveness to others, relational skills) (Fergus & Zimmerman, 2005; Olsson *et al.*, 2003), personality traits (e.g., self-esteem, self concept, tolerance) (Olsson *et al.*, 2003; Werner, 1993), internal locus of control (e.g., self efficacy, competence, coping skills), intelligence (e.g., academic achievement, planning and decision making), and communication skills, among others (Olsson *et al.*, 2003).

External factors, or resources, that can modify the negative effects of risk include participation in extracurricular and community activities, parental and/or family support, adult mentorship (Fergus & Zimmerman, 2005; Luthar & Cicchetti 2000), and appropriate structure (e.g., clear rules) (Werner, 1993).

Some researchers argue that we need to move away from conceptualizing and measuring resilience as an individual trait (Luthar & Cicchetti, 2000; Fergus & Zimmerman, 2005; Olsson *et al.*, 2003). Fergus and Zimmerman (2005) argue that the problem with treating resilience as a trait is that it places blame on the adolescent for failing to overcome adversity. Further, trait conceptions ignore the importance of social and environmental influences. Therefore, resilience should be perceived as a process involving the interaction of an individual's assets and resources to overcome adversity (Fergus & Zimmerman, 2005). This, in turn, facilitates a context-based understanding of

positive and negative outcomes among youth. It also leaves room to consider that resilience may be context-specific, that is, that the same individual might demonstrate resilience in one situation but fail to do so in another (Fergus & Zimmerman, 2005).

Within resilience theory, adventure-based-programs (ABPs) are considered resources that have the potential to develop positive assets for their participants. Several studies provide evidence for ABPs' capacity to increase positive assets among youth, which in turn promotes resilient outcomes (Green *et al.*, 2000; Bloemhoff 2006; Shek & Lee 2012; Cotton & Butselaar 2013; Lubans *et al.*, 2012; Cross 2002; Glass, Gillis & Russell, 2012). As stated before, the evidence suggests that ABPs have the potential to promote resilience in adolescents. Nonetheless, many researches have expressed the need for more research aimed at better understanding the mechanisms by which adventure based programs promote resilience, and how it transfers into adolescent's everyday life (Armour, 2012; Lubans *et al.*, 2012; Holt & Jones, 2008). Notably, others have called for more qualitative research (Shek & Lee 2012, Fergus & Zimmerman 2005), and more research on Latino populations (Fergus & Zimmerman 2005) to understand the influence of ABPs on resilient outcomes among youth.

The Current Study

Given the necessity to understand resilience as a process, this study will focus on how adolescents use assets and resources to overcome adversity. Further, according to several researchers, the presence of assets and resources increases the likelihood of a resilient outcome (e.g., Luthar & Cicchetti, 2000; Fergus & Zimmerman, 2005). Thus in this thesis, the promotion of individual assets and the use of environmental resources will be considered potential predictors of resilient outcomes.

The purpose of this thesis is to report findings on the impact of short-term ABP. The study uses qualitative and quantitative methods to explore the different ways in which a specific ABP might facilitate resilient outcomes among its adolescent participants, by examining the development of assets and the use of available resources consequent to attending the program. Further, it will explore the ways in which participants apply these skills into their everyday activities.

CHAPTER II: LITERATURE REVIEW

The research literature...has been uni-dimensional; it has focused on outcome issues (self-concept, locus of control, etc.) and has held a blind eye to their relationship to programmatic types of issues (...activity mix, instructional staff). In essence, we have discovered an educational black box; we know something works but we don't know why or how. (Ewert, 1983, p.27)

Introduction

As mentioned in chapter 1, there is evidence suggesting that adventure-based-programs (ABPs) have the potential to promote some of the assets that play pivotal roles in resilience, while simultaneously acting as a resource for adolescents. While there are other types of programs that also have the goal of promoting resilient outcomes among adolescents (e.g., Eccles & Gootman, 2002; Hattie *et al.*, 1997; Lubans *et al.*, 2012), this thesis focuses exclusively on programs that have an adventure component as a central aspect. For uniformity and simplicity purposes, such programs will be refereed in general, as adventure-based-programs (ABPs).

These programs are characterized by the use of adventure in the form of outdoor activities that involve some sort of risk and challenge for its participants, for the purpose of achieving learning and behavioral change (Lubans *et al.*, 2012). The specific characteristics of each program can vary significantly, from a strictly therapeutic approach led by a mental health professional, to a more recreational based approach such

as a summer camp format (Gass *et al.*, 2012; Hattie *et al.*, 1997; Lubans *et al.*, 2012).

Neill (2003) argues that acquiring a clear picture of the ABP outcomes can be confusing due to the limited amount, availability, and variable quality of ABP research literature.

The degree to which ABPs vary in the existing research will be discussed later, but it is important to note that these variations make it difficult to draw comparisons and general conclusions about ABPs' effectiveness. To provide a general idea of what the ABP picture looks like, this thesis reviews 3 meta-analytic studies (Hattie *et al.*, 1997; Wilson & Lipsey, 2000; Lubans *et al.*, 2012) and 8 ABP evaluation studies (Green *et al.* 2000; Bloemhoff 2006; Shek & Lee 2012; Cotton & Butselaar 2013; Cross 2002; Armour *et al.*, 2012, Pommier & Witt, 1995; Neill & Dias, 2001). The following two sections of this literature review chapter are separated into studies using meta-analysis and empirical studies evaluating ABP programs. These provide a comprehensive overview of the relevant empirical studies.

Meta-analysis

Wilson and Lipsey (2000)

Wilson and Lipsey (2000) performed a meta-analysis to assess the impact of adventure-based-programs¹ on delinquent behavior. The authors evaluated 28 empirical studies involving over 3,000 individuals. Sixty-four percent (64%) of the studies analyzed were unpublished, and 57% used quasi-experimental designs. The majority of

¹ Wilson and Lipsey (2000) use the term 'Wilderness Challenge Programs'. The term is substituted for adventure-based-programs to maintain uniformity and clarity throughout the paper.

the subjects in the studies was Caucasian, between the ages of 13-15, and were youth on probation and/or adjudicated delinquents.

The overall mean effect size for delinquency was $ES = 0.18$ ($N = 22$), equivalent to a recidivism rate of 29% for program participants as opposed to 37% for comparison subjects (8% difference). On top of lower recidivism rates the authors also report that the mean effect size values were positive for all the interpersonal and psychological adjustment constructs believed to be related to antisocial and delinquent behavior (e.g., social skills, self-esteem, school adjustment). Further, they indicate that that juveniles in ABPs show, on average, better outcomes on social and emotional well-being than the control youth. Wilson and Lipsey (2000) note that program length did not affect the outcome among short-term programs (up to 6 weeks), but that programs over 10 weeks showed lower effects, overall. However, the authors indicate that insufficient information was available in the study reports to permit direct examination of hypotheses (e.g., differences in program setting, program design, and participant characteristics) regarding the relationship between outcomes and program length (Wilson & Lipsey, 2000).

The authors conclude that, given the results of the meta-analysis, the answer to whether *ABPs can effectively reduce antisocial and delinquent behavior* is a qualified yes. The avoidance of negative outcomes, in this case recidivism, is considered a resilient outcome (Luthar & Cicchetti, 2000). Further, the promotion of assets such as interpersonal skills, and self-esteem are considered to facilitate the process of resilience (Fergus & Zimmerman, 2005). Thus, this meta-analysis supports claims that adventure-based-programs can promote resilient outcomes among adolescents.

Lubans et al., (2012)

The authors conducted a systematic search of 6 electronic databases (EMBASE, OVID MEDLINE, PsychINFO, PubMed, Scopus and SPORTDiscus) to identify physical activity programs designed to improve social and emotional well-being in youth who experience high levels of risk factors. The search identified 15 studies that were classified into three types of physical activity programs, namely outdoor adventure, sport and skill-based, and physical fitness. Criteria for inclusion in the meta-analysis included that participants were between 4 and 18 years old; participants were exposed to several risk factors and the study included quantitative assessments of social and emotional well-being (i.e., depression, anxiety, self-concept, self-esteem, and resilience²).

Out of the 15 studies identified by the researchers, seven studies evaluated the effects of adventure-based-programs³. Five of the studies reviewed reported significant improvements in social and emotional well-being; these include improvements in self-worth, self-concept, resilience¹, perceptions of alienation and self-control. Two of the studies reviewed reported no significant intervention effect. Although the findings were predominantly positive, the authors advise caution when drawing conclusions from these results, as they noted a high risk of bias in many of the studies due to lack of random assignment design, not providing stratified baseline characteristics, and not reporting

² In this study resilience is defined as an individual trait, as opposed to being defined as a process involving several factors.

