



How challenges and peers contribute to social-emotional learning in outdoor adventure education programs

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ABSTRACT

Introduction: Many youth development programs view adolescents' process of grappling with challenges as a major driver of social-emotional learning. Our goal was to understand these processes as experienced and enacted by youth. We focused on the program Outward Bound in the United States because its students experience significant physical and social challenges and it has well-developed staff practices for facilitating learning from challenges.

Methods: Group interviews were conducted with 32 youth (ages 14–18; 50% female), immediately following their completion of Outward Bound expedition courses. Students were asked to provide a detailed narrative account of an episode on course in which they learned from challenges. Grounded theory analyses identified three processes that contributed to learning.

Results: First, students, described developing skills for persistence through successfully enduring distress and a process of experimenting with new mindsets that helped them rise above their anxiety and distress. Second, we found that peers provided skillful and responsive on-the-spot support that motivated youth, helped them succeed, and scaffolded students' learning strategies for dealing with physical, social, and emotional challenges. Third, we found that this peer support and scaffolding was animated by a culture of compassion and mutual commitment, which was cultivated by staff and embraced by youth.

Conclusions: These findings from Outward Bound illuminate a learning model that may be useful to other youth programs. This model combines intense challenges with attuned peer support for adolescents' active processes of addressing and learning from challenges. We highlight program structures and staff practices that support these processes.

In many youth development programs, grappling with challenges is viewed as a central component of youth's social and emotional learning process (Halpern, 2009; Smith, McGovern, Larson, Hillaker, & Peck, 2016). Programs are designed to engage and empower youth in activities that require solving open-ended problems, conducting projects, and achieving difficult goals. Research on positive youth development (PYD) suggests that important social-emotional learning occurs through youth's active processes of struggling with challenges, problem solving, and reflective experiential learning (Larson, 2011; Moore & Hansen, 2012). However, relatively little empirical knowledge exists on what the specific processes are. How do adolescents experience this struggle with challenges and how does it lead to learning?

Outdoor adventure education (OAE) programs, such as Outward Bound (OB), provide a good context to understand these processes. Research consistently shows OAEs are effective in supporting diverse forms of social-emotional learning, including

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competencies for independence and self-understanding, interpersonal skills, perseverance, leadership, self-confidence, and responsible decision-making (Hattie, Marsh, Neill, & Richards, 1997; Jostad, Paisley, & Gookin, 2012; Sibthorp, Paisley, & Gookin, 2007). The learning model for these programs emphasizes challenges, especially physical challenges, as a central driver of learning (Crane et al., 2008; Priest & Gass, 2018). The programs take youth to unfamiliar wilderness environments and engage them in novel and demanding activities including backpacking, canoeing, and rock climbing. The interpersonal challenges youth face in working together are also recognized as opportunities for social-emotional learning. Understanding how youth's grappling with challenges leads to learning can be valuable both to knowledge of adolescent development and to advancing design and staff practices in youth development programs.

To better understand how learning occurs through challenges, we believe it is important to understand youth's subjective experiences in context – as they confront and struggle with difficult and multi-part challenges (e.g., physical strain, emotions, interpersonal issues). Research and theory on positive youth development suggests that the most powerful learning processes may be those in which youth are active and deliberate agents of their development, both as individuals and in collaboration with others (Larson, 2000; Lerner, Theokas, & Jellic, 2005).

In this study, we obtained narrative accounts from OB youth in the United States about a recent learning episode during the program. They were asked to describe the challenges they faced, how they responded to them, what they learned, and the process through which this learning occurred. Our initial analyses of these accounts provided valuable findings on youth's personal experiences and active processes of learning and change from challenges. As we analyzed the data further, peer processes emerged as playing a key role in many of youth's learning experiences, so we decided to include peers as a central focus of our analysis.

1. Literature review

1.1. Outward Bound

Since OB's beginning in Great Britain in 1941, OB organizations have been formed around the world. The literature we cite comes mainly from the United States but includes some studies from Canada, Singapore, Australia, and New Zealand. OB programs have extensive, experience-tested practices aimed at supporting participants' development of social responsibility, character, and leadership. In OB and similar OAE programs, instructors are well-trained in these practices. In United States OB courses, two to three instructors accompany about seven to 15 “students” on expeditions into the wilderness for periods ranging from one week to two months. Courses are adapted to the age and other characteristics of the students. The well-developed learning model and practices of OB programs makes OB a valuable context for studying youth's active processes of learning through challenges (Walsh & Golins, 1976). In addition to physical and interpersonal challenges, this learning model includes supportive roles played by instructors and the formation of a strong collaborative peer group, among other elements.

1.2. The role of challenges in learning in OB and other adventure programs

The United States OB instructor manual states that learning through challenges is induced through “using unfamiliar settings to impel students into mentally, emotionally and physically demanding experiences” (Crane et al., 2008, p. 1.8). Challenges are structured into students' everyday activities as they encounter novel experiences such as sleeping and eating outside, carrying everything they need, and covering multiple miles daily on foot or by boat. The natural environment – which is ecologically complex, unexpected, and often non-negotiable – enhances these challenges (Kellert, 2005). The OB manual stresses that students experience “real challenges” in which their actions lead to natural consequences, and “success is not guaranteed and failure is possible” (Crane et al., 2008, p. 1.9). Instructors structure course challenges so they present a set of incremental problem-solving tasks that are outside students' “comfort zone” but ultimately manageable and within reach (Priest & Gass, 2018; Walsh & Golins, 1976).

The OB instructor manual states that learning occurs through active processes “when students confront challenges, tackle intimidating problems, and stretch themselves both physically and emotionally” (Crane et al., 2008, p. 1.8). Experiential learning theory postulates that challenging experiences like this can be transformed into learning through a person's conscious cycle of experiencing, thinking, acting and reflecting (Kolb, 1984). In studies of OB and other OAE programs, youth report that experiencing challenges is an important program component that contributes to their learning (D'Amato & Krasny, 2011; Martin & Leberman, 2005; McKenzie, 2003). But further research is needed to examine youth's active learning processes in context, in response to specific challenge situations.

