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Impact of an experiential learning curriculum on youth developmental assets in alternative high schools

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ABSTRACT

Adventure-based learning is used by behavioral health providers to connect clients to therapeutic activities outside traditional settings. These approaches often aim to build internal and external assets that support positive youth development. Here we evaluate the impact of an experiential learning curriculum on youth development and identify program characteristics that support development of positive assets. The evaluation included classroom field observations, a pre/post survey of developmental assets, semi-structured student interviews, and focus groups with school employees. Program staff were successful creating a supportive environment, but there was no significant difference in average student asset scores before and after each course. Students described the program as an opportunity to explore their own backyard while stepping outside their comfort zone through teamwork and leadership activities. Evaluation of individual programs can build a suite of best practices for adventure-based education. In particular, emphasis on “challenge by choice” and youth-led activities resonated with students.

KEYWORDS

Adventure education; experiential learning; evaluation; behavioral health; developmental assets

Introduction

The transition from high school to post-secondary education or the workforce is an important and challenging time for youth where they create new social networks, gain parental independence, become more responsible for time and money management, and continue to develop their vision for their life trajectory (Ribbe, Cyrus, & Langan, 2016). Although some of these skills are addressed in a typical high school curriculum, opportunities to directly practice self-awareness and develop strong social skills and relationships are often lacking. Additionally, the ability to recognize one’s health and well-being needs and proactively address those needs are essential tools for success after high school (Darling-Hammond, Flook, Cook-Harvey, Barron, & Osher, 2020).

Traditional risk and protection-focused prevention efforts focus on addressing known risk factors for particular negative behavior or health outcomes such as drug or alcohol abuse (Hawkins, Catalano, & Miller, 1992). Efforts have shifted towards a strengths-based approach that identifies individual and ecological assets that support positive youth development (Benson & Scales, 2009; Jain, Buka, Subramanian, & Molnar, 2012). The developmental assets framework defines a broad range of positive youth assets that all youth (not just those considered ‘at risk’) need as a foundation to thrive and build resilience (Leffert et al., 1998). The framework emphasizes the important role of

positive relationships on youth development, including those with teachers, trained professionals, and community members at large.

There are 40 developmental assets in the core assets framework. Half of the assets describe relationships and opportunities youth need in their families, schools, and communities (external assets), and the remaining assets focus on social-emotional skills, values, and motivations (internal assets). The framework rests on the idea that the more that youth build these assets, the less likely they are to engage in high-risk behaviors such as substance abuse, violence, or early sexual involvement (Search Institute, 2012, 2015). Further, the more likely they are to engage in positive behaviors such as maintaining their personal health, helping others, school success, and valuing diversity, and exhibiting leadership. Previous research suggests that developmental assets are important predictors of positive behaviors and healthy development across gender, race/ethnicity, and socio-economic status of youth (Aspy et al., 2004; Atkins, Oman, Vesely, Aspy, & McLeroy, 2002). However, others have found that these relationships varied by gender and race/ethnicity due to differences in how some assets were experienced or expressed by youth (Soares, Pais-Ribeiro, & Silva, 2019; Valois, Zullig, Huebner, & Drane, 2009).

Given the importance that youth strengthen these internal and external assets as young adults, it is critical to identify the characteristics of educational curricula and programs that support this development. Although there are likely many factors that contribute to positive youth development, several studies have found that the presence of consistent, positive adult relationships is key component (Heinze, Jozefowicz, & Toro, 2010; Jones & Deutsch, 2011; Norton & Watt, 2014; Scales, Benson, & Mannes, 2006). A nationally representative study found that older adolescents and young adults who reported a mentoring relationships were more likely to have positive outcomes in a variety of contexts, including high school completion, college attendance, non-gang membership, heightened self-esteem and life satisfaction, and physical health (Dubois & Silverthorn, 2005). However, others have pointed out that even when young people have supportive mentors and are motivated to learn, they still need to build skills to organize their efforts and maintain focus (Larson, 2006).

Experiential education has shown to be a highly effective method for enhancing educational, social, and academic outcomes and supporting positive youth development (Bettmann, Gillis, Speelman, Parry, & Case, 2016; Combs, Hoag, Javorski, & Roberts, 2016; Richmond, Sibthorp, Gookin, Annarella, & Ferri, 2018). Specifically, adventure education, adventure-based programming, and adventure-based experiential learning describe a wide variety of educational approaches encouraging and facilitating personal development, often in outdoor environments where students can take appropriate risks (Gass, Gillis, & Russell 2020; Moote Jr & Wodarski, 1997). This practice has been used as an alternative for mental health providers who want to connect clients to therapeutic activities outside traditional therapeutic settings (Bettmann et al., 2016). These types of programs have been shown to be effective for addressing a diversity of health issues (Combs et al., 2016) and yield both positive short and long-term outcomes in a variety of mental health and interpersonal domains including self-control, self-efficacy, and decision making (Bowen & Neill, 2013; Cason & Gillis, 1994; Hattie, Marsh, Neill, & Richards, 1997). One of the strengths of adventure-based experiential education is the myriad settings in which this approach can be used to transform learning. From backpacking to rock climbing, adventure education can engage students utilizing physical challenges to practice skills such as communication, problem solving, and empathy (Tucker, 2009).

Although there is building evidence for the efficacy of youth programs focused on developmental assets, there is a need to analyze a variety of models and approaches. The aim of this study was to evaluate the impact of an experiential learning curriculum on youth development by examining the 1) fidelity of program delivery, 2) individual student outcomes using a developmental assets framework by grade level, race, and gender, and 3) the overall impact of the program on social relations within schools that have integrated its curriculum. These results can support the application of key pedagogical approaches to other programs, particularly those interested in utilizing alternative educational approaches within a public school setting.