³ Lubans et al., (2012) use the term 'Outdoor Adventure Programs'. The term is substituted for adventure-based-programs to maintain uniformity and clarity throughout the paper.

power calculations. The authors also questioned the generalizability of the interventions given that most participants were white male adolescents and that program duration ranged from four hours to three months (Lubans et al., 2012).

Significantly, the authors argue that despite heterogeneity of intervention designs and results, it appears that adventure-based-programs have the potential to improve resilience⁴ and self-concept in youth exposed to risk. Further the authors note that it is unclear which aspects of the program are responsible for the benefits experienced by participants. Lubans and colleagues conclude: “Calculated risk taking, the mastery of challenging task and positive support from instructors and peers may explain the improvements in outcomes observed among at-risk youth attending outdoor adventure programs” (p.9). Lubans and colleagues (2012) also stress that, unfortunately, the unfamiliar setting in which these programs take place might limit the availability for many adolescents.

Hattie et al., (1997)

In this study, the authors conducted a meta-analysis to examine the effects of adventure programs on a wide range of outcomes, including self-concept, locus of control, and leadership. Hattie and colleagues (1997) analyzed 96 empirical studies, published between 1968 and 1994. The average effect size reported was +.34 standard deviations.

Hattie and colleagues’ (1997) meta-analysis encompassed a total of 1,728 effect sizes, and approximately 12,057 participants. Seventy-two percent of the participants

⁴ See footnote 2.

were males and ages ranged from 11 to 42 years with a mean of 22.28. Program length ranged from 1 to 120 days. The authors identified 40 major outcomes in the ABPs research, and classified them into six themes, specifically: leadership, self-concept, academic, personality, interpersonal, and adventuresomeness (for more detail see Hattie et al., 1997, p.48). The three variables explaining the most variance were age of participants, length of the program, and type of program. For example, longer programs had greater effects, as did programs with older participants.

The authors argue that the average effect of adventure programs (.34) is not too different than the effects of many in-classroom interventions. However, specific effects of adventure programs, such as self-esteem (.26) exceed that of the average of other educational interventions (.19). Further, the authors argue that the most impressive findings lie in the continued gains and the longevity of follow-up effects, “a program effect of .34 and a follow up of an additional .17, leading to a combined pre-follow-up effect of .51, are unique in the education literature” (p.70). Thus, according to these researchers, ABPs can have a significant and lasting impact on the lives of its participants.

Overall, Hattie and colleagues (1997) conclude that ABPs can result in notable outcomes. However, they make clear that not every program will produce such outcomes, as the variability between studies, program structure, and participants, is quite large. Further, the authors argue that too little is known about *why* ABPs are effective.

Individual Evaluative Studies

Eight studies that evaluated the effects of ABPs on adolescents' psychosocial well-being

were reviewed (Cotton & Butselaar, 2013; Shek & Lee, 2012; Green *et al.*, 2000; Bloemhoff, 2006; Neill & Dias, 2001; Armour *et al.*, 2012; Cross, 2002; Pommier & Witt, 1995)⁵. These are summarized in Figure 1 (Appendix). Seven of the 8 studies reviewed reported significant positive changes. Cotton and Butselaar's (2013) study was the exception. These authors reported no significant changes between the three time points for all measures, however, pairwise comparisons indicated that there were significant improvements seen from baseline to end of camp for social connectedness ($p = 0.035$; and for social anxiety, $p = 0.015$) (Cotton & Butselaar, 2013). A more detailed account of the studies reviewed can be found in figure 1.

Overview

Overall, results reported in the 8 studies evaluated, along with the 3 meta-analytic studies are optimistic, as they support the idea that ABPs have the potential to promote positive youth development through the promotion of assets and access to resources. This in turn increases the likelihood that youth participating in ABP will achieve resilient outcomes when faced with adversity. However, several limitations and inconsistencies were observed in the literature.

It is important to note that *specific* program outcomes (e.g., improvements in self esteem, reductions in alienation, and increased locus of control) varied by program. Perhaps due to characteristics such as length of the interventions, which ranged from four hours (Bloemhoff, 2006) to one year (Shek & Lee, 2012); or the wide range of ABPs'

⁵ Brief accounts of Pommier & Witt, 1995; and Cross, 2002 are included in Lubans and colleagues' 2012 study. However, Pommier and Witt' (1995) and Cross' (2002) individual evaluation studies were analyzed independently. Only new and relevant information from these studies is reported in this thesis.

activities, including: wilderness expeditions, rock climbing, rope courses, adventure camping, kayaking, among others; in addition, one of the programs incorporated a family training component (Pommier & Witt, 1995) while the other seven did not. Nonetheless, overall findings are predominantly positive, suggesting that a wide variety of ABPs have the potential to promote positive youth development.

Sustained Impacts

Only three of the eight evaluative studies reviewed in this paper conducted follow up assessments to determine if the positive changes were sustained over time. Cotton and Butselaar (2013) found that the changes for social connectedness and social anxiety were not sustained at one month after the camp had ended. Pommier and Witt (1995) reported significant improvements in self-perceptions ($p < 0.01$) and global self worth ($p < 0.01$) at 4 weeks after the program. However, the authors reported that some differences were not sustained at 4 months posttest. Armour and colleagues (2012) reported that positive improvements were maintained by, on average, over 50% of participants up to 24 and 36 months after the program had ended. In addition, the authors reported the following six common themes on the conditions required for sustainable impact that resulted from the data analysis process⁶:

1. *Matching participants' specific needs with the program's objectives*
2. *Locating program activities outside of the 'normal' school setting.*
3. *Working closely with participants to choose activities, set targets and review progress*

⁶ For a detailed explanation of the conditions listed above, along with an account of how the authors arrived at these conclusions see Armour *et al.*, 2012.

4. *Establishing positive relationships between program staff and program participants.*
5. *Giving participants opportunities for pro-social involvement (e.g., working with (and for) others)*
6. *Structured pathways to facilitate sustained involvement in program activities.* (Armour *et al.*, 2012)

In addition Hattie and colleagues (1997) found that, ‘in a remarkable contrast to most educational research, immediate gains were followed by substantial additional gains between the end of the program and follow up assessments ($ES = +0.17$). This suggests that positive outcomes are not only sustained over time, they also improve over time. The findings reported by these studies (Armour *et al.*, 2012; Pommier & Witt, 1995; Cotton & Butselaar, 2013; Hattie *et al.*, 1997) are somewhat inconsistent. A reason for this might be the differences in program structure, length and targeted outcomes. More follow up studies are needed to determine the sustainability of adventure sport programs. However, the conditions required for sustainable impact provided by Armour *et al.*, (2012) should help orient future research looking to determine the sustainability of adventure sport programs.

Limitations in the Literature

Threats to internal validity include lack of detailed reports of the methodology used to assess the effects of the program in some studies, and the use of quasi-experimental designs in many of the studies. Barriers to generalizing *overall* findings on ABPs include: that most samples were homogenous, with participants being predominantly white males (Wilson & Lipsey, 2000; Lubans *et al.*, 2012); and that the published data on ABPs

probably emerges from a very small percentage of existing programs, and thus may lack representativeness (Neill & Dias, 2001). While the majority of findings were positive, some findings, for example, those pertaining to the sustainability of the effects are inconsistent across studies. Further, some researchers advice caution due to high risk of bias in some studies (Lubans *et al.*, 2012; Hattie *et al.*, 1997).

The limitations mentioned above present barriers to generalizing adventure-based-program findings. Given the diversity of programs and the lack of unified methodology to research and evaluate such programs, the outcomes of one ABP might differ significantly from the outcomes of another ABP.

Mechanisms of Change

Despite the accumulating evidence that adventure-based interventions are indeed effective at promoting positive youth development, very little is known about the mechanisms by which development is facilitated. There is a dearth of qualitative research on adventure based programs, and previous researchers have argued that there needs to be more research into the mechanisms and processes (Armour *et al.*, 2012; Holt 2007; Lubans *et al.*, 2012, Sandford *et al.*, 2006). A significant limitation to understanding how adventure sport programs work is what Glass, Gillis and Russel (2012) refer to as 'The Black Box Effect', making reference to studies that present outcomes of adventure sport programs in simple and often incomplete terms. This in turn leaves the reader with a vague understanding of how and why adventure-based-programs work. The authors explain the effect as such, "It may seem that the participant enters the program (or black box), a period of times ensues while in the box, and then

out of the box comes a new person, ready to take on the world" (Gass *et al*, 2012). The problem is, that in many studies, whatever happens in the black box is vaguely, if at all, explained.

There is also a dearth of research that explores the ways in which ABP participants translate the skills learned in the program into their everyday lives. Therefore, this study will explore, using qualitative methods, the ways in which participants develop individual assets, and make use of the program resources. Further, it will explore the ways in which participants apply these skills and into their everyday activities. In other words, it will attempt to determine if a short-term ABP can promote resilient outcomes among youth.