An important question is what motivates youth in these active processes of confronting, tackling and stretching? Some OAE theorists suggest that challenges induce a state of “dissonance” in students that compels them to act to overcome the challenges (Hopkins & Putnam, 1993; Priest & Gass, 2018; Walsh & Golins, 1976). Similar to Piaget, they posit that dissonance naturally elicits adaptive learning. Walsh and Golins (1976) go further and suggest: “It is the presence of anxiety that impels a learner in the OB process to tackle the tasks posed” (p. 10). But is the internal experience of dissonance or anxiety a sufficient motivator for the challenges of a wilderness environment? Do they necessarily lead to learning? Dissonant situations in the wilderness might as easily lead to a fight, flight, or freeze response. Indeed, research shows that the challenges experienced in different types of youth programs (technology, leadership, and OB programs) can be so overwhelming they create a spiral of intense anxiety that disrupts motivation and learning (Larson, Orson, & McGovern, 2018; McKenzie, 2003; Orson & Larson, in press). In addition, might there be other sources of motivation and processes that help youth persist and learn through stressful, challenging experiences in OB course?

1.3. Instructors' roles in supporting youth's learning

Instructors play numerous roles in supporting youth's learning: planning course elements that progress in difficulty; cultivating a learning climate; coaching students; adjusting activities to fit the group's and individual students' abilities; and facilitating reflection as students experience and grapple with challenges (Crane et al., 2008; Povilaitis et al., 2019). Instructors also play critical roles in cultivating cohesion, a sense of belonging, and positive norms within the group (Jostad, Sibthorp, Butner, & Rochelle, 2019; Mirkin & Middleton, 2014).

At the same time, there are limits on how much instructors can and are expected to directly facilitate students' learning from challenges. With seven to 15 students, they cannot be present and attentive to the experience of each youth at all times. More importantly, as an OB course proceeds, instructors are expected to supervise a “structured transfer of responsibility” to youth, including responsibility for daily activities and dealing with challenges. By the end: “Ideally, the instructors will be silent observers, intervening only when safety and course quality are threatened” (Crane et al., 2008, p. 4.11). This stepping back to support youth's agency is common across PYD programs (Larson, Izenstark, Rodriguez, & Perry, 2016).

1.4. The role of peers in supporting youth's learning

Social-cultural theory recognizes that transactions between peers can be a valuable arena of development (Rogoff, 2003; Vygotsky, 1978), and peer transactions are viewed as a central component of the OB learning model. OB activities are structured so that learning occurs both through individual and group processes (Crane et al., 2008, p. 1.12).

In studies of OAE programs, interviewed youth report that peers are an important contributor to their learning (McKenzie, 2003; Richmond, Sibthorp, Gookin, Annarella, & Ferri, 2017). The salience of peers is suggested by Martin and Leberman's (2005) finding that twice as many students identified peers (as compared to instructors) as a key factor in their personal growth through OB. This may be because instructors are progressively stepping back; also because peers are well-positioned to give support since they often face challenges together. Deane and Harré (2013) suggest that peers in OAE programs facilitate learning by providing support that helps students accomplish a challenging task. Educational research indicates that peer processes can be powerful for learning (Johnson & Johnson, 2009).

In OAE programs, peer-to-peer learning also occurs through group-level processes. Instructors are expected to cultivate a positive and inclusive group culture, and studies document that this group culture contributes to learning (Collins, Sibthorp, Gookin, & Schumann, 2012; Mirkin & Middleton, 2014). However, few studies of youth have examined how it contributes to students' processes of learning through challenges. Evidence for the importance of group-level processes was provided by an OAE interview study in which students reported that the “tight-knit supportive community” helped them address challenges and facilitated social-emotional learning (D'Amato & Krasny, 2011). Richmond et al. (2017) found that trust within the group helped youth take personal risks, work together, and make decisions. The broader educational research on peer learning also indicates that peer contributions to learning is not limited to acts of peer-peer support but can involve constructive group processes (Johnson & Johnson, 2009). More research is needed to understand how peer-peer and group processes in OB courses facilitate social-emotional learning.

1.5. This study

Our goal for this research was to examine youth's accounts of learning through challenges on OB courses, including the role of peers in supporting these processes. To achieve this, we designed the interview to obtain a full narrative of an episode in which a specific challenge led to learning. Our questions were:

Research question 1. How do youth experience challenges and how do they transform this experience into learning?

Research question 2. What is the role of peer-to-peer support in youth's learning from challenges? How do ongoing group-level processes contribute?

Although we recognize that instructors play multiple roles in youth's learning from challenges, we decided not to make their role a central focus for several reasons. First, space was limited, and youth's accounts of instructors' roles were not as rich as for peers and they mainly covered what has already been discussed in the OAE literature. Second, the role of peers in helping youth learn from challenges has received little attention, especially in the wider literature on positive youth development programs (Fredricks & Simpkins, 2013). We do, however, give attention to the role of instructors in facilitating peer support and discuss implications for practice in the discussion section.

2. Methods

2.1. Sample

A total of 32 students from the Philadelphia Outward Bound School (POBS) participated in six group interviews. Each group contained five to six students. Students came from seven public schools, one charter school, and one private school. Participants were 50% female, with an age range of 14–18 ($M = 15.2$, $SD = 1.3$). The sample was 59% European American, 19% mixed race/ethnicity, 13% African American, 6% Latinx, and 3% Chinese. Twenty-five of the 32 students had not been on an Outward Bound course before. Most students (66%) had chosen to go on the course. Of the students who did not choose to go (34%), half reported that their parents had “signed me up” and the rest went as part of a school trip.

2.2. Procedures

Students were recruited from participants in 16 POBS expedition courses ranging from five to 14 days in length during the summer of 2017. Prior to the course, parents and all youth attending the courses received an information letter about the study. Following our approved IRB procedures, parents who did not want their child to participate could sign a form to opt them out of the study. No parents did.