Methodology

Description of educational program

Onward and Upward (O&U) is an outdoor learning organization (accredited by the Association of Experiential Education) that focuses on four pillars of programming: adventure based education, challenge by choice (Chase, 2015; Grout, Dewdney, & Rohnke, 1998), holistic approaches, and experiential learning. O&U offers a variety of health and wellness activities and courses as an independent education organization, primarily for youth ages 14–20, in the Matanuska Valley (Mat-Su) of southcentral Alaska. The majority of programming is provided by contracted O&U facilitators in courses at alternative high schools, but they also offer field-based summer programs. The in-school courses range from quarter-length to a full semester and meet 2–4 times per week.

The O&U curriculum primarily draws from the principles and practices associated with positive psychology, wilderness and adventure therapy, mindfulness-based cognitive therapy, humanistic psychology, and experiential education pedagogies (R. Dowd, personal communication, 7 July 2020). The following is an excerpt from their curriculum overview:

The whole thesis for our curriculum is centered on a single point of focus: that people who have positive-oriented relational connections/attachments (between and amongst the 5 prime psychosocial systems of friends/peers, school/work, family, community, and ecosystem) are happier, have fewer health related problems, have better cognitive function, experience less depression, less suicidality, and live longer, more resilient meaningful lives. Research has shown this to be true. And when developed successfully at the micro level in individuals, these prosocial connections create paths toward a macro level culture of health and wellbeing—ultimately leading to community and global sustainability.

Conversely, a lack of prosocial connections or negatively-oriented relationships often results in dramatic problematic effects on health and wellbeing. Studies have demonstrated that those who are socially disconnected become more apt to develop problematic behavioral health, such as adverse addictions, poor eating habits, smoking, substance abuse, as well as developing physical health-related problems related to elevated blood pressure and high cholesterol. Further, social isolation has been identified as a predictor of early mortality rates. This curriculum attempts to build protective factors to alleviate these issues by promoting positive social relationships and interconnectedness by actively engaging students in experiences that allow them to develop those vital prosocial skills. Onward & Upward's pedagogy is a "learn it by doing it" model—the ideal format of learning for this curriculum.

Evaluation design

Given the O&U focus on building protective factors and positive relationships among their peers, family, and community, we felt that the developmental assets framework reviewed above was an appropriate foundation for this evaluation. Students enrolled in the courses were primarily adolescent youth in alternative high schools, often from high-risk home environments. The majority of O&U students have had adverse childhood experiences that affected their ability to perform as expected in the traditional high schools (R. Dowd, personal communication, 7 July 2020). Coming into O&U courses, most students expressed past or current situations in their personal lives that make focusing on academics challenging, tended to have low self-confidence and self-efficacy, and lacked social skills (R. Dowd, personal communication, 7 July 2020).

Students enrolled in eight O&U high school courses during the 2018–2019 school year were invited to participate in this study. Data collection occurred at the host schools and at field trip locations (e.g., hiking spots, swimming pool, bowling alley). All data were collected by a two-person evaluation team.

We used a mixed methods evaluation design (Table 1). We used field observations to measure program fidelity across classes and instructors. We measured short-term changes in student internal assets through a survey administered at the beginning and end of each course, and we utilized semi-structured student interviews to further explore students' experiences and provide context for the surveys. We assessed differences in development assets by gender, grade level, and ethnicity. Finally,

Table 1. Evaluation design including the three evaluation components and respective methods.

| Evaluation component | Evaluation methods | |
|-----------------------------|---------------------------|----------------------------|
| Program fidelity | Field observations | |
| Individual student outcomes | Pre/post survey | Semi-structured interviews |
| Impact on school relations | School staff focus groups | |

we assessed the broader impact of O&U on social relations at the schools through focus groups conducted with teaching staff at the host schools. Approval for this evaluation was obtained from the Institutional Review Board at the University of Alaska Anchorage.

Data collection

Field observations

We developed an observational assessment instrument to evaluate program fidelity, or the extent to which instruction is being implemented as it was intended based on the stated goals of the O&U curriculum. The instrument was organized around three domains: 1) learning through experience, 2) challenge and adventure, and 3) supportive environment. These domains were selected because they were the key design principles from the original blueprint for the program (Dowd, 2012). Three pedagogical approaches were included under each domain, and specific instructional methods were included under each of the approaches (e.g. Challenge, Adventure, and Service-Learning; Learning Through Experience; Full instrument available in Supplemental Material). The instrument design was guided by the David P. Weikart Center for Youth Program Quality assessment tools (2020) and piloted tested during a summer O&U course. For the pilot testing and observer training, two researchers completed the observational assessment, discussed their results, and added additional examples to the tool where the description was unclear and there were initial discrepancies.

For each course enrolled in the study, two independent researchers simultaneously observed two full lessons on two different days, randomly selected within a course. Observers assigned scores to each of the instructional methods based on the frequency and the degree to which they observed the method. They could assign a score of 1, 3, or 5 to indicate the following:

- Score of 1 = The practice is not in place
- Score of 3 = The practice is available to a limited extent
- Score of 5 = The practice is widely available

Observers also took field notes next to each instructional method to support their score. Differences between observer scores were reconciled through discussion after each observation. Observers made individual decisions on whether or not to change their score based on this discussion. If there was still a difference in scoring after observer reconciliation, the average of the observer scores was used in the final analysis.

We conducted 32 individual observations across 8 courses. Observations lasted for the length of an entire lesson unit and ranged from 50 to 153 minutes long with an average of 95 minutes. Student numbers in individual classes ranged from 5 to 17 with an average of 10.5 students. In 21 of the 32 classes there was only one O&U instructor. All other classes had two O&U instructors.