Conclusions

The majority of the studies reviewed, representative of the ABP research literature, used predominantly quantitative methods. While there is sufficient evidence to support the claim that ABPs can promote positive youth development, there is a dearth of qualitative research exploring the ways in which ABP participants translate the skills learned in the program into their everyday lives. Therefore, the current study uses qualitative methods to explore the ways in which participants develop individual assets and make use of the program resources. The following chapter outlines the characteristics of the data collection process.

CHAPTER 3: METHODS

Before quantitative methods can become useful in an examination of how outcomes are achieved, it seems necessary to use qualitative methods to inductively discover all the program characteristics that are possibly affecting the outcomes experienced by participants. (McKenzie, 2000, p.19)

According to Luthar and Cicchetti (2000), resilience research is usually focused on identifying *vulnerabilities* (i.e., challenges and risk factors) and *protective factors* (i.e., assets and resources) that might influence the outcome when individuals face adversity. Further, once risk and protective factors are identified, the next step is to identify the *mechanisms* (or processes) that might underlie the associations between risk and protective factors (Luthar & Cicchetti, 2000). Similar to the vast majority of vulnerability and protective factor research, the one in this thesis was conducted on youth. The methods, described in the current chapter, included mostly qualitative data (i.e., focus groups and one-on-one, face-to-face interviews) and quantitative data (i.e., a survey of the youths' assessments of the ABP primarily with Likert responses). Thus this is a multi-methods study.

Purpose

The purpose of this thesis study was to explore everyday life challenges as well as challenges experienced during the ABP by its adolescent participants. It focused on

adolescents' use of available resources and formation of personal assets in the process of overcoming such challenges. Further, it assesses participants' perception of the program as well as their perceived applicability of skills learned during the program in everyday life. In other words, it will attempt to determine if a short-term ABP can promote resilient outcomes among youth.

Program Description

The goal of the current ABP under study is to provide urban teens with an opportunity to rock climb in order to develop self-confidence, physical fitness and a greater awareness of the outdoors. Adolescents included in this thesis participated in a weeklong intensive introduction to rock climbing that took place during the summer (when adolescents were not in school) in Colorado. Prior to the start of the program, participants attended an instructional session at a local rock climbing gym to learn basic climbing techniques and safety practices. During the program, participants were taken to a different outdoor rock climbing location every day. Roughly 12 to 15 adolescents attended the program at any given day. Staff members included professional mountain guides as well as schoolteachers. The main activity of the program was rock climbing.

Participants

A total of 13 youth participated in this study. All participants' responses were included in the data analysis. Criteria for inclusion include; having participated in a weeklong summer rock climbing program; and being between 15 and 18 years old. Six participants identified as females and 7 participants identified as males. For every hour

(or fraction of an hour) of participation in the study, participants were compensated with a \$10 gift card. The University of Colorado's Institutional Review Board approved the study before the researcher reached out to potential participants. Given that all participants were under 18 years of age, both parental consent and student assent were required (and obtained) prior to enrollment in the study. In addition, before participating in the focus group, participants signed a confidentiality agreement in terms of what the other participants might report during the focus group.

Procedure

The research design of this thesis was active interactive and multi-methods. That is, the participants were recruited with the help of the coordinator of the ABP under study. The data collection site was the high school (in a classroom) where the participants currently attend. The data were collected during a 2-week period. The qualitative focus group data were collected from (1) two (hour-long) focus groups, one with 7 participants and the other with 5 participants; and (2) two (hour-long) one-on-one in depth interviews with one female and one male participant. In addition, a quantitative survey containing demographic information and a modified version of Shek and Lee's (2012) Subjective Outcome Evaluation Form was distributed to and completed by every participant (again, with data collection in compliance with the IRB protocol).

The format of the questions in the focus groups and interviews were predominantly open-ended, developed by the author, and allowed for participants to elaborate on their answers. These questions explored (among others), participant's perceptions of the program design and program staff members, opportunities for growth during the

program, ways in which the participants overcame challenges associated with rock-climbing, relationship dynamics during the program, and participants' (everyday life) risk and protective factors. For the most part, participants responded with great detail. However, some answers required probing to fully understand the participants' responses. Qualitative data was recorded using a tape-recorder. In addition notes were taken during and after each session. Further, the author transcribed all of the focus group and individual interview data. Following transcription, the author carefully coded and analyzed the data.

The survey contained questions regarding participant's age, gender, and involvement with the program as well as other extracurricular activities. Moreover, it included 20 items from Shek & Lee's (2012) the Subjective Outcome Evaluation Form. These items were measured using a 6-point likert scale (ranging from 1 = strongly disagree to 6 = strongly agree) and analyzed using correlational methods. More specifically, the Shek & Lee (2012) items were used to assess participants' perceptions of various aspects of the program (e.g., program design, quality of service, and interaction among participants); the staff (e.g., preparation, professional attitude, and knowledge); and the effectiveness of the program (e.g., promotion of psychosocial competencies, and overall personal development) (Shek & Lee, 2012). The confidentiality of the data collected was emphasized to all participants and informed consent was obtained prior to administering the survey.

Conclusion

There are few studies on ABPs that include Latino youth and/or qualitative data. In addition the data included immigrant youth from non-Latino/Hispanic countries and had almost equal numbers of both genders. This chapter described the multi-methods used in the data collection and analysis for this study on Colorado youth in an ABP. The following chapter will report the qualitative and quantitative findings from this study.

CHAPTER 4: FINDINGS

Qualitative Findings

Following Luthar and Cicchetti's (2000) recommendations for resilience research, the current study on youth in an ABP (adventure based program) was designed to identify and assess both vulnerability and protective factors. The current section of the findings chapter reports the qualitative findings associated with resilient outcomes, and these are broken-down into three sections. The first section will *identify risk factors and protective factors*. It distinguishes between risk and protective factors that are specific to the ABP under study and those pertaining to the adolescent's everyday lives (e.g., family, school, and relationships). The second section will address the *processes or mechanisms* by which the protective factors modify the negative effects of adversity that facilitate for positive ABP outcomes described by the youth in the previous section. The third section explores the ways in which protective factors acquired during the *ABP transfer into adolescent's everyday life and facilitate resilient outcomes*. In addition to reporting findings associated with resilience, this chapter will also report participants' perception of the program, including: program strengths; reasons for, and barriers to, joining the program; and participants' recommendations. Notably, it is beyond the scope of this undergraduate thesis to go into about all of the finding's themes. Therefore, the researcher will summarize the findings to provide an extensive overview.

Risk Factors and Challenges

Figure 2. RISK FACTORS/CHALLENGES

Context	Risks/Challenge	Excerpts (examples drawn from interviews & focus groups responses)
7-day rock introduction to rock climbing program	1) Trusting the belayer ⁷ 2) Controlling fear(s) 3) 'Getting Stuck' 4) Physical exhaustion 5) Dealing with failure	<p>R1: Something that was hard for me was trusting the person that was belaying me. Because I mean, I was at a high altitude or whatever and I didn't want to die. So it was hard, trusting someone else to like hold me and stuff. [<i>trusting the belayer</i>]</p> <p>R2: Probably getting to a point where you get stuck and can't continue going up like climbing. Like you might get tired cause you muscles ache and because you use mostly your arms instead of your legs. So you are tired but you really want to get to the top so you just keep trying, I think that is the hardest part. [<i>physical exhaustion + 'getting stuck'</i>]</p>
Home/Family	1) Few chances for pro-social involvement 2) Poor relationship with a parent 3) Responsibilities at home 4) Limited parental support 5) Immigration issues	<p>R1: I think for me its like challenging at home, because I don't have such a good relationship with my father as much. I also have a brother; he is autistic, so sometimes I don't get to do as many free things as I would want to do because I have such a big responsibility to take care of him.</p> <p>R2: I really wish my mom could teach me how to drive because she has been driving for ten years and she hasn't had any ticket or any problem with the police. But unfortunately her license just expired and she doesn't have a social security card because she is an immigrant so I mean once I get my permit like pretty much I don't have a driver license mentor</p>
School	1) Difficulty getting into school 2) Challenging classes 3) Balancing work and school 4) Friends dropping out of school 5) Language barriers	<p>R1: It was a tough time for me getting to this school it was kinda hard because I couldn't speak English and they didn't have a special program for me to be able to understand the material they are teaching to regular students</p> <p>R2: School is always challenging because we have more classes this time. Especially with biology, I think that's my hardest class whatsoever, cause I never really struggled with a class as much. And now I really struggle, and even though I try hard I sometimes still fail tests and that's really disappointing.</p>
Relationships	1) Negative influence from friends 2) Difficulty maintaining relationships with people	<p>R1: I... You can actually see people who don't support you as well. Like our friends that go to other schools and stuff. They kinda look at your school and say- "ohhh your school sucks you have a lot of harder work here, it's a good thing I am not in your school, I don't know why you go there"-.</p> <p>R2: For me its just like maintaining relationships with people. I think that is challenging because a lot of things change and so when things change like your relationships with people change too.</p>

⁷ The "belayer" is the person who belays. Belaying is a technique used by climbers to apply friction on the rope to stop a climber from falling too far.