The group interview method was chosen to increase youth's comfort in sharing a personal experience (Vaughn & Sinagub, 1996). On three separate days, POBS staff selected participants from among youth whose courses ended that day. Group interviews were conducted at the POBS office before students went home. Staff were instructed to select a sample of students who: were at least 14 years old, were interested in participating and were willing to be audio-recorded. Groups were assigned to include no more than two youth from the same course.

The first two authors each led three group interviews. After selected youth were assembled, interviewers again emphasized that participation was voluntary, explained the confidentiality procedures, answered students' questions, and collected students' assent/consent forms. Youth were asked to agree to keep private everything that was said in the group interview. Once a student agreed to participate, they chose a pseudonym and completed a brief questionnaire. The group interviews took approximately 60–75 min. Audiotapes of interviews were transcribed verbatim and checked for accuracy and completeness.

2.3. Measures

Questionnaires. The questionnaire included five items that obtained age, gender, race/ethnicity, reason for going on the POBS course (“I chose to come,” “Part of a school course,” “My parents signed me up,” “My teacher signed me up”) and their prior Outward Bound experience (yes/no).

Group interview questions. The interview protocol contained semi-structured, open-ended questions. After two warm up questions, students were each asked to choose an instance in which they had learned through a challenge on the course, then to tell the “story” of their experience. Each youth had a card that indicated things we wanted them to include in their account: (1) What was the challenging situation? (2) How did you respond to the challenge? (3) What did you learn about yourself or how were you changed? The cards provided space for them to jot down notes. Youth each took a turn describing the narrative of their experience. The researcher prompted each youth, as needed, to cover each question. For questions two and three, interviewers also asked follow-up questions on how peers and instructors helped them with the challenge or learning. We were intentional in designing the interview protocol to get a full narrative of challenge that successfully led to learning.

After all youth had shared their challenge-learning narrative, they were asked to describe how OB's structured reflection activities supported their learning from the difficult challenge in their narrative. For the four group interviews with the last 20 youth, the interviewer closed with the additional question, “How will you approach things differently because of what you learned on course – at school, at home?”

2.4. Data analysis

The goal of the analyses was to understand OB youth's experiences of learning through challenges. Coding and analysis occurred in iterative stages, following constructivist grounded theory methods (Charmaz, 2014). The two interviewers conducted the analyses. They independently coded students' responses, met to discuss their coding, discussed discrepancies, and came to a consensus (Hill et al., 2005). Through successive rounds of initial and focused coding, they sharpened codes through constant comparison (Charmaz, 2014; Glaser & Strauss, 1967). The senior investigator provided periodic feedback on emerging codes and served as an auditor for the analysis (Hill et al., 2005). In developing codes and operational definitions, we paid close attention to students' use of language. When helpful, we also drew on sensitizing concepts from pertinent literatures (e.g., group development, intergroup dynamics, resilience) to conceptualize the content and processes identified by our codes (Charmaz, 2014).

How experiences of challenge led to learning. We began by examining each youth's challenge-learning narratives. Thirty of 32 youth provided a narrative (two youth could not think of an example where a challenge led to learning). Our analyses first focused on describing the challenges the 30 students reported and how they experienced these challenges. Second, we examined youth's descriptions of how the learning happened to understand their learning processes. These analyses focused on youth's first-person accounts in response to the prompts: they described events from their point of view including what they experienced, thought and felt; what actions they took; and their own mental processes of making sense of a situation and constructing learning from their experiences.

The role of peers in facilitating students' learning from challenge. The interviews included follow-up questions about the role of both peers and instructors in supporting youth's response to the challenge and their learning. As already mentioned, in initial analyses we found that youth provided much richer accounts of peers' role. For this and reasons mentioned, we decided to focus these analyses on peers' role.

Our analysis of data on peers identified two ways in which peers facilitated youth's learning: *peer support* and a *positive group culture*. The first involved direct assistance during the challenge experience. The second involved ongoing dynamics and ways of thinking and acting – shared across people on course – that youth said contributed to their receiving direct peer support. Some of the data for the second category came from students' responses to interview questions about the role of instructors and structured reflection activities in their learning. Within each of the two categories we identified several sub-categories that represent component

processes. These are described in the Results section. Several of these sub-categories identified significant roles that instructors played in cultivating the positive group culture.

3. Results

Our analyses of students' learning through OB challenges yielded three major findings. First, we identified a set of active processes through which youth learn by struggling with challenges. Second, we found that youth's learning was facilitated by on-the-spot assistance with instrumental challenges and with managing the intense emotions created by those challenges. Third, we discovered that a positive group culture – cultivated by instructors and co-created by peers – played a vital role in supporting peer assistance and youth's learning through challenge.

3.1. Youth learned through struggling with challenges

Our analyses of youth's narratives illuminated how their active processes of engaging with specific challenges on course led to their learning. We first describe these challenges and then youth's learning processes.

The challenges. Youth reported a wide variety of difficult challenges in their narratives. These included physical challenges such as navigating for the group, climbing rock faces, and slogging through “48 h of solid rain.” Students also described social challenges, though less frequently. These included group disagreements, dealing with a difficult peer, and trying to help a peer “on the verge of crying.” Physical and social challenges sometimes overlapped, for example, when a youth was leading a group hike.

An important finding was that many students experienced intense emotions caused by challenges that were beyond the limits of their physical or mental capabilities. Youth were in unfamiliar high-stakes situations where they had to deal with physical pain, uncertainty, and difficult decisions. Being in these situations often led to frustration, anxiety, and feeling overwhelmed. Youth described thinking: “this is too hard,” “I can't do this,” and “I was scared.” Some recalled wanting to quit. Ryan recounted, “My feet hurt so bad. I hurt my ankle the beginning of the second day and that was really hard. I thought to myself that Outward Bound was torture... I felt sad and angry.”

Pain or strong emotions threatened students' motivation to keep going. The experience of intense distress, such as Ryan's, was often the central challenge. Similarly, although social challenges did not create physical pain, they often activated intense feelings of frustration, anger, anxiety, self-doubt, and helplessness, which became emotional obstacles to moving forward.