Student surveys and interviews

We designed a 45-item, self-assessment instrument to measure short-term change in youth outcomes in the domains of positive identity, empowerment, and citizenship based on the Search Institute's Developmental Assets framework (Harper, 2017) and Randall Dowd's doctoral dissertation (2012) (Full self-assessment instrument available in Supplemental Material). *Positive identity* refers to a youth's sense of self-confidence and personal power, level of intellectual curiosity, and living

a balanced lifestyle. *Empowerment* refers to a youth's ability to set goals and plan, inspire and support others, and ability for collaboration and communication. *Citizenship* refers to a youth's level of social and environmental responsibility, engagement in service activities, and empathy toward others. The survey contained 15 questions under each domain that related to a student's self-perception, feelings, or attitudes about a skill or value. Students were invited to take a pre and post-survey for each course. For each question on the 45-question survey instrument, students were able to choose an answer on the following Likert scale (coded as):

- Never (0)
- Rarely (1)
- Sometimes (2)
- Often (3)
- Very Often (4)

Semi-structured interviews with students provided context for findings from the surveys (Supplemental Material). The semi-structured interview protocol was designed to elicit specific examples of how programming may affect the development of internal assets within youth as well as how youth plan to use newly gained skills outside of the program. We aimed to interview three youth from each of the eight courses. Audio recordings of the interviews were transcribed by a professional transcription service.

Over the course of the evaluation, 50 unique pre-survey and 36 matched post-surveys were collected from students. The majority of student survey attrition is attributed to low student attendance on the days post-surveys were offered. A total of 17 students (9 female, 8 male) in grades 9–12 (18% of the cohort of students in the 8 courses) were interviewed with an average of 2 interviews for each course. Ages ranged from 15 to 19 years (mean = 16.5 years). The interviews were an average of 17 minutes long, ranging from a minimum of 9 minutes to a maximum of 27 minutes.

Teaching staff focus groups

The focus groups aimed to 1) examine the context and student body needs within each school, 2) provide an overview of O&U's mission and framework, and 3) assess the impact of the program on the school community (Focus group facilitation guide available in Supplemental Material). One evaluator acted as a primary facilitator, and the second evaluator provided support such as operating the recorders, setting up the room and refreshments, and posing clarifying questions to the group. Audio recordings of the focus groups were transcribed by a professional transcription service.

Over the course of the evaluation, four focus groups were conducted with 2–5 participants in each discussion. These focus groups ranged from 38 to 48 minutes long. The school staff in the focus groups had varying levels of teaching experience, ranging from one year to two decades of experience in both their position and at the school. The majority of the staff were female ($n = 8$, 62%). Participants included administrative faculty ($n = 2$), teaching staff ($n = 5$), and counselors ($n = 6$).

Data analysis

Field observations

To obtain scores for each pedagogical approach in a course, we averaged the scores for the instructional methods within each approach. To obtain scores for each of the three domains in a course, we averaged the scores for the pedagogical approaches within each domain. Finally, we averaged the scores for the domains, pedagogical approaches, and instructional methods from each course across all the observed O&U courses to obtain overall scores.

Student surveys

We scored the individual student surveys by summing the values for each of the student responses within each domain. Scores could range from 0 to 60 in each domain (15 questions with scores between 0–4). We tested for significant differences in the distribution of student responses to pre-survey questions (collapsed to a binary variable because of small sample sizes in each category, coded as a) never, rarely, or sometimes vs b) often or very often) by reported gender, ethnicity, and grade level using a two-tailed Fisher's Exact Tests ($\alpha = 0.05$). We also tested for significant differences between the pre- and post-survey domain scores using paired t-tests ($\alpha = 0.05$). Student responses were not included in the analysis if any questions were left blank.

Student interviews and school staff focus groups

We used thematic analysis (Braun & Clarke, 2006) to identify and describe overarching themes that emerged from the student narratives and focus groups. Separate codebooks were iteratively created for the set of student interviews and the set of focus groups. Both evaluators independently read the transcripts and generated a potential list of codes. Through team discussion, a codebook was created that included the code name, brief description, full description, when to use and not to use, and an example quote (MacQueen, McLellan, Kay, & Milstein, 1998). The codebook was piloted by using it to individually code several transcripts after which the team came together to discuss and refine the codebook as needed. After the codebook included all the ideas and statements from the sample of transcripts, all transcripts were consensus coded using NVIVO software (QSR International Pty Ltd. Version 12, 2018).

Results

Program fidelity

Challenge, adventure, and service-learning

The delivery of O&U courses had reasonable fidelity to the stated aims of the program (Table 2). The instructional method that had the lowest overall average score in this domain was formal youth presentations (mean score = 2.00, range = 1–5). Observers did not often see a formal presentation made by youth to the group within the subset of classes that were observed. Tangible & youth-directed activities had the next lowest average score (mean score = 3.00, range = 1–5) due to the few products or performances that reflected the ideas or designs of the youth. Examples of these types of activities within the context of the O&U curriculum could include planning a menu for a camping trip, routing a hike, or introducing a new gym game/activity to the class. The most commonly

Table 2. Average scores for the pedagogical approaches and instructional methods in the 'challenge, adventure, and service-learning' domain in the observed O&U courses.

| | Domain | Average Score |
|-------|---|---------------|
| # | CHALLENGE, ADVENTURE, and SERVICE-LEARNING | 3.83 |
| 1.1 | <i>Activities that are fun, inspirational, and stimulate imagination and creativity</i> | 3.86 |
| 1.1.1 | Info & activity balance | 3.97 |
| 1.1.2 | Tangible & youth-directed activities | 3.00 |
| 1.1.3 | Open-ended questions | 4.63 |
| 1.2 | <i>Mentally, emotionally, and physically demanding experiences</i> | 3.50 |
| 1.2.1 | Physical challenge | 4.44 |
| 1.2.2 | Formal youth presentations | 2.00 |
| 1.2.3 | Performance challenge | 4.25 |
| 1.2.4 | Youth mentorship | 3.31 |
| 1.3 | <i>Utilizing and managing appropriate risk</i> | 4.13 |
| 1.3.1 | Youth leadership | 3.44 |
| 1.3.2 | Shared control | 4.44 |
| 1.3.3 | Explanation of task breakdown | 4.25 |
| 1.3.4 | Clarity of task explanation | 4.38 |

observed instructional activities in this domain were open-ended questions (mean score = 4.63, range = 3–5), physical challenges (mean score = 4.44, range = 3–5), and shared control between youth and instructors (mean score = 4.44, range = 3–5).