Protective Factors

PROTECTIVE FACTORS: Six (6) assets promoted during the ABP	
ASSETS	EXERPT/EXAMPLE(s)
Competence	I learned something new like about, about myself. Cause like when I look at a mountain I'm just like oh I probably can't climb it. But then I proved myself wrong with this trip. So now I feel like I can take on bigger challenges and I can just explore the world and I don't know eventually go scubbadiving or I don't know, other things.
Self-Esteem	<p>R1: I know that once it was over I felt much more proud of myself that I accomplished it [the program].</p> <p>R2: I felt like I had accomplished the Ironman. I don't know it just made me feel super adventurous. Like going to sleep knowing I'm going to wake up tomorrow and go rock climbing. Like that's not what the average person does. It made me feel cool.</p>
Confidence	<p>R1: I am a very confident person in myself. But this [program] kinda gave me more confidence in what I can do in my abilities, cause like when I went rock climbing I had had new surgery like three months before that...People tell me that I can't do it, well watch me, I am going to doing it. It shows me now that I can do it and that I can keep doing it.</p> <p>R2: I agree like it really built my confidence. Because the first day that we went climbing I was like wow this is going to be really hard, but then the last day you don't think about it much. First you struggle and then you get kinda good at it.</p>
Coping Skills (e.g., taking breaks, taking your time, and looking at the bigger picture)	<p>R1: I think I learned that sometimes it's ok to like taking a breath. So like when you are rock climbing when you are stuck and stuff. I remember I would get really nervous and I would just like not know what to do, so I would take a deep breath and had to calm my self down and still be able to go. So I learned its ok to take a breath but not like give up.</p> <p>R2: I agree with what Ashly said, because no one was like rushing you to get through while you were climbing, everyone was being supportive and cooperating with you. If you were struggling they would let you just take a moment and sit back and rest yourself. So in real life you don't have to like, if things are challenging you don't have to feel like you are pressured or rushed or anything you can just take your time.</p>
Interpersonal Skills (e.g., communication skills, trusting others)	I definitely think I makes you realize that communication is like very important, it is it not as like severe that you could fall and potentially die. But it is still the same principle of being able to communicate with people you need to trust and stuff
Openness to experience	But after I went rock climbing and saw that I could do things that other people can do, it gave me like the motivation to do others things that I hadn't done before.

PROTECTIVE FACTORS: Resources

<u>Context</u>	<u>Resources</u>	<u>Excerpts</u> (examples drawn from interviews & focus groups responses)
7-day introduction to rock climbing program	1) Support from friends (e.g., support on the ground before and after the climb, and support during the climb) 2) Staff members 3) Interaction with pro-social peers	<p><i>R1</i>: I think they were like encouraging cause I think they were the ones who taught us to tell each other like what to do when someone is stuck. I remember seeing Mr. G telling someone while I was belaying that- oh you can put your right foot on that rock or whatever, and I picked up on that and that's when I started doing that as well.</p> <p><i>R2</i>: Umm ... I think I just, like she said, we've all known each other since the 9th grade but like I don't hang out with you guys as much, but still I was able to see that like we all like cause all of us I saw that whenever one of us was struggling there was someone else telling him like hey you got it, then none of us tried to come down right away. So I learned we all have something in common even though like I don't hang out with them everyday.</p>
Home/Family	1) Support from Parents/Siblings 2) Parental Recognition (e.g., rewards) 3) Parental Love	<p><i>R1</i>: I think for my sister helps me a lot because she is in college. Because I am taking this biology class that is like a college class. We just like sitting down and go over problems and its good to have her to help me.</p> <p><i>R2</i>: Well in my case I think it is my mom. Because she was a single mom since I was little till she got married again. She has always been supportive of my decisions whether it is taking a big step on something or not.</p>
School	1) Opportunities for pro-social involvement 2) Support from friends 3) Supportive relationships with teachers/advisors	<p><i>R1</i>: We have a lot of things here at the school with like Mr. Y... We went ice-skating and that was really fun, and paintball, and he took some kids camping. There are other things too like we went to the nutcracker. Like concerts, plus we have like after school activities.</p> <p><i>R2</i>: Last year Mr. G was my best teacher-friend even though he wasn't teaching he was the dean. I was a part of his student council treasure and he was running the program. That is how we got to meet each other and how I found out about the program.</p>

Mechanisms of Resilience

According to Fergus & Zimmerman (2005), researchers have identified three models of resilience that explain how protective factors decrease the effects of risk exposure. The three models-protective, compensatory, and challenge-help understand the processes by which adolescents overcome adversity reported during individual and focus group interviews. Processes found to help adolescents overcome challenges during the program will be reported under Fergus & Zimmerman's (2005) compensatory and protective models of resilience. Moreover, examples of how participants transfer skills obtained during the program into their everyday lives will be reported in the next section using Fergus & Zimmerman's (2005) challenge model of resilience.

Protective Model

According to the protective model of resilience, protective factors (i.e., assets and resources) moderate the effects of risk on a negative outcome (Fergus & Zimmerman, 2005). This model is particularly useful for understanding one of the processes through which participants are able to overcome fears associated with rock climbing. This process has to do with *learning to trust your partner* (the belayer), as the following excerpts from different focus groups illustrate.

R1: Well like for me, it was like the first time I did it outdoors. So at first I was scared to go up and be dropped and then I got scared that going down people would like let go of the rope. So I started doing it with like Mr. G and like other people who were there with us and I started trusting other people. Once I saw that they actually had my back on it I started trusting more and started doing it more and more often.

R2: Yeah, at first I was scared of falling. Then you learn to like trusting other people. Then it wasn't that big of a deal.

It appears that once participants were able to trust their belayer, falling was no longer a significant concern, thus allowing participants to focus on the task at hand (climbing). Two ways, or mechanisms, by which adolescents learned to trust the belayer, were identified from participants' responses. One mechanism was *relying on the staff's expertise*:

R1: At first I was really worried about that [being dropped]. But like all the people who worked there they showed us that its pretty secure, specially if you have it in the right position and everything, and I felt a lot more confident about it.

R2: Yeah like it never felt like nervous when the staff did it [belaying]. I never felt like something bad could happen to me, like they knew what they were doing.

The fact that the staff members were experienced rock climbers appears to have provided a sense of safety to the adolescents. It also helped to reinforce participants' confidence that they were using the equipment adequately. Another way in which participants overcame fears associated with rock climbing was *taking baby steps*:

R1: I tried it first at the gym at a really really small wall and I only went half way up on that. Then I got comfortable with it.

R2: For me I think it's the problem with heights, that I was afraid of height at first. So I didn't want to go too high. But then I guess after our first climbs I got used to the heights and it then it wasn't such a big deal.

In this case, the fear of heights and getting hurt [fear of falling] may prevent adolescents from going all the way to the top, and sometimes it could lead to giving up. Thus, fears associated with rock climbing play the role of risk factors, as they can have a negative influence on the participants, namely giving up or not wanting to try the climb. Developing trust, facilitated by staff members and the possibility to take baby steps, acts

as a protective factor as it moderates the negative effects associated with the fear of falling. In other words, the negative influence [on climbing] associated with the fear of falling is reduced for participants who have developed trust for the belayer⁸.

Walking the climber through challenge is another way adolescents achieved resilient outcomes when faced with adversity. In this case, *advice/guidance* from both the staff members and their peers was the key ingredient allowing participants to continue climbing when they ‘got stuck’. The following excerpts help to illustrate situations in which adolescents were able to overcome ‘getting stuck’.

R1: I guess like the support actually helps like sometimes I would just be standing there and like getting stuck. And well like getting stuck makes you get kinda scared or something.... and like sometimes they [your friends] even direct you and that would help a lot because sometimes I would get flustered and angry and then the support would calm me down and I could figure out a solution to get to the top.

R2: yeah well I agree with Bob like this one situation I was in I was like aiming for the mountain, and like I looked up and there was nothing for me to hold on to and so Mr. G taught me like how to put my foot, like stick it in crack and like put all the pressure on that leg and just lift.