How experiencing challenges led to learning processes. We carefully examined youth's accounts of how they learned from these challenges. Although each youth's narrative was unique, for nearly all, learning came from an active process of grappling with difficult challenges, including pain and emotional obstacles. Successfully overcoming these challenges led youth to have reflective insights, discoveries, and realizations about themselves and their capabilities. Within this general finding, we identified three processes that applied across multiple youth. We use examples to help describe each.

Building perseverance. Prior research indicates that participants learn to persevere through adversity from OAE programs (Jostad et al., 2012). Our findings suggest how this learning occurs through specific experiences. Youth reported that episodes of successfully enduring pain and distress drove the learning process. Ryan described how he learned perseverance by successfully pushing through the “torture” of his long hike:

I learned that after my breaking point – where I just wanted to give up and sit down and cry myself to sleep from walking – that I can do a lot more than I thought; and I shouldn't give up this early.

Ryan had hiked through his distress, practicing putting one foot in front of another even when giving up seemed easier. Through this experience he discovered that, contrary to what he had believed, pain was not his breaking point. He learned he could do “a lot more than I thought.” Ryan's toughing it out was an important lesson in perseverance.

Many youth described similar learning processes. Jeckilio had the experience of swimming in a river that was so cold “it shocked your body.” After pushing himself to swim despite the cold, he reported, “I've learned that if you really want to do something or really have to do something, you can actually do it even though you're in bad conditions.” Youth's motivational learning included developing dispositions for perseverance through challenges and emotional obstacles: “not giving up” and “the mentality and will power to keep going.” Youth built a sense of self-efficacy from these experiences; they learned self-management skills for enduring challenges they never imagined they could.

Constructing and learning to use a positive mindset. Other youth recounted an active process of developing deliberate mindsets to help them control the pain, distress, and self-doubt that comes with challenges. These mindsets included thinking positively and “approach[ing] every situation and occurrence with a positive mental attitude.” Maisie described how during a gruelling hike: “I realized a lot of my problems and self-doubt – even related to physical challenges – can be solved in my brain. A lot of problems are very mental, it's all about your mindset.” Maisie's learning partly came through experimenting. During the hike she tried taking a positive outlook and not focusing on the pain, and things seemed better: “I was like, ‘I feel great. I'm super happy. It's beautiful. I don't feel that bad.’” Then she experimented further:

I was really curious, because I was feeling really fine. I was like, “Okay, what if I start thinking really negatively?” What if I was like, “This is awful and hot. I'm sweaty. I'm tired.” And instantly, my legs honestly felt weaker.

Richmond et al. (2017) observed that some OAE youth used a positive mindset during challenging situations; our findings show how youth actively developed this mindset to manage negative emotions. Through a deliberate process of trial, error, and reflection,

Maisie and others experimented and learned to use a positive mindset to persevere through distress and self-doubt.

These youth reported learning to take on challenges with “an open mind,” discovering that “if I actually put my mind to some stuff, I could achieve it,” and learning: “There’s always a way up. There’s always a way out.” Youth practiced and developed skills to use a positive mindset to help them stay motivated and manage stress from physical and emotional challenges.

Learning through solving social challenges. Through successfully solving difficult interpersonal and social challenges, students gained strategies for addressing similar problems in the future. Chuck reported learning nuanced communication skills as he grappled with the responsibility of serving as the day’s leader and navigator for the group. He was responsible for guiding the group to the next campsite on time. Toward the end, he led his peers up what he thought was a small hill, but it “kept going up and up... it’s actually a mountain.” Further, everyone was “starting to get really tired and sore” and “really, really negative.” These social challenges presented a set of leadership problems that Chuck had to solve. He tried different strategies and developed a delicate balancing act: “I learned to push people, but not in a mean way. Not really tough, to be more encouraging when people are down.” Put in a position where he had to solve interpersonal problems, Chuck practiced responsible decision-making and developed new communication strategies.

Other youth recounted processes of learning through interpersonal problem-solving. Sennet’s group faced the social challenge of cliques among students, which impaired group decision-making. She came to see that she was contributing to the problem, because she was uncomfortable meeting new people. After a group meeting where they discussed the issue, Sennet decided, “I would take it upon myself to go and talk to the other people... because even if I don’t realize I’m [contributing to the problem], I am doing it subconsciously.” Partly through her initiative, the group changed, “so that everyone spent equal time with everyone.” Sennet reported gaining a new level of social awareness and relationship skills.

Through similar problem-solving, other youth reported learning strategies to communicate effectively: to “know how you’re coming across,” manage strong emotions during conflicts, and “try to be patient with people.” Solving interpersonal problems presented youth with opportunities to practice using communication skills, and their successes led them to recognize their capacity for successful interpersonal communication, furthering their development of social awareness and relationship skills.

Responding to challenges with active learning processes. In sum, consistent with the OB model, students described the challenges they experienced as central drivers of social-emotional learning. The learning youth described was closely related to the challenges they had struggled with and overcome. These analyses suggested specific youth processes. By successfully persevering through the challenge of intense pain and distress, they developed dispositions and self-knowledge that increased their ability to persevere. They gained self-management skills by experimenting and recognizing how a negative attitude amplified their distress, which helped them learn how to deliberately adapt an open, positive, more optimistic mindset. Through solving difficult interpersonal problems youth gained experience in analyzing social situations and developed communication skills for dealing with social challenges.

An important general finding was that intense emotions on their own did not impel students to overcome the challenge. Rather, it appeared that working through these emotions – or working through challenges despite emotional impediments – was part of the learning process.

The findings also showed many ways in which youth were active learners. They analyzed challenging situations (including causes of their emotions) and experimented with solutions. In the process of overcoming challenges, they intentionally built up their capacity for working through pain and distress, developed new mindsets for sustaining their motivation, and constructed new problem-solving strategies. They also tried out and learned interpersonal problem-solving skills. Through these processes, youth developed social-emotional skills and increased self-efficacy, closely matching outcomes found in other studies of OAE programs (McKenzie, 2003; Sibthorp, Furman, Paisley, Gookin, & Schumann, 2011).