Learning through experience was the domain that was least apparent in the instruction that was observed during the evaluation. Within this domain, the place-based education pedagogical approach received a low overall score average of 1.25 (Table 3). This score reflects the infrequency with which instructors explicitly identify an aspect of how the class activity relates to the local culture and environment or a link to Alaska. The most commonly observed instructional methods in this domain were student recognition (mean score = 4.94, range = 4–5) and informal student reflection (mean score = 4.94, range = 4–5). Instructors often recognized students and listened to their input. Instructors also were very deliberate in soliciting reflections from students on the class activities.

Supportive environment

Activities within the this domain were the most commonly and consistently observed across all classes. Within this domain, instructional methods that reviewed behavioral expectations were the most inconsistent (mean score = 3.75, range = 1–5) (Table 4). The most commonly observed instructional methods in this domain were staff responsiveness (mean score = 5.00, range = 5–5) and teacher treatment equality (mean score = 5.00, range = 5–5). Instructors were very responsive to youth ideas and comments, and this led to class activities being entirely youth-led near the end of the course. Instructors were also very deliberate about being positive and encouraging toward all youth, and the observers never saw or heard negative remarks based on ability or performance.

Individual student outcomes

In the comparison of Likert scores from the pre-survey, there were significant differences in the answers to specific questions by gender and grade level (Table 5). Fewer males agreed with the statement, ‘I read for fun,’ than female/non-binary gendered students ($p = 0.02$). Female students were significantly more likely than male/non-binary gendered students to agree with the statement that they think of how an action will affect the people around them before they execute it ($p = 0.03$). Upperclassmen (juniors and seniors) were more likely to agree that issues of pollution and poverty were more important to them than students in the lower grades (freshmen and sophomores) ($p = 0.01$). More upperclassmen also stated that they had time to help other people achieve their

Table 3. Average scores for the pedagogical approaches and instructional methods in the ‘learning through experience’ domain in the observed O&U courses.

| | Domain | Average Score |
|-------|--|---------------|
| # | LEARNING THROUGH EXPERIENCE | 3.02 |
| 2.1 | <i>Engaging experiences that incorporate skill mastery</i> | 4.04 |
| 2.1.1 | Opportunity for skill mastery | 4.06 |
| 2.1.2 | Learning objective link | 4.06 |
| 2.1.3 | Youth identified benefits | 2.81 |
| 2.1.4 | Student recognition | 4.94 |
| 2.1.5 | Staff promotion of groupwork | 4.31 |
| 2.2 | <i>Place-based education</i> | 1.25 |
| 2.2.1 | Identify cultural link | 1.13 |
| 2.2.2 | Identify AK link | 1.38 |
| 2.3 | <i>Self-evaluation through reflection</i> | 3.76 |
| 2.3.1 | Informal student reflection | 4.94 |
| 2.3.2 | Formal student reflection | 4.06 |
| 2.3.3 | Youth activity feedback | 3.13 |
| 2.3.4 | Coping skills | 3.56 |
| 2.3.5 | Identifying cause & solutions | 3.13 |

Table 4. Average scores for the pedagogical approaches and instructional methods in the 'supportive environment' domain in the observed O&U courses.

| | Domain | Average Score |
|-------|--|---------------|
| # | SUPPORTIVE ENVIRONMENT | 4.80 |
| 3.1 | <i>Caring, encouraging, and positive group culture</i> | 5.00 |
| 3.1.1 | Staff responsiveness | 4.69 |
| 3.1.2 | Social opportunities | 4.88 |
| 3.1.3 | Social exclusion | 4.63 |
| 3.1.4 | Observed group skills | 4.58 |
| 3.2 | <i>Physically and emotionally safe environment</i> | 4.63 |
| 3.2.1 | Emotional climate | 3.75 |
| 3.2.2 | Behavioral expectations | 4.94 |
| 3.2.3 | Participation & inclusion | 5.00 |
| 3.2.4 | Teacher Treatment Equality | 4.58 |
| 3.3 | <i>Positive adult role models</i> | 4.81 |
| 3.3.1 | Teacher conflict skill | 4.88 |
| 3.3.2 | Level of teacher engagement | 4.88 |
| 3.3.3 | Quality of teacher engagement | 4.31 |
| 3.3.4 | Individual attention | 4.00 |
| 3.3.5 | Empathy & direction | 4.80 |

Table 5. Demographics of the students who completed the pre- and post- surveys.

| Demographic variables | Pre-survey (N = 50) | | Post-Survey (N = 36) | |
|-------------------------------|---------------------|----------|----------------------|----------|
| | N | % | N | % |
| Gender | | | | |
| Male | 25 | 50 | 19 | 52 |
| Female | 22 | 44 | 16 | 44 |
| Non-Binary/Third Gender | 3 | 6 | 1 | 7 |
| Grade* | N | % | N | % |
| Freshman | 13 | 26 | 7 | 20 |
| Sophomore | 9 | 18 | 8 | 23 |
| Junior | 13 | 26 | 10 | 28 |
| Senior | 13 | 26 | 10 | 28 |
| Race/Ethnicity** | N | % | N | % |
| White/Caucasian | 30 | 60 | 21 | 58 |
| Hispanic/Latino | 1 | 2 | 0 | 0 |
| Asian/Pacific Islander | 1 | 2 | 0 | 0 |
| Alaska Native/American Indian | 6 | 12 | 6 | 16 |
| Multiple | 11 | 22 | 9 | 25 |

*2 students on the pre-survey and 1 student on the post-survey were missing grade level data

**1 student was missing race/ethnicity on the pre-survey

goals than younger students ($p = 0.03$). There were no significant differences for survey answers between white and non-white students.