Participants’ responses illustrate that getting advice (a protective resource) can neutralize the effects (outcomes) of ‘getting stuck’ (risk factor). In other words, the challenges associated with not know what to do, were neutralized when people guided participants through the climb. This finding is consistent with Fergus and Zimmerman’s (2005) protective model of resilience, as well as Luthar and Cichetti’s (2000) protective-stabilizing model of resilience.

⁸ The “belayer” is the person who belays. Belaying is a technique used by climbers to apply friction on the rope to stop a climber from falling too far.

Compensatory Model

The compensatory model is defined when a protective factor operates in the opposite direction of a risk factor, thus counteracting its negative effect (Fergus & Zimmerman, 2005). For example, for some participants, not making it to the top (dealing with failure) might be upsetting, but *support on the ground* (a resource) may help reduce the negative effects. The clearest elaboration of this process emerged in a focus group.

I think one of the bigger things is getting support when you are back on the ground. If you didn't make the climb, when they support you back on the ground you kinda feel like confident, like they try to build you confidence regardless and if you made it you feel better about yourself because you feel like they are proud of you and then if you don't make they will encourage you to try it again.

The negative effects of not making it to the top (e.g., feeling disappointed) might be counteracted by the support of friends on the ground. Specifically, it appears that some of the mechanisms at work are *building* [the climbers] *confidence* and *encouragement* to keep trying. Thus, even though not making it to the top could be considered a risk factor, the support on the ground has a direct and positive effect on the outcome (i.e., how the participant feels afterwards). Notably, another important process associated with resilient outcomes and the compensatory model is *cheering*. Cheering acts as a compensatory factor as it motivates participants to keep going, to try harder. Thus, cheering works in opposition to physical exhaustion and fears associated with rock climbing. When the members of a focus group were asked what motivated them to keep climbing, two participants replied.

Investigator: What motivated you to keep climbing?

R1: Like when they started cheering me on, I couldn't back down. I wanted to keep trying. It made me want to go higher up.

R2: I think having support is like really important for me at least. Like sometime I might not want to push myself or just want to take the easy way as much as possible. But like having people to encourage me to like challenge myself is really good for me.

Transferability

Challenge Model

According to Fergus & Zimmerman (2005), development by challenge involves exposure to moderate levels of risk to learn how to overcome it. Further, some authors argue that too little risk might not be enough to elicit coping responses, while too much risk can be debilitating (e.g., Gass *et al.*, 2012; Fergus & Zimmerman, 2005). The idea is that the skills developed by adolescents during the process of overcoming challenges associated with rock climbing, can be used to overcome challenges in other contexts. The following table provides examples of the 3 different ways in which adolescent participants were able to transfer skills learned during the ABP into everyday life; (1) promotion of assets; (2) taking advantage of resources; (3) climbing as a metaphor for life.

According to the challenge model of resilience, when individuals are exposed to moderate levels of risk (or challenge), learning how to successfully overcome these challenges can be an important lesson. For example, some participants reported increases in internal locus of control, a protective factor that resides within the individual (Olsson *et al.*, 2003). The following two excerpts from a focus group serve to illustrate this.

R1: I learned something new like about, about myself. Cause like when I look at a mountain I'm just like oh I probably can't climb it. But then I proved myself wrong with this trip. So now I feel like I can take on bigger challenges and I can just explore the world and I don't know eventually go scubbadiving or I don't know, other things.

R2: Erika: Oh yeah for me too. I honestly feel like it changed me because before like I would at things and be like oh I can't do that, that's for professional people or something. But after I went rock climbing and saw that I could do things that other people can do. So it gave me like the motivation to do others things that I hadn't done before.

Notably, having successfully overcome some of the challenges associated with rock-climbing appears to have increased participants' sense of competence and self-efficacy. Further, participants reported ways in which an increased level of competence impacted other aspects of their lives, such as the willingness to *take on bigger challenges*. Moreover, some participants reported transferring certain coping skills from rock-climbing to other aspects of their lives, such as *taking your time*.

I agree with what Ana said, because no one was like rushing you to get through while you were climbing, everyone was being supportive and cooperating with you. If you were struggling they would let you just take a moment and sit back and rest yourself. So in real life you don't have to like, if things are challenging you don't have to feel like you are pressured or rushed or anything you can just take your time.

In addition to promoting certain assets, it appears that *learning how to take advantage of available resources* was another way in which the benefits of the 7-day program under study transferred into participants' everyday life. For example, participants reported learning how to talk to other people after participating in the ABP, as the following excerpts illustrate.

R1: Well for me it was like I'm used to speaking to only the people I hang out at lunch or whatever but like when I went rock climbing whether it was during the school or the summer I learned to talk to other people, like sophomore year (last year) I wouldn't talk to many freshmen's or sophomores and some of them went to the indoor rock climbing and I started talking to them and other people and I was like something new to me.

R2: I Agree with Ely, because like rock climbing kinda forces you to talk to each other...and like... sometimes the friends that you sit with at lunch don't share the same interests as you, and when you go rock climbing you meet different people and learn to get along with them.

Learning how to talk to other people can be a valuable skill for adolescents, as it expands their network of support and resources. One could argue that it also promotes diversity, as participants also reported interacting with people that do not necessarily share the same interests as them; one participant said, “ I was able to see that we all have something in common”. Further, some of the *problem solving skills* used during the ABP also transferred into (among others) the school context.

Kinda like David said like people that share your experiences like I feel that when you are rock climbing like after several people have done it or have failed or whatever like they had know what they had done wrong or what needed to be done differently and they would like help us with that and I feel like that comes back to school, because a lot of us like stick together and like help each other, like even if we don't get it we will seek out help and they are like more than happy to help. It's just like different perspectives on things.

Having to talk to other people, and sharing knowledge to overcome challenges are both aspects of the process of overcoming challenges associated with rock-climbing. However, as evidence by some of the participants' responses, and thus consistent with the challenge model of resilience, the lessons learned during a 7-day ABP (on how to use available resources) can be applied in other challenging situations.

Finally, some participants drew analogies between challenges associated with rock climbing and life challenges. In other words, they were able to see how the process of overcoming challenges in a 7-day ABP can be very similar to the process of overcoming challenge in other aspects of their lives. The following excerpt is perhaps the best illustration of this finding.

I went to the first one the easiest one, when I went there I got stuck in the middle and then I was like ok this is how life is. You know at one point there is going to be a family o somebody, they are going to help you. Just like the belayer helps

you to climb a little bit, but the other part is all on you. Think about that as your life as a family there are some points in life your family is going to help you but for the most part you have to do things on your own. When I was in the middle and got stuck, I was like this is real, like the experience. So when I got stuck I said you know I want to take a break. So I laid back and started to see the slopes, like were to put my hands, where were the holds. That was like the best lesson I learned in my life. In hard situations pushing through is not going to help, its going to make the situation worse. I couldn't go up. But when I looked up and looked at the big picture that's how I connect that to the real life. Me last year it was a hard decision for me it was like a hard time in my life I was pushed through work hard you know with the help from my teachers and sometimes I just had to you know just a like bit relax you know and think about the bigger picture. Where I'm going you know. That is what I did last year. When I stepped back and looked about all the good things about the bigger picture. My decision to repeat a grade, it was kinda of a shame you know. But when I think about the bigger picture of me getting a good education in this school I have a good chance of getting into college and become successful in the future. That is what I learned about rock climbing.

In this case, taking a step back and *looking at the bigger picture*, is a good example of how the challenge model of resilience operates. The individual is faced with a challenge (rock-climbing) and in the process of overcoming it, learns valuable insight on how to overcome the challenge (looking at the bigger picture). Further, when faced with other challenges, the individual is capable of drawing from previously successful techniques (looking at the bigger picture), in the process of overcoming a new challenge (deciding whether or not to repeat a grade).

In addition, some participants indicated that the feeling of accomplishment after completing a climb was similar to that of other life challenges. In other words, it appears that some participants were able to see that the level of reward was proportional to the level of challenge. The following two excerpts, from a focus group illustrate this.

R1: I mean when you are climbing up the mountain its like studying and then when you get to the top is like passing the test. So you kind of get the same feeling. 'Cause the study is hard and sometimes boring, like you don't want to do it and the climbing is kinda scary. But the result is always the same you get a sense of happiness and like adrenaline.

R2: I guess it sort of differs when you compare it to the feeling of doing something else or like getting to the top. I mean if it is something small that you accomplish ...like say like getting a math problem right...like it's not the same feeling as that. But like if you do something that is big like what he said like studying and then passing a test it is similar like that could relate, it just depends on the situation.

I argue that being able to draw these analogies is a positive finding because participants are able to see that even though something might be very challenging, the reward can be worth it. For example, some participants reported taking on more challenging classes after participating in the program because they new the rewards would be greater.