Although it may appear from these findings that youth’s active learning processes were always solitary, they were not. For example, peers’ support helped Ryan hike through the pain and discover it was not his breaking point. And peers provided Chuck feedback on approaches he tried that helped him learn effective social strategies.

3.2. Peers’ support helped students overcome challenges and learn

When asked about the role of peers in their learning process, two thirds of students described how peers had provided critical support in overcoming their challenge and helping them learn. Peer support was provided in the moment and either contributed directly to their learning or helped them succeed in the difficult activity, which indirectly contributed to learning. Support was provided in ways that helped youth get through a situation in which they were overwhelmed and their motivation was flagging. It was fitted to a pressing situational need and often served to help youth see a way forward and regain their agency and control as active learners. This finding contributes to evidence on the positive role that peers can play in adolescents’ development (e.g., Johnson & Johnson, 2009; Topping, 2005).

We identified two broad types of peer assistance (sometimes interwoven): instrumental support that helped a youth address an objective problem and emotional support that addressed a youth’s emotional obstacles.

Instrumental support. The first type of peer assistance was problem-focused: It helped a youth with a difficult problem or challenge in a program activity, or occasionally, with an interpersonal situation. For example, peers gave advice or lent a hand to help them regain control over a physical challenge. Amy described obtaining critical instrumental support when she was struggling on a long day’s hike:

I really felt the weight of the backpack just sitting on my hips and on my back. All I could focus on was the pain. And so, others

helped me. They gave suggestions on how to readjust the backpack, and they helped me distract myself.

This assistance from peers helped Amy redistribute the 40 pounds in her backpack to reduce the pain. As a result, she was able to finish the hike and learned how to “ask for help when I need it.”

Several students described invaluable peer support in moments of fear during rock climbing. Sophia said her peers were critical to her being able to keep climbing and learn from overcoming the challenge: “They were showing me... I can keep pushing through and find another strategy.” She said that with this peer support: “I felt much stronger mentally.” Similarly, Zack had been perched on a perilous rock face and wanted to give up:

My friends were like, “No you're not coming down. You got this. Put your foot there.” So, I put my foot up. Then I'm trying to get onto [a ledge], but I can't. There's nothing to grab onto. My friend was like, “Reach behind that rock.” I reached behind the rock and pulled myself up.

This peer support literally helped Zack see a way forward through his challenge.

We found that instrumental support from peers repeatedly helped students who were stuck or struggling to regain their motivation and overcome the challenge. Often it appeared to help with a challenge that was unsurmountable for a single youth. This instrumental support helped students discover new capabilities in themselves for perseverance or for learning to solve problems as a team. It helped youth see they were capable of things they did not know they could do. In a few cases, peers provided instrumental help with solving an interpersonal problem, like a conflict or a leadership challenge. Youth credited this help with facilitating their learning relationship skills and confidence in these skills.

Emotional support. The second type of peer assistance was emotion-focused. As described before, physical and social challenges often pushed youth to the limits of their abilities, activating strong emotions that threatened their motivation to keep going. Youth described receiving peer support that helped them overcome these emotional-motivational obstacles. Peers' encouragements, advice, and modeling helped them through two types of situations.

The first were situations in which intense anxiety or distress obstructed a youth's ability to address a challenge. In many of these cases, peers *provided encouragements* that helped fortify youth against distress and self-doubt. They described receiving critical verbal boosts from peers that quieted emotions and helped them move forward. These included: “saying I could do it,” “telling me to keep going, I'm almost there,” “keep striving,” and “don't give up.” In what felt like an impossible section of a rock climb, Rock remembered the feeling of hearing her peers' encouraging shouts overpowering her fear and self-doubt: “It was really great to have those people cheering you on... That helped me learn that I really can do it. Even if I'm telling myself I can't, I actually can.” Hearing these messages from peers helped youth believe in themselves and learn to push through distress to reengage with the challenge.

In situations of distress, peers also helped youth practice and learn strategies for *distracting themselves* from the emotions. In Amy's case, peers not only helped her adjust her backpack, they talked with her about her pain and then helped her forget it by discussing favorite TV shows. For some, this deliberate distraction involved singing or playing games while hiking or canoeing. Royalty described how singing as a group while canoeing not only distracted them from rain and frustration, it helped motivate them to catch up with other canoes. Students learned from peers to use these distraction strategies to quiet distress and sustain their motivation.

The second category of situations in which peers provided critical emotional support involved youth anger. Anger is an emotion accompanied by high arousal and a felt desire to act on or express one's displeasure (Strickland, 2001). In these cases, peers provided youth with helpful strategies for *redirecting and deescalating intense feelings of anger*. Simone was angry because the instructor had asked her and several youth to set up the tents so they could get dinner started. But the others just sat there while she worked. Simone's friend, Julia, helped her deal with her anger: “She would tell me to just ignore them being ignorant.” So, Simone set up the tents on her own and said, “I learned to not worry about anybody else, just do what I have to do.” She learned to direct her thoughts to the task at hand and away from her felt anger, a frequently recommended strategy for anger management (American Psychological Association, n.d.).

In another example, a friend helped Kevin to transform his frustration and anger into positive thinking. After three days of 10-mile-plus hikes in the rain, this friend counseled Kevin: “You gotta keep a positive mind to keep going. The less you complain, the better you'll feel.” Kevin tried out this mindset and it worked – the anger subsided, and his motivation increased. As a result: “I learned that when you face a challenge, you can't complain because complaining does nothing... You just got to drive through it and work on trying to make it fun.” This advice from peers helped students learn to control their mindset to check strong emotions and stay motivated.

Other strategies for redirecting and deescalating included stepping away from the situation and deep breathing. Lae'la described the support she received from a friend for releasing her negative feelings. Her friend could tell when Lae'la was getting aggravated by someone and wanted to yell at them, “She [her friend] will know when I make this face [makes angry face]. She'll be like, ‘Let's take a walk.’ and I'll take a walk with her and I'll breathe. I'll just be like, ‘Woosah.’” Lae'la learned to step away from the distressing situation and let go of anger by breathing and taking a wider perspective. As with other students who reported learning these strategies, peers effectively provided timely emotional support, helping them practice self-management skills that prevented distressed students from acting on intense feelings.