Across all the student respondents, there was no significant difference in the mean scores within the domains of positive identity ($t(27) = 0.95$, $p = 0.59$), empowerment ($t(31) = 0.54$, $p = 0.59$), or citizenship ($t(31) = 0.45$, $p = 0.66$), or in the overall survey scores ($t(23) = 1.33$, $p = 0.20$) between the pre- and post- surveys (Table 6).

Thematic analysis of the student interviews identified four key themes: 'Teamwork,' 'Mentorship,' 'Choice,' and 'Personal Development.' The first three themes refer to characteristics of the program, while the personal development theme refers to the impact of the three previous themes on students in the program. These themes should be viewed as a summary interpretation of the most common youth perceptions and attitudes as they relate to their experience in the program.

Teamwork

This theme encapsulates student perception of how O&U developed comradery between students and instructors in their program. For example, one student described the program as developing

Table 6. Comparison of mean positive identity, empowerment, and citizenship domain scores from the youth pre- and post-survey.

| Asset | N | Mean student score (SD) | Standard Error |
|--------------------------|----|-------------------------|----------------|
| Positive identity | | | |
| Pre | 28 | 36.1 (5.2) | 0.99 |
| Post | 28 | 35.2 (5.4) | 1.03 |
| Empowerment | | | |
| Pre | 32 | 39.2 (6.2) | 1.09 |
| Post | 32 | 38.7 (5.0) | 0.89 |
| Citizenship | | | |
| Pre | 32 | 35.8 (5.3) | 0.94 |
| Post | 32 | 35.4 (5.6) | 1.00 |
| Overall | | | |
| Pre | 24 | 111.6 (14.0) | 2.86 |
| Post | 24 | 108.7 (13.6) | 2.78 |

a team and creating better leaders. Another student said, 'I definitely figured out that leadership wasn't just leading a whole group. It was about communicating with a group, taking group's ideas, and leading through that.'

Mentorship

This theme highlights students' perceptions of the many types of guidance and support they receive through their participation in the program. Students mentioned that their learning is often facilitated by a variety of mentors including O&U instructors, school staff, and their peers. For example, one student described their experience with O&U staff as, '[the instructors] encouraged me in different ways to make myself a better person.'

Choice

Whether it be Challenge by Choice or simply having a choice to make, students described the concept of choice in great detail throughout the narrative. The recurrence of student comments about choice illustrates how being pushed out of their comfort zone and accepting new challenges is a powerful opportunity for growth and has impacted student perception of the program. For example, one student provided this reflection of their experience, 'I try to push myself to learn more, and get myself past the breaking point, and then a new breaking point.'

Personal development

The impact of the program on individual student outcomes was highlighted in this overall theme that dominated the interview narratives. Student discussed a variety of topics within this theme that were summarized into six subthemes:

- **Skill Transfer:** The ability to take lessons learned through O&U programming and apply them to other environments and settings. For example, one student mentioned that they have been able to use their new skills at home. 'I go home and I'm like, 'hey, my family fights all the time and ... we gotta work as a team ... this can't get done unless we work as a team' and this skill has ' ... helped a lot.'
- **Empowerment:** Students described discovering their own authority, autonomy, and abilities through stepping into roles of responsibility and leadership. For example, one student said, 'I feel like more could happen. I could do a lot more things. I know what I'm capable of now ...'
- **Managing Emotions:** Students discussed gaining awareness of coping and mental health skills. One student said,

For me, I'm ... anxious about things ... I'm like "Oh my God, if I mess up, I'm gonna look stupid and people are gonna make fun of me" but now ... I have the confidence now ... I see people mess up all the time and I don't put them down for it or think they're dumb for it.

- **Interpersonal Relationships:** Students discussed experiences with making friends, connecting with others in O&U courses, maintaining healthy relationships, and social struggles that may occur within their school and family. For example, one student stated, 'It was the first class I made friends in. You're ... closer to people than in other classes, because you have to work together.'
- **Goals:** This included discussion of personal aims, setting new goals, and making progress on those personal benchmarks for future successes. For example, when a student was asked, 'How does the participation in the program help you with setting goals for yourself?' they replied, 'It makes me want to go out more and do more things, so I can know to get out of my comfort zone.'
- **Outdoor Immersion:** Students noted the opportunity to become more familiar with outdoor experiences and activities in their community in a way they have never done before. For example, one student said,

I feel like they show us that we should be doing this, and they get us to go out and do it more. So I think that's why, just so that I could be more active and try new things that I would never think to try.

Additionally, there was a united consensus among the students interviewed that having the opportunity to be outdoors, in their own communities, was a highlight of their classes and had a positive impact on their course experience.

Broader impact on school social relations

School staff focus groups

Thematic analysis of the focus groups identified five key themes: 'School Environment Impact,' 'School Partnership,' 'Faculty Knowledge of O&U,' 'School Context,' and 'Areas of Growth.' These themes should be viewed as a summary of the most common staff perceptions and attitudes as they relate to the need and value of O&U for their students and school.