In sum, participants reported confronting a series of challenges during the 7 days of the ABP under study. However, participants also reported using assets and resources to overcome such challenges, similar to what Fergus and Zimmerman (2005) hope: "*A vital point concerning the challenge model is that low levels of risk exposure may be beneficial because they provide youth with a chance to practice skills or employ resources (p. 403).*" I argue that because participants were exposed to moderate levels of risk (that they could successfully overcome) they learned how to use resources and developed personal assets that are applicable in other contexts. Thus, whether it was relying on the assets developed during the program, or making better use of the resources available to them, the responses presented above suggest that some of the skills acquired during a 7-day rock-climbing program can transfer into everyday life.

Participants' perception of the program

The participants' responses in both the focus groups and individual interviews were consistently and overwhelmingly positive regarding their perceptions of the ABP under study. Additional evidence can be found in the following quantitative findings section. The current section will report findings regarding the participants' perceived strengths of the program, and participants' recommendations for program improvement. In addition, reasons for, and barriers to, joining the program will also be reported.

Strengths of the program

The strengths of the program refer to the aspects of the program that adolescent participants found either positive or beneficial. The researcher created the following list after analyzing the data obtained from the individual and focus group interviews. The list is ordered in terms of descending frequency (where 1 = aspect participants mentioned the most):

1. Being outdoors/getting away from the city
2. Diverse locations (i.e., different/new locations everyday)
3. Connecting with other people/making new friends
4. Spending quality time with friends
5. Supportive environment
6. Feelings of accomplishment
7. Learning specific rock climbing techniques (e.g., belaying)
8. It was a unique opportunity
9. The program was *free*
10. The staff (e.g., was supportive, knew what they were doing, were 'cool' people)

Recommendations

As a testament to adolescent's overwhelmingly positive regards of the program, the only recommendation for program improvement was increasing its *length*. This is evidenced by the responses of several adolescents that participated in different focus groups.

I: What would you change to make the program better?

R1: I think there was only like one problem with rock climbing. Is that it wasn't longer; it was only like 6 days.

R2: I think the length, I would have liked for it to last all summer.

R3: hmm one thing I would change is hmmm... I think that we do it for a longer amount of time, I mean I get the weather and everything but maybe if we can start indoors like now instead of starting indoors like may-ish. I don't know I juts want it to be longer because I really like doing it.

R4: I think what I would change is like Ashly said, just doing it more often for a longer time cause I do really enjoy, I understand we might not be able to do it so often, but it would be really enjoyable.

Joining the program

There were 5 predominant reasons why participants decided to join the program. Participants also reported 3 different reasons why parents did not want to let them attend the program. The researcher created the following lists after analyzing the data obtained from the individual and focus group interviews. The list is ordered in terms of descending frequency (where 1 = aspect participants mentioned the most):

Reasons for Joining the Program	Barriers to Joining the Program
1. It seemed fun/cool	1. Parents think it is too dangerous
2. Doing something productive	2. Parents not giving permission because child has responsibilities at home to take care of.
3. Trying something new	3. Parents do not see it as something productive (i.e., "it's just playing)
4. To get in shape	
5. Needed P.E. credit	

Quantitative Findings

The quantitative findings are derived from a paper survey containing demographic information and items from Shek and Lee's (2012) Subjective Outcome Evaluation Form. These items were used to assess; participants' perceptions of various aspects of the program (e.g., program design, quality of service, and interaction among participants); the staff (e.g., preparation, professional attitude, and knowledge); and the effectiveness of the program (e.g., promotion of psychosocial competencies, and overall personal development) (Shek & Lee, 2012). It is clear from looking over the quantitative survey findings (figures reported in Appendix B), that the youth reported extremely positive evaluations of the ABP under study. Indeed, for all items, the average youth rating on the 6-point Likert scales (ranging from 1 = "strongly disagree" to 6 = "strongly agree") always exceed 5.0. Given the lack of variation in the participant's evaluations, correlation research between the youth's demographic characteristics and the program evaluation items (consistent with Shek & Lee's 2012 *subjective outcome evaluation form*) were not conducted.

Survey items also asked the youth about current and past involvement in other extra-curricular activities. These responses indicated far more participant variation. The original scores were ranked and two Mann-Whitney U-tests were used to compare the ranks for $n = 6$ female participants and $n = 7$ male participants. One for the number of extracurricular activities participants were involved in the past, and another for the number of participant's current extracurricular activities. Results from the first Mann-Whitney U-test indicated no significant difference between participants' number of past extracurricular activities by gender, $U = 24$, $p = 0.716$. Results from the second Mann-

Whitney U-test indicated no significant difference between participants' number of current extracurricular activities by gender, $U = 19.5$, $p = 0.8768$. Therefore, the data indicated that amount of current or past extracurricular activities does not significantly vary according to gender. However, this could be due to the small sample size and a larger study might find a gender difference.

Conclusions

Resilience theory posits that risk and protective factors are situational, context-based (e.g., Olsson *et al.*, 2003; Fergus & Zimmerman, 2005). This is evidenced by the participants' responses, as they reported different risk and protective factors in different contexts. This chapter identified some of the risk and protective factors associated with a 7-day rock climbing program, school, family and home, and their relationships. Further specific assets promoted during the program were identified in the youths' reports (i.e., competence, self-esteem, confidence, coping skills, interpersonal skills, and openness to experience).

Given that the resilience process depends on the situation (e.g. Luthar & Cicchetti, 2012; Fergus & Zimmerman, 2005), it is perhaps not surprising that the youth reported coping processes consistent with different models of resilience (i.e., protective, compensatory, and challenge), and that their coping processes often varied depending on their specific situations. Five themes were identified as processes for overcoming challenges associated with a 7-day rock-climbing program (i.e., learning to trust your partner, walking the climber through challenge, taking baby-steps, support from the ground, and cheering). This chapter also illustrated some ways in which participants

made associations and transferred skills between program-related experiences and other aspects of their lives (i.e., asset promotion, taking advantage of resources, and using climbing as a metaphor for life).

The participants' perceptions of the ABP were consistently and overwhelmingly positive, as evidenced by both the qualitative and the quantitative data. Program strengths and recommendations on how to improve the program were reported in this chapter. In addition reasons for and barriers to joining the program were also identified. Overall, participants' qualitative (interview and focus group) and quantitative (survey) responses indicated that adolescents enjoyed and benefited from this 7-day rock-climbing ABP. Indeed, youth's only recommendation for improvement was to increase the length of the program. Notably, the existing research indicates that longer ABPs tend to be more beneficial for participants, as they have stronger positive effects (Hattie *et al.*, 1997; Gass *et al.*, 2012). Thus this recommendation made by the participants is consistent with some of the extant ABP research literature: there is a positive relationship between the length of an ABP program and its successful impact on the participants.

CHAPTER 5: DISCUSSION/CONCLUSIONS

Given the dearth of qualitative research on ABPs (e.g. Armour *et al.*, 2012; Holt 2007; Lubans *et al.*, 2012, Sandford *et al.*, 2006) and ABP research involving immigrant and Latino youth (Fergus & Zimmerman, 2005), this thesis study is an important contribution to the ABP research. Quantitative research on ABPs, as stated before, suggests that ABPs have the potential to promote positive youth development (e.g., Lubans *et al.*, 2012; Neill & Dias, 2001; Hattie *et al.*, 1997; Nakkula & Toshalis, 2010; Gass *et al.*, 2012). However, the mechanisms by which these positive changes occur are poorly understood (e.g., Armour, 2012; Lubans *et al.*, 2012; Holt & Jones, 2008; Gass *et al.*, 2012).

The current study explored the ways in which participants' assets and resources interact to overcome adversity during the ABP and in their lives. Specifically, it assessed whether a 7-day rock-climbing ABP helped adolescents develop protective factors that could be used in some of their everyday life situations. The findings from the current study indicate that a 7-day ABP can help adolescents develop protective factors, and thus provide tools to assist in overcoming adversity. In addition, these findings begin to address limitations identified in existing ABP research described by Gass and Colleagues (2012) as 'The Black Box Effect'. Further, the predominantly positive ABP-supportive findings from this study are consistent with previous ABP research, confirming ABPs' potential for positive effects on youth development (e.g., Beightol *et al.*, 2012; Gass *et al.*, 2012; Lubans *et al.*, 2012; Hattie *et al.*, 1997). Therefore, the author concludes that a 7-day rock-climbing program has the potential to promote resilient outcomes among youth facing adversity.