The important contribution of peer support. In the first findings section, we describe how – consistent with the OB learning model – youth experienced challenges as central drivers of their learning. In this section we have shown that peers often played a critical role in supporting this learning process. Youth's participation as active agents in their own development was often a collaborative process. Peers provided help solving challenges and overcoming emotional obstacles the challenges created. They provided a wide range of supports: help with relieving pain from a heavy backpack, key information revealing a way forward through a difficult

challenge, encouragements that fortified youth in moments of self-doubt, and advice on ways to control anger. For many youth, the support they received from their peers helped spark their motivation, allowing them to reengage and successfully overcome the challenge; and this success led them to realize newfound capabilities in themselves.

Our findings indicate that peers can be highly effective in supporting and scaffolding the learning of self-management and interpersonal skills that are major objectives of the OB learning model. Peers appeared to be closely attuned to each other's needs and emotions. They were able to respond with sensitive on-the-spot assistance during intense, complex, and urgent situations. Peers' instrumental and emotional support during moments of challenge helped youth develop strategies for dealing with powerful emotions and recognize their ability to persevere through physical and social challenges.

3.3. Youth embraced a culture of compassion and commitment

Our third set of findings illuminates the structures and processes cultivated within OB programs that facilitate this powerful peer support. In our analyses of youth's challenge-learning narratives, it became apparent that individual acts of peer support did not occur in a vacuum. They were embedded in robust relationships formed among youth on a course, including a strong sense of being a group and a culture that structured and animated these relationships. Consistent with prior research (Jostad et al., 2019; Sutherland & Stroot, 2010), youth reported that instructors had initiated and cultivated this positive culture, and youth embraced it.

To fully understand youth's learning processes in the context of intense challenges, we found it essential to include the role of the group culture as a catalyst for effective peer support and youth learning. In this section, we first report general findings on this group bond and culture, then describe the development and dynamics of two central elements of the culture, and lastly discuss how the culture was sustained and how it contributed to learning.

A positive group and group culture. Nearly all youth provided descriptions of being part of a positive group and culture. They reported being invested in the group: “including everyone” and “everybody was helping each other.” Their relationships were close: people in the program had become “like family,” “became real friends,” “connected on a whole ‘nother level,” and “got really close.” They often used “we” to describe the youth on their course.

A culture consists of ways of thinking, relating, and acting that are shared among members of a group (Blyth, Olson, & Walker, 2017). Youth across different trips reported identifying with a shared set of positive norms and values, including “being selfless,” “act towards each other in a cooperative way,” and “saying positive stuff and having positive attitudes.” Ace said of his group: “If someone didn't want their food at snack and lunch, they would give it to the person who was really struggling, needed all the energy they could get.”

This cohesive peer culture has been described in prior studies of OAE programs (e.g., Sutherland & Stroot, 2010), but we felt our youth's accounts described new dimensions of its significance to students' daily program experiences and learning from challenges. Our analyses identified compassion and commitment as two central elements of this shared culture that appeared to be particularly important to youth providing support to each other.

How norms for compassion contributed to sensitivity and responsiveness. As youth invested in the group, they became more sensitive and responsive to others' feelings, needs and well-being. Youth embraced compassion as a way of relating to each other. They reported a high level of mutual care and empathy as a norm: “our group became more compassionate each day for each other,” “we care for each other,” and “[everybody was] making sure everyone's safe.”

This mutual compassion often began during instructor-created ice-breaker games and structured reflection activities that helped youth gain comfort with opening up, sharing personal experience, and being vulnerable. Youth described how these games helped them “get everyone used to everyone else,” “connect with other people,” and feel “it was okay to be weird because we were together.” Over time, this openness and comfort allowed for meaningful sharing during activities: “we would have these deep moments together...[sharing] really the deep truth.”

In instructor-initiated structured reflection activities, youth learned to listen and empathize with each other. They reported recognizing their peers' uniqueness and complexity: “people have so much more than they're telling or showing you, inside of them.” Youth's compassion grew when they empathized and understood their peers could be “going through something” and “living an intricate life.” Patricia described how hearing a difficult peer share a life-changing experience altered her feelings toward them: “I began to see that person as more relatable, more human, more like they just had flaws... My compassion has expanded.” Reflective activities provided collective experiences of sharing personal stories and feelings, which cultivated compassion and deeper relationships.

As youth got to know each other and practiced compassion they became more able and willing to provide sensitive, responsive peer support during times of intense physical, emotional, and social challenges. Woodchip explained, “When we know more about each other, we can help each other more.” Ace echoed this: “If we knew they were struggling through something, we'd have an idea why or how they're struggling... so we'd know how to help them... knowing what to say to them, like really making them feel better.” Deep relationships and greater understanding of each other's stories helped youth more effectively support distressed group members. It also helped them accept their support. For Rock, knowing her peers understood and cared about her gave meaning to their cheers of encouragement and helped her keep going in a tough climb. She said, “It really helped that we were comfortable around each other, and we cared enough about each other already to cheer people on.” In sum, norms of compassion helped youth learn to be more attentive and responsive to others' feelings, needs, and well-being during challenges.

How norms for commitment led youth to act. The cultural values motivating peer support went beyond compassion, they included mutual commitment. Youth described a shared culture in which they took ownership of obligations to the group. They became committed to “we.” Whereas compassion was about thinking, feeling, and empathizing, commitment involved internalized

norms about acting. Being part of the group entailed responsibility to do one's part, including being proactive: "We were there for each other and we got each other's backs."