School environment impact

Staff often discussed observed changes within their students, the contributions the program has made for their school, and their overall positive impressions of the program. Other comments that fit within this theme illustrate the staff's perception of how O&U contributed to positive change within the student body. For example, a staff member stated that what they have 'seen with Onward and Upward the last two summers working with them is some of the most amazing things in education' they've seen. Another said, 'It's truly beautiful to watch this metamorphosis that's occurring with students.'

School partnership

Staff described the quality of the partnership between the independent O&U instructors and the school. They noted that O&U is 'super easy to work with' by including thoughtful planning and accommodations such as available transportation and equipment. Additionally, O&U is trusted by the staff to work through personal issues the students may have. One staff member mentioned that 'their patience and ability to work with so many different issues with kids and personalities' makes the partnership successful. Another staff [member] mentioned that the program brings their students back to their class 'better than they left.'

Faculty knowledge of O&U

When school staff discussed their overall awareness and impression of O&U's goals and curricula, the narrative was overall very positive. Faculty and staff expressed appreciation for the O&U instructors for working alongside their school and taking a therapeutic approach with their students. For example, one staff described O&U as the place 'where they teach leadership skills, life skills, teamwork, all the tools you would need to be successful in adulthood.'

School context

Staff provided descriptions of their respective schools, their school climate, and what their diverse student population needs in order to be successful. They emphasized the special accommodations their students need such as trauma-informed care and approaches in helping them find their strengths and weaknesses. For example, a staff member described a recent conversation they had with the school counselor and mentioned that the students are at their school 'so that they don't slip through the cracks' and the counselor replied, 'No, they have slipped through the cracks and we're pulling them back up.'

Areas of growth

The discussion within this theme included staff recommendations for improvement of the program. Staff noted that in the past, they would have described the program as 'chaotic' or without any structure or order; however, over the years that O&U has been working with their schools, the perceived structure or order of the program has greatly improved.

Discussion

This research assessed the impact of an experiential learning curriculum on youth development among high school students in Alaska. Triangulation of observational assessments, quantitative surveys, and focus groups provided a holistic framework for linking pedagogical approaches utilized in the program with the perceived impacts of student participants.

The first aim of the evaluation was to assess how closely the instruction aligned with the stated goals of the program. Program fidelity is a key component of community-based intervention strategies (Breitenstein et al., 2010). As programs scale-up, it is essential to understand the factors necessary to deliver the program components consistently and at a high level of quality, particularly in different contexts and by different instructors and program managers (Glasgow, Lichtenstein, & Marcus, 2003). The pedagogical approaches that were most consistently observed during courses were related to teacher and student interactions. For example, shared control between youth and teachers, student recognition, and staff responsiveness were employed in the majority of observed classes. Specific approaches utilized to create this open and equal learning environment included open-ended questions and student reflection. Reflective practice in classroom settings is widely adopted as a method for linking student experiences in experiential or service-learning activities to the learning goals of the class, engaging multiple learning styles, and promoting lifelong learning strategies, among other instructional goals (Harvey, Coulson, & McMaugh, 2016; Moon, 2004). Because many of these characteristics are related to the personal instructional approach of the teacher, it is important that new instructors have an opportunity to observe ongoing classes so that they can see these instructional methods modeled *in situ*. Within this domain, instructional methods that reviewed behavioral expectations were the most inconsistent; however, this may be due to the fact that behavioral expectations were covered in the beginning of a course and it was unnecessary for instructors to cover the expectations later in the course when they were being observed.

One of the pedagogical approaches that we expected to observe more frequently based on the program goals was place-based education. Here we defined place-based education as specific references, discussions, or activities that link the class to the local culture, environment, or Alaska generally.

Others have described place-based learning as a way to give students opportunities to practice real-world problem solving, which can provide agency and give students a sense of affiliation with their community (Smith, 2007) or 'sense of place' (Kudryavtsev, Stedman, & Krasny, 2012). The majority of observations for this study took place during the academic year. It is possible that conversations and activities that support this pedagogical approach are more prominent during summer courses that typically take place outside. While there are continued barriers within the U.S. public education system that make it difficult to engage in environmental and place-based education practices (Gruenewald, 2005), identifying strategies to bring community-relevant issues into the classroom during the academic year may reinforce values of citizenship and social awareness among students.

The richest information on the impact of the program on students came from the student interviews. These semi-structured conversations gave students the space to elaborate on components of the program that stuck with them and therefore, can give us a sense of which aspects may resonate across the cohort. Students discussed developing relationships with their peers through team-based activities and with their instructors through mentorship relationships. They also highlighted how the conversations they had about conflict management and interpersonal relationships gave them skills to de-escalate conflict within their family. Within the positive youth development framework, positive relationships among family, peers, and other adult mentors have been emphasized as a key ingredient for promoting adolescent thriving and well-being (Benson & Scales, 2009; Scales, Benson, Leffert, & Blyth, 2000). Others have found that students reported having stronger connections with mentors who shared interests and hobbies with them, and that a sense of warmth and approachability from a mentor can facilitate quick connections as they are getting to know one another (Futch Ehrlich, Deutsch, Fox, Johnson, & Varga, 2016). The observational assessments conducted here show that the demeanor of the program instructors, their responsiveness to youth ideas, and their tendency to treat students as peers likely contributed to positive relationships between youth and the instructors.