Limitations of the study

The study sample was relatively small (13 adolescents). However, it is important to note that the total number of participants in this ABP was 18 adolescents. Thus the current study sample accounted for 72.2% of the total participant population. Another study limitation was that only two (one-hour-long) individual interviews were conducted. Individual interviews with each of the focus group participants would have provided a better understanding of the challenges faced by adolescents in their everyday life. Moreover, it is important to note that adolescents who participated in the ABP under study self-selected. Thus, it seemed like most participants were capable of successfully overcoming difficult life challenges (resilient outcomes) prior to enrollment in the program. At the same time, it is likely that availability of this ABP to these self-selected youth still provided them with knowledge, tools, and the support to face adverse life events. More specifically, an ABP can reinforce youths' abilities to achieve resilient outcomes. The implications of the characteristics of participants for future research will be discussed in a following section.

Policy Recommendations

Resilience models (i.e., compensatory; protective; and challenge) can facilitate understanding how adolescents exposed to risks are more able to overcome their negative effects (Fergus & Zimmerman, 2005). Although assets and resources vary by outcome, context, and population, it is possible to uncover several common themes (Fergus & Zimmerman, 2005). For example, the current study identified ways in which the assets and resources promoted during a 7-day rock-climbing program can transfer into

adolescents' everyday life. According to resilience research, promoting assets and increasing availability of resources in adolescents is positively related to other (objective) positive development indicators (e.g., improvements in academic performance, reductions in problem behavior, reduced recidivism and substance abuse rates, and higher rates of high-school graduation) (e.g., Luthar & Cicchetti, 2000; Fergus & Zimmerman, 2005). Thus program developers looking to promote positive youth development and decrease the negative effects of risk in adolescents' transition to adulthood should consider the mechanisms underlying the effectiveness of ABPs. In other words, if the goal is to increase the likelihood that these adolescents will become productive and healthy members of society, public health interventions should focus on promoting assets and resources among youth facing adversity. When adolescents are provided with and can rely on a wide range of protective factors, the effects of risk factors are significantly reduced (e.g., Luthar & Cicchetti, 2000; Fergus & Zimmerman, 2005). This implies the necessity of a *shift* from approaches that focus on adolescent problem behavior, to approaches that focus on adolescence-strength-building (i.e., assets and resources).

Moreover, Green and colleagues (2000) emphasize the benefits of adding an educational processing component to ABPs, where participants are coached to draw associations between experiences in the program and other aspects of their lives. Stated alternatively, incorporating an educational processing component to ABP aimed at promoting resilience outcomes could increase the transferability of skills learned in everyday life.

Some participants in the current study reported that one of the barriers to joining the program was that their parents believed it would be too dangerous. According to Gass

and colleagues (2012, p. 183), risk is a necessary component to ABP and

...actual risks taken by clients through adventure experiences are often a critical and key factor in the process of functional change. In fact any adventure therapists would argue that not incorporating some form of risk in adventure therapy undermines some of the most critical elements (e.g., eustress, contrast, structured challenges) of this psychotherapeutic approach.

However, Gass and colleagues argue that risk must be properly administered for it to have positive effects. Further, the authors argue that the perceived risk of ABPs is far greater than the actual risk (see Gass *et al.*, 2012:183-208). This has two implications: (1) ABP developers should pay close attention to the amount of risk participants are exposed to; and (2) ABP recruiters should stress to parents (among others) that the actual risks associated with ABP are much lower than is commonly perceived. In sum, adequate risk management increases the likelihood for resilient outcomes (Gass *et al.*, 2012). On the other hand, informing participants and parents about the actual level of risk could allow more adolescents to benefit from ABPs.

Future Research

The author recommends using the resilience framework for researching ABPs. *It is of great importance that future research using resilience theory understands resilience as a process and not as an individual trait* (see Luthar & Cicchetti, 2000; Fergus & Zimmerman). Stated another way, resilience represents “a two-dimensional construct that implies exposure to adversity and the manifestation of positive adjustment outcomes” (Luthar & Cicchetti, 2000:2). Moreover, some researchers advise against using

“resiliency,” “resilient adolescents,” and “promoting resilience” given that they imply that resilience is a trait (e.g., Fergus & Zimmerman, Olsson *et al.*, 2003). Instead, these scholars advise using the language “resilience” (not resiliency) and “promoting resilient outcomes” (instead of promoting resilience) (Luthar & Cicchetti, Fergus & Zimmerman, 2005; Olsson *et al.*, 2003).

Future research should focus on further exploring, using qualitative methods, the mechanisms and processes that make ABPs effective. It should also include more diverse samples (e.g., include more minorities). Quantitative research should move toward more standardized forms of assessment. This in turn will allow future researchers to draw more valid and generalizable conclusions, as well as facilitate meta-analytic research. Further, ABP evaluation research should provide detailed descriptions of the programs and assessment processes, as well as include important follow-up assessments, programs’ length, attendance and rates, and so on. Finally, Shek & Lee’s (2012) Subjective Outcome Evaluation Form measures are very high on internal consistency ($\alpha = 0.99$). The implementation of this measure, proven to be internally consistent could begin to address the issue of lack of standardized measurements.

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APPENDIX A: Figure 1 - Review of Adventure Sport Programs

Study	Program type/description	Sample	Outcomes (Targeted Risks, Protective factors)	Measurements	Results
(Cotton & Butselaar, 2013)- Outdoor Adventure Camps for people with mental illness	STEPS Program. Type: Outdoor Adventure Camping	36 clients from mental health services. Males n=25, females n=11 (age range 17.7 to 33.6 years) M=23.8, SD=2.8	Promote positive identity, social competencies, and provide support.	Questionnaire battery administered at baseline, last day of camp, and ~ 4 weeks post camp. Tests included: Rosenberg Self-Esteem Scale (RSES), the Pearlin Mastery Scale (PMS), the Social Connectedness Scale (SCS-R), Social Anxiety and Distress Scale (SADS), and the World Health Organization QoL Scale (WHOQoL-Bref).	No overall difference between the three time points for all the measures. However, social connectedness, $F(2,42.2)=2.55$, $p=0.090$, and social anxiety, $F(2,33)=3.27$, $p=0.051$ approached significance. Pairwise comparisons indicated that there were significant improvements seen from baseline to end of camp for social connectedness, $p=0.035$, and for social anxiety, $p=0.015$. Changes were not sustained to a month post camp.
Cross (2002)- The effects of an adventure education program on perceptions of alienation and personal control among at risk-youth.	Type: 5-day intensive rock climbing programme. Intervention included group and individual reflection sessions.	Low-income at-risk adolescents (n=34) (Treatment group n=17; Control group n=17). 35% Hispanic, 65% Caucasian. 23%female, 77%male.	Perceptions of alienation and perceptions of personal control	Dean Alienation Scale. New Multidimensional Measure of Children's Perception's of Control	Significant reductions in alienation ($p<0.01$) and improvements in self-control ($p<0.01$) observed in the treatment group.

Study	Program type/description	Sample	Outcomes (Targeted Risks, Protective factors)	Measurements	Results
Shek & Lee, (2012)- Helping Adolescents with Greater Psychosocial Needs: Subjective Outcome Evaluation Based on Different Cohorts	The Project P.A.T.H.S. in Hong Kong. Type: Adventure Based Counseling (ABC)	n=373. Students of secondary school levels 1,2 and 3 (equivalent to 7-9 grade in the US) Average program attendance: M=82.38%	Targeted outcomes include: promote bonding, foster resilience, promote competence, foster prosocial norms, foster belief in the future	The Subjective Outcome Evaluation Form (Form C, $\alpha=0.99$) was used to obtain both objective and subjective data	The mean of overall effectiveness for the ABC program=4.61 on a 6 point likert scale toward the positive side. Results of correlation analyses showed that both program content($r=0.92$, $P<0.01$) and program implementers ($r=0.89$, $P<0.01$) were strongly associated with program effectiveness. ~4/5 of the respondents perceived the program to be beneficial to their own development.
Armour <i>et al.</i> (2012) Positive Youth Development and physical activity/sport interventions: mechanisms leading to sustained impact	HSBC/OB Program. In the London, EN.Type: Year-long program of structured outdoor activities	n=540. Age range 13-14 years.	Youth Disaffection, disengagement. Positive attitudes toward physical activities. Confidence, Leadership, communications skills. Among others	Interviews & Focus Groups. Journal Entries. Profile Comments. Researcher field notes.	Positive improvements were maintained by, on average, over 50% of participants up to 24 and 36 months after the program activities had ended. Six common themes on the condition required for sustainable impact resulted from the data analysis process (See Armour <i>et al.</i> 2012).