Youth reported that this shared commitment started to emerge early in the trip as instructors rotated youth through camp jobs (e.g., cook, tarp tie-up, fire starter). After the first round of assignments, youth trained each other in the skills for each job and then depended on each other to accomplish these tasks. They learned they could trust that their peers to help them when they needed it. This mutual reliance was further reinforced, later in the course as additional responsibilities were transferred to youth. Maggie reported: "All the responsibilities got handed over to us. It proved to ourselves that... everyone knew what to do and were just going and doing it." Patricia described how the group spontaneously supported one girl who was injured. Everyone was exhausted, cold, and wet from constant rain, but the rest of the group immediately volunteered to take weight from her bag: "Everyone was just pitching in and helping her out and making her experience and situation a lot less difficult." Woodchip described his group's social contract: "If one person's left behind, that's bad for the whole group, so we can't let that happen. We're sort of like family. You can't let one of your family members lay there."

The establishment and strengthening of these norms of compassion and commitment appeared to be a cyclical process energized by acts of peer support. Sophia reported that after she received support that helped her overcome her rock-climbing anxiety, she saw how she was part of an interdependent group. "It really helped me realize that people... are there trying to encourage me, and I could do the same [for them]." Sophia came to trust that she could rely on her peers and became more committed to a culture in which people encouraged whoever needed it. As youth provided emotional and instrumental support to peers struggling with challenges, the culture of compassion and commitment to the group was reinforced.

Instructors facilitated conflict resolution. Of course, conflicts emerged. But youth often described these as opportunities to reinforce their compassion and commitment to each other. The OB manual recognizes that students may bring dispositions toward conflict and anger into the program; cliques easily form; and the harsh conditions on course (e.g., living in close proximity, rain, physical exertion) can contribute to frustration, clashes, and disruption of the positive culture (Crane et al., 2008). In these situations, youth reported that instructors provided space and direction for groups to address conflict. They introduced conflict resolution tools and communication strategies, which youth used to repair negative group dynamics and restore the positive group culture. As students became more skilled at facilitating these conversations on their own, instructors "would just provide guidance for us to figure it out and then they left us to manage that and work through problems that we encountered and bond closer." These strategies for repairing conflict became part of the culture.

How a shared positive culture supports learning. These norms appeared to mobilize youth to provide empathic and reliable support for peers facing difficult challenges. This support, the findings suggest, helped the receiving youth learn through succeeding in overcoming challenges. The findings suggest that sensitive and abundant help from peers on OB courses provided rich supports for learning through difficult physical, emotional, and social situations.

We also found evidence that youth's experience of taking ownership and enacting the culture was an important learning experience in itself. Previous OAE research indicates that group dynamics can enhance transfer of learning social skills beyond the course (Sibthorp, Furman, Paisley, Gookin, & Schumann, 2011). Our findings suggest how these dynamics occur through daily enactments. Research on other programs also documents how overcoming challenges within a high-functioning group can motivate youth to transfer their learning about group processes to other relationships in their lives (Griffith, Larson, & Johnson, 2018; Larson, McGovern, & Orson, 2019). We identified many passages in which OB youth described their intent to do this.

When asked how learning in OB will influence them afterwards, many youth described wanting to recreate the compassion and commitment of the group in their relationships going forward. They felt they could be open to people in new ways because of what they learned. Amy wanted to "try to be compassionate towards others who might give me a hard time or for people who act differently or think differently than me." Rock felt she could "open up more, push my comfort zone with what I share with people." Woodchip wanted to be of service to others, "I'll try to make more of a positive impact, whether that's volunteering or helping out those quiet kids in school, because I recognize we're all the same team." While we did not follow these youth to see if they acted on these intentions, research indicates that participants in OAE programs apply their learning as they resume their regular lives (Hattie et al., 1997; Sibthorp et al., 2011).

4. Discussion

How do young people in effective youth programs learn through experiences with challenges? OAE programs provide a useful opportunity to study this question. They take youth – often for their first time – into isolated wilderness settings where the demands of strenuous activities and basic human needs impose difficult physical challenges on youth. These physical challenges also create interpersonal challenges (e.g., meeting everyone's needs, conflict) and, we discovered, intense emotional challenges (e.g., dealing with pain, distress). Using accounts of learning through experiences of challenge from 30 OB students, we obtained a consistent set of findings that highlight the role of peers as important sources of support. We focus here on three learning processes, identified from these data, that we believe can inform the wider field of PYD. For each, we conclude with implications for practice.

4.1. Youth learn from successfully persevering through emotional obstacles

Researchers and theorists have often described learning from challenges as occurring through processes of solving problems and developing skills (Halpern, 2009; Larson, 2011). OB students in this study reported these cognitive learning processes, most notably in response to social challenges. We discovered distinct processes through which they became more resilient to emotional obstacles

created by physical and social challenges. Students reported developing dispositions and learning mindsets for persistence through experiences of successfully enduring pain and distress. Some youth described this as a simple process of learning perseverance by succeeding in pushing through pain. For some students, there was also a mental process that involved experimenting and developing new open, positive attitudes and mindsets that allowed them to rise above pain, self-doubt, and distress.

Some readers may have winced (as did we) at students' descriptions of the anxiety and pain they encountered on OB courses. Yet learning to manage pain and distress is critical to dealing with the burdens of adult life. Students described being empowered by their discovery that "pain is not my breaking point" and "a lot of my problems and self-doubt... can be solved in my brain." Overcoming emotional barriers like these can be a vital developmental achievement.

It is also critical to recognize that these learning experiences occurred within a larger framework of well-developed OB practices, in which instructors prepare students early in the course, ensure their safety, and intervene with students when their anxiety is extreme (Larson et al., 2018). Indeed, OB instructor practices for supporting youth-driven learning processes could serve as a useful model for other PYD programs. To facilitate students' emotional learning from challenges, OB instructors intentionally foster a climate in which feeling and expressing emotions are viewed as normal; they also help students learn concepts for understanding emotions (Crane et al., 2008). These and other staff practices for supporting emotional learning are reported in research by Smith and associates (2016).

4.2. Peers provide skillful support to each other

PYD theory and research often give limited attention to the role of peers in facilitating social-emotional development (e.g., Eccles & Gootman, 2002; Mahoney, Vandell, Simpkins, & Zarrett, 2009), despite the importance of peers in major developmental theories (Piaget, 1977; Vygotsky, 1978). Research also shows that under certain circumstances peer dynamics can have *negative* effects on program outcomes (Dodge, Lansford, & Dishion, 2006; McKenzie, 2003).