Students also commonly reflected on the opportunity to take part in unfamiliar outdoor physical activities as an important part of their experience in the program. O&U employs a 'challenge by choice' model where students can participate in incremental challenges that slowly push students out of their comfort zone while building self-confidence, teamwork and communication skills, and self-awareness. Others have found that wilderness-based adventure programs contribute to a number of youth developmental assets including self-control, assertiveness, and decision-making skills (Cason & Gillis, 1994; Hattie et al., 1997; Norton & Watt, 2014). In an assessment of an adventure-based program focused on urban youth, Norton (2014) found significant differences in the change in internal and external asset development by gender and ethnicity. In particular, they noted that male students experienced a larger improvement in internal assets over the course of the program. The results of the pre-survey presented here showed some significant differences in the self-assessment by gender and age, and follow up studies could assess gender-based perceptions of specific activities within the program.

One of the most challenging aspects of implementing the O&U program is that it is delivered as part of the public school curriculum. Faculty and staff at the partner schools had a good grasp of the overall purpose of the program and had positive views on the impact that participation in the program has had on life skills development for the students. Others have found that adolescents who participated in a life skills education program once a week for an hour during the academic year had significantly higher self-esteem, perceived adequate coping, and prosocial behavior (Srikala & Kishore Kumar, 2010). It was difficult to draw conclusions regarding the impact of program delivery on social relations within the schools. However, the frequency with which students mentioned managing emotions and interpersonal relationships as components of the program, supports the idea that the program is contributing positively to the development of these skills.

Low response rates among students in the program due to opting out of the study or low attendance rates during follow-up visits were a challenge throughout the study. In the early stages of the study, we

changed the consent procedure from requiring students to obtain a signed parental consent to requiring an opt-out signature from parents. This change increased response rates considerably.

While we were able to eliminate some observer bias by conducting all class observations with two research staff, the program fidelity results only represent a snapshot of the full program experience. Students who participated in the program had many more contact hours with their peers and instructors than we could feasibly observe. Additionally, while our observational assessment instrument included space for qualitative observations, the quantitative observational assessment results presented here may not fully represent dynamics between staff and students that are important for student learning.

While the student self-assessment surveys were helpful for assessing a baseline as students entered the program, we did not observe any significant changes in the self-assessment scores over the course of the study. This could be due to the short time between pre- and post-assessments. Future studies could build in a longer follow-up time in order to assess long-term changes in student's perceptions of their skill development.

Conclusion

Results from this study suggest that the experiential learning curriculum developed by the O&U program may have had a positive impact on development of youth internal and external assets, including social skills and personal empowerment, among non-traditional high school students. In particular, the emphasis on 'challenge by choice' and youth-led activities resonated with students in the program. Further work is needed to look at the long-term impact of participating in experiential learning programs on students as they continue through the education system and transition into the community.

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References

- Aspy, C. B., Oman, R. F., Vesely, S. K., McLeroy, K., Rodine, S., & Marshall, L. D. (2004). Adolescent violence: The protective effects of youth assets. *Journal of Counseling and Development, 82*(3), 268–276.
- Atkins, L. A., Oman, R. F., Vesely, S. K., Aspy, C. B., & McLeroy, K. (2002). Adolescent tobacco use: The protective effects of developmental assets. *American Journal of Health Promotion, 16*(4), 198–205.
- Benson, P. L., & Scales, P. C. (2009). The definition and preliminary measurement of thriving in adolescence. *The Journal of Positive Psychology, 4*(1), 85–104.
- Bettmann, J. E., Gillis, H. L., Speelman, E. A., Parry, K. J., & Case, J. M. (2016). A Meta-analysis of wilderness therapy outcomes for private pay clients. *Journal of Child and Family Studies, 25*(9), 2659–2673.
- Bowen, D. J., & Neill, J. T. (2013). A meta-analysis of adventure therapy outcomes and moderators. *The Open Psychology Journal, 6*(1), 28–53.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77–101.
- Breitenstein, S. M., Gross, D., Garvey, C. A., Hill, C., Fogg, L., & Resnick, B. (2010). Implementation fidelity in community-based interventions. *Research in Nursing & Health, 33*(2), 164–173.
- Cason, D., & Gillis, H. L. L. (1994). A meta-analysis of outdoor adventure programming with adolescents. *Journal of Experiential Education, 17*(1), 40–47.
- Chase, D. L. (2015). Does challenge by choice increase participation? *Journal of Experiential Education, 38*(2), 108–128.
- Combs, K. M., Hoag, M. J., Javorski, S., & Roberts, S. D. (2016). Adolescent self-assessment of an outdoor behavioral health program: Longitudinal outcomes and trajectories of change. *Journal of Child and Family Studies, 25*(11), 3322–3330.
- Darling-Hammond, L., Flook, L., Cook-Harvey, C., Barron, B., & Osher, D. (2020). Implications for educational practice of the science of learning and development. *Applied Developmental Science, 24*(2), 97–140.
- David, P. (2020). Weikart center for youth program quality. Retrieved March 10, 2020, from <http://www.cypq.org/downloadpqa>
- Dowd, R. S. (2012). *An adventure-based learning and development program for Alaska youth* (Doctoral Dissertation). Alaska Pacific University.
- Dubois, D. L., & Silverthorn, N. (2005). Natural mentoring relationships and adolescent health: Evidence from a national study. *American Journal of Public Health, 95*(3), 3.
- Futch Ehrlich, V. A., Deutsch, N. L., Fox, C. V., Johnson, H. E., & Varga, S. M. (2016). Leveraging relational assets for adolescent development: A qualitative investigation of youth-adult “connection” in positive youth development. *Qualitative Psychology, 3*(1), 59–78.
- Gass, M., Gillis, H., Russell, K., & G, H. (2020). *Adventure therapy: Theory, research, and practice* (2nd ed.). New York, NY: Routledge.
- Glasgow, R. E., Lichtenstein, E., & Marcus, A. C. (2003). Why don't we see more translation of health promotion research to practice? Rethinking the efficacy-to-effectiveness transition. *American Journal of Public Health, 93*(8), 1261–1267.
- Grout, J., Dewdney, A., & Rohnke, K. (1998). *Back pocket adventure*. Needham Heights, MA: Simon & Schuster.
- Gruenewald, D. A. (2005). Accountability and collaboration: Institutional barriers and strategic pathways for place-based education. *Ethics, Place and Environment, 8*(3), 261–283.
- Harper, N. J. (2017). Wilderness therapy, therapeutic camping and adventure education in child and youth care literature: A scoping review. *Children and Youth Services Review, 83*, 68–79.
- Harvey, M., Coulson, D., & McMaugh, A. (2016). Towards a theory of the ecology of reflection: Reflective practice for experiential learning in higher education. *Journal of University Teaching & Learning Practice, 13*(2), 2.
- Hattie, J., Marsh, H., Neill, J. T., & Richards, G. E. (1997). Adventure education and outward bound: Out-of-class experiences that make a lasting difference. *Review of Educational Research, 67*(1), 43–87.
- Hawkins, J. D., Catalano, R. F., & Miller, J. Y. (1992). Risk and protective factors for alcohol and other drug problems in adolescence and early adulthood: Implications for substance abuse prevention. *Psychological Bulletin, 112*(1), 64.
- Heinze, H. J., Jozefowicz, D. M. H., & Toro, P. A. (2010). Taking the youth perspective: Assessment of program characteristics that promote positive development in homeless and at-risk youth. *Children and Youth Services Review, 32*(10), 1365–1372.
- Jain, S., Buka, S. L., Subramanian, S. V., & Molnar, B. E. (2012). Protective factors for youth exposed to violence. *Youth Violence and Juvenile Justice, 10*(1), 107–129.
- Jones, J. N., & Deutsch, N. L. (2011). Relational strategies in after-school settings: How staff-youth relationships support positive development. *Youth & Society, 43*(4), 1381–1406.
- Kudryavtsev, A., Stedman, R. C., & Krasny, M. E. (2012). Sense of place in environmental education. *Environmental Education Research, 18*(2), 229–250.
- Larson, R. (2006). Positive youth development, willful adolescents, and mentoring. *Journal of Community Psychology, 34*(6), 677–689.
- Leffert, N., Benson, P. L., Scales, P. C., Sharma, A. R., Drake, D. R., & Blyth, D. A. (1998). Developmental assets: Measurement and prediction of risk behaviors among adolescents. *Applied Developmental Science, 2*(4), 209–230.
- MacQueen, K. M., McLellan, E., Kay, K., & Milstein, B. (1998). Codebook development for team-based qualitative analysis. *Field Methods, 10*(2), 31–36.