Study	Program type/description	Sample	Outcomes (Targeted Risks, Protective factors)	Measurements	Results
Pommier & Witt (1995) - Evaluation of an outward bound plus family training program for the juvenile status	Outward Bound School programme that included a family training component. 14 day intake period followed by 6 programme phases: Orientation, Expedition, Reunion, Reinforcement, and Facilitation.	Adolescent status offenders (Age range 13-17). n=107	Self-perceptions and global self-worth	Self-Perception Profile for Adolescents	Significant improvements in self-perceptions ($p<0.01$) and global self worth ($p<0.01$) at week 4 posttest. Some differences were not sustained at 4 month posttest.
Green <i>et al.</i> (2000)- The effect of an adventure-based recreation program on development of resiliency in low income minority youth.	Adventure-Based rope courses with an educational component. Length: Adolescents participated in the rope courses activity for 4 hours, one day a week, for 4-6 weeks.	Treatment Group: At risk adolescents (n=25, age M=11.6 years)	Resilience	Resilience (subscales- neighborhood resources, interested adults, sense of acceptance, levels of control of deviant behavior, models of conventional behavior, positive attitudes to the future, values attached to achievements, ability to work with others, ability to work out conflict, and enjoyment of activity; Protective Factors Scale)	Most of the resilience subscale scores improved significantly over study period compared to the comparison group (all scores, $p<0.01$) and the no treatment condition group (scores ranged, $p<0.01$ to $p=0.421$)

Study	Program type/description	Sample	Outcomes (Targeted Risks, Protective factors)	Measurements	Results
Bloemhoff (2006)- The effect of an adventure-based recreation programme on the development of resiliency in at-risk adolescent boys confined to a rehabilitation center.	A 4-hour adventure-based recreation program. The ropes-based programme had three elements a balance beam, a two-line bridge and a multi-vine. Comparison group was not described	106 at-risk adolescent boys from educational youth centers (mean age 16 and 15.4 years)	Resilience	Resilience (Idem)	Significant intervention effects for neighborhood resources ($p=.003$), sense of acceptance ($p=0.000$), positive attitudes ($p=.000$), value attached to achievement ($p=0.045$) ability to work with others ($p=0.000$), ability to work out conflicts ($p=.002$), No significant changes were detected for interested adults, and levels of control of deviant behavior.
Neill & Dias (2001)- Adventure education and resilience: The double-edged sword.	22-day multi-element Outward Bound program in Australia. Physical, emotional and social intensity in the context of a wilderness expedition.	41 young adults. 22 males and 19 females with a mean age of 21 (SD=3.1 years).	Resilience	The Resilience Scale (RS), a 25 item self-report questionnaire.	Overall change in RS was very high ($M1=7.61$, $SD=.88$; $M2=8.58$, $SD=.73$; $ES=1.10$). Moderate change was evident for control group ($M1=7.33$, $SD=1.54$; $M2=7.86$, $SD=1.28$, $ES=.34$)

APPENDIX B: Survey Results

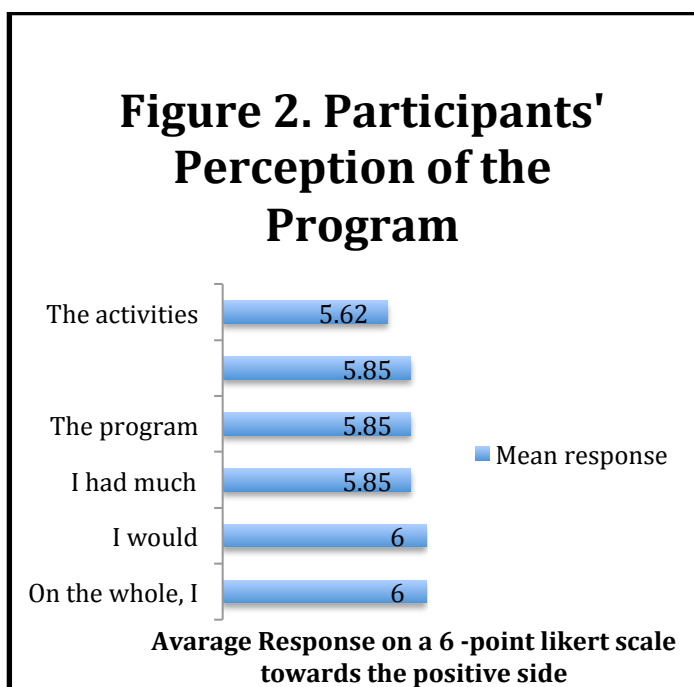
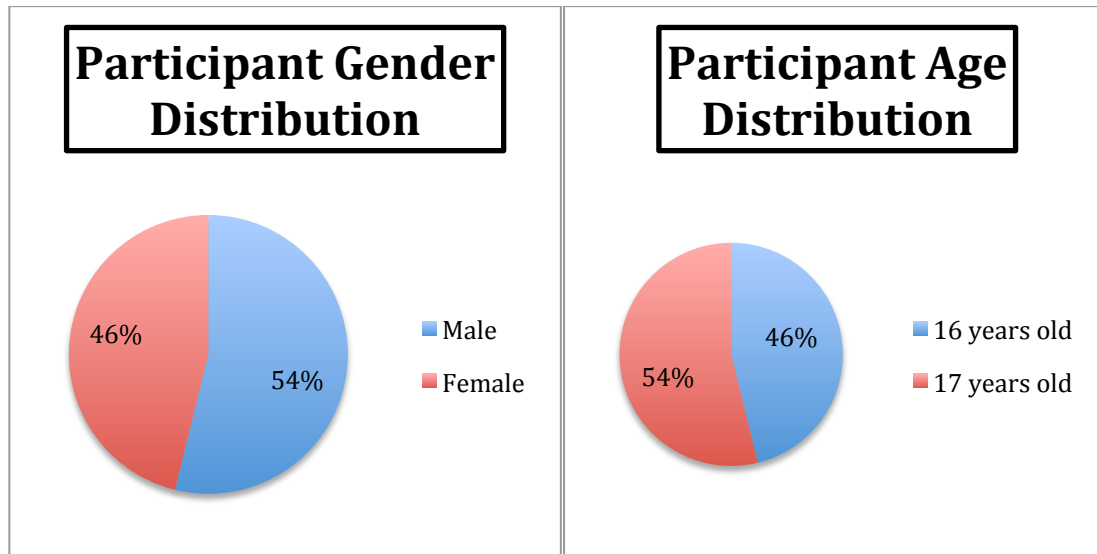
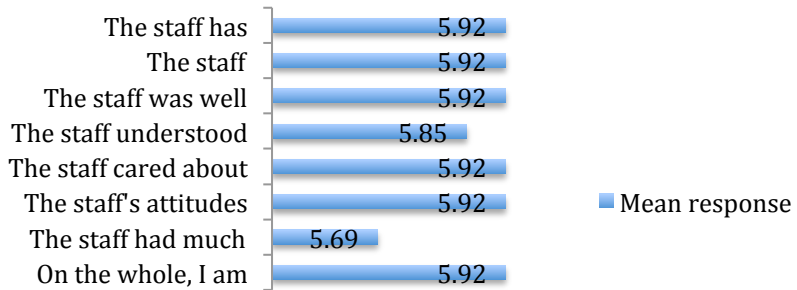
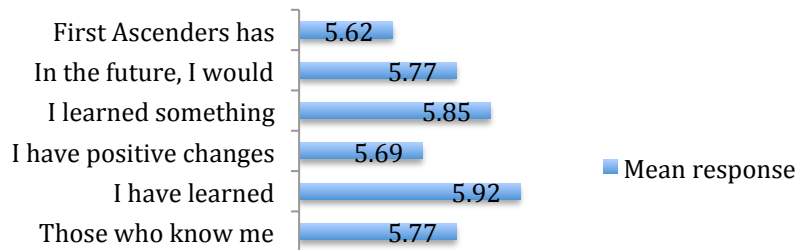


Figure 3. Participants' Perception of the Staff



Mean response on a 6-point likert scale towards the positive side

Figure 4. Participants' Perception of the Effectiveness of the Program



Mean response on a 6-point likert scale towards the positive side

Figure 5. Participant involvement in extracurricular activities in the past (M=2.92)

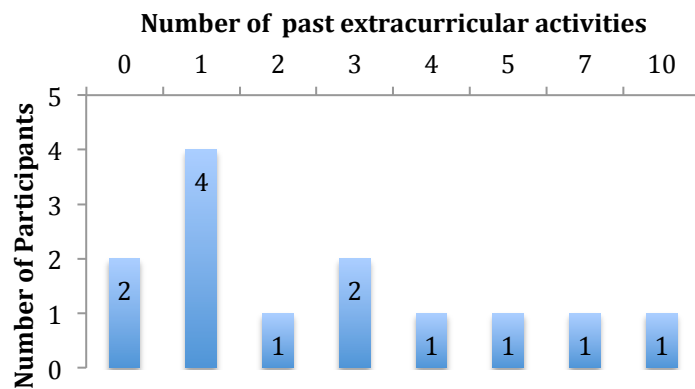


Figure 6. Participant current involvement in extracurricular activities (M=1.00)