Our findings suggest how under the right conditions, peers can play vital roles in scaffolding youth's learning through challenges. An important contribution of this study is the illumination of how skillful peers can be in providing attuned and effective support to youth facing challenges. Because students often experience challenges side-by-side, peers were available as first responders, coaching students in learning to reframe situations and manage negative emotions. Receivers of this peer support reported help overcoming fear, deescalating anger, addressing interpersonal problems, redirecting their attention, and learning new strategies. They helped students learn that: "even if I'm telling myself I can't, I actually can." In our interviews with OB instructors (currently being analyzed), they reported that peers were more effective at providing certain types of support than adults. Because they are the same age, are struggling with similar challenges, and may be experiencing similar emotional obstacles, peers are positioned to provide timely, empathic assistance.

The field of PYD would benefit from further attention to how program staff can leverage this peer support to facilitate youth's learning from challenges and to manage negative emotions. Our findings point to a key role of OB instructors in cultivating a supportive peer culture.

4.3. A positive group culture can be a powerful catalyst for peer support

In ordinary life, adolescents do not consistently provide each other support in the ways found here (Brown, Bakken, Ameringer, & Mahon, 2008). An important question is how to create conditions for it to occur? Our findings indicate that OB instructors cultivated a culture of compassion and mutual commitment, which served as a catalyst for peer support during challenge. Students reported that norms of compassion were fostered early in the program through games and reflective activities, and that these activities opened them to being sensitive to each other's needs. Norms for mutual commitment appeared to grow from instructors assigning youth substantive roles (e.g., setting up camp, cooking) and then gradually shifting more responsibilities to students. These steps allowed youth to learn to take responsibility and rely on each other. Prior research and training material have described how OB instructors cultivate a positive cohesive culture that helps students work as a team (e.g., Sutherland & Stroot, 2010). Our research, we think, shows how these norms catalyze students' acts of attentive and responsive support during challenge situations, support which facilitates youth's learning.

Our results further suggest how these acts of support can create a virtuous cycle that reinforces these norms of compassion and commitment. Research shows that when youth develop collaborative bonds and are invested in shared goals, they experience "responsibility forces" to contribute to the group (Johnson & Johnson, 2009). Further, they experience their commitment to each other as "freely chosen" (Larson, Raffaelli, Salusky, Orson, & Kenzer, 2019). Consistent with this, our OB students reported that observing acts of support influenced them to want to provide support.

We suggest that OB can serve as a model for how other youth programs can cultivate a positive group culture that leverages processes of peer-to-peer support for learning. A deliberate progression of icebreakers, group activities, roles, reflection, and conflict resolution all function together to build compassion and commitment between youth. Youth practitioner training can incorporate these OB model processes for cultivating a positive culture. OB courses also benefit from taking students into a wilderness environment where youth need to depend heavily on each other. While other programs cannot directly replicate those conditions, research indicates that youth's experience of shared investment in the outcome of a collective project can create a similar experience of mutual commitment to the group (Larson, Raffaelli et al., 2019).

4.4. Limitations and future research

This study examined youth's retrospective accounts of challenge-to-learning experiences because we wanted to understand these experiences holistically from youth's perspective. Complementary research on these learning episodes is needed from other perspectives (e.g., instructors, participant observers). Future studies should include the examination of similar challenging experiences that did not lead to learning – in order to better identify and test what conditions and actions are critical to the learning processes described here. Further, our design employed a group interview format, which we think helped youth recount their struggles with pain and distress. Yet, it is possible that this format may have encouraged certain kinds of youth responses (Krueger, 1988; e.g., on the role of peers). Other interview formats need to be tried.

Although we focused on peer support, the many critical roles that program staff play in supporting youth's learning should remain a major focus of research on programs (Smith et al., 2016). For instance, instructor-initiated reflective activities are seen as an important component of experiential learning, including in OAE programs (Brown, 2002; Priest & Gass, 2018). However, youth rarely mentioned it as having a direct role in their process of learning from challenges. Research including the instructors' perspective would help with obtaining a more complete picture of peer processes since youth program participants may sometimes be unaware of leaders' role in facilitating their experiences (Conner, 2014). This deserves further study.

Another important topic for future research is understanding how youth's experiences of learning through challenges may differ among students from different backgrounds. For youth from privileged middle-class backgrounds who are typically (but not always) White, the survival challenges of OAE programs may be novel. However, youth from underprivileged or low-income backgrounds, who are often (but not always) racial or ethnic minorities, may have many experiences with daily and chronic survival challenges related to poverty and structural racism (e.g., housing and food instability, repeated incidents of discrimination). Researchers need to consider how experiences of course challenges – and processes of learning through challenge – may differ for youth with these different backgrounds (see also Rose & Paisley, 2012). Likewise, it is important to understand how differences in race and privilege may influence the peer processes we described. Research suggests that the frequent assumptions that all youth are the same and that race does not matter often mask ways in which youth are being marginalized (Joseph, Viesca, & Bianco, 2016; Perry, 2018). It is important to ask whether peer relationships within OAE programs might replicate inequitable power dynamics in American society and interfere with creation of an inclusive positive peer culture. Our data were not suited to addressing these questions. Sensitive research on these issues would be valuable to practice.

5. Conclusion

The OB learning model is powerful, we suggest, because it combines intense challenges with rich peer support for youth's active processes of overcoming and learning from these challenges. These findings illuminate the capabilities of youth to be agents of their own development and validate instructor practices that support these youth-driven learning processes. Our findings also demonstrate the power of peers and peer culture in supporting and scaffolding youth's learning from challenge. These results suggest the importance of program structures and instructor practices that help foster conditions for peer-to-peer support, such as group games, roles, structured transfer of responsibility, and conflict resolution practices. Staff in other challenge-based youth development programs may learn from OB and similar OAE programs.

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