- Moon, J. A. (2004). *A handbook of reflective and experiential learning: Theory and practice*. London, UK: RoutledgeFalmer. Retrieved from <https://books.google.com/books?hl=en&id=vs5dJozQSdwC&oi=fnd&pg=PP9&dq=Moon,+Jennifer+A.+A+handbook+of+reflective+and+experiential+learning:+Theory+and+practice.+Psychology+Press,+2004.&ots=cNRFTkBT2&sig=FrYVv0UCEWeVXfr5QBzXkSUXD2!#v=onepage&q=Moon%2C>
- Moote Jr, G., & Wodarski, J. (1997). The acquisition of life skills through adventure-based activities and programs: A review of the literature. *Adolescence*, 32(125), 143.
- Norton, C. L., & Watt, T. T. (2014). Exploring the impact of a wilderness-based positive youth development program for urban youth. *Journal of Experiential Education*, 37(4), 335–350.
- Ribbe, R., Cyrus, R., & Langan, E. (2016). Exploring the impact of an outdoor orientation program on adaptation to college. *Journal of Experiential Education*, 39(4), 355–369.
- Richmond, D., Sibthorp, J., Gookin, J., Annarella, S., & Ferri, S. (2018). Complementing classroom learning through outdoor adventure education: Out-of-school-time experiences that make a difference. *Journal of Adventure Education and Outdoor Learning*, 18(1), 36–52.
- Scales, P. C., Benson, P. L., Leffert, N., & Blyth, D. A. (2000). Contribution of developmental assets to the prediction of thriving among adolescents. *Applied Developmental Science*, 4(1), 27–46.
- Scales, P. C., Benson, P. L., & Mannes, M. (2006). The contribution to adolescent well-being made by nonfamily adults: An examination of developmental assets as contexts and processes. *Journal of Community Psychology*, 34(4), 401–413.
- Search Institute. (2012). Current research on developmental assets. Retrieved February 10, 2020, from <https://www.search-institute.org/our-research/development-assets/current-research-developmental-assets/>
- Search Institute. (2015). Attitudes and behaviors survey. Retrieved February 10, 2020, from <https://www.search-institute.org/surveys/choosing-a-survey/ab/>
- Smith, G. A. (2007). Place-based education: Breaking through the constraining regularities of public school. *Environmental Education Research*, 13(2), 189–207.
- Soares, A. S., Pais-Ribeiro, J. L., & Silva, I. (2019). Developmental assets predictors of life satisfaction in adolescents. *Frontiers in Psychology*, 10, 236.
- Srikala, B., & Kishore Kumar, K. V. (2010). Empowering adolescents with life skills education in schools-School mental health program: Does it work. *Indian Journal of Psychiatry*, 52(4), 344–349.
- Tucker, A. R. (2009). Adventure-based group therapy to promote social skills in adolescents. *Social Work with Groups*, 32(4), 315–329.
- Valois, R. F., Zullig, K. J., Huebner, E. S., & Drane, W. (2009). Youth developmental assets and perceived life satisfaction: Is there a relationship? *Applied Research in Quality of Life*, 4(4), 315–331.