5 Youth Development Programs

Supporting Self-Motivation in Project-Based Learning

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Abstract: Afterschool youth development programs (including, arts, leadership, and STEM programs) are significant learning contexts for adolescents. Participation in high-quality programs is related to the acquisition of cognitive, social-emotional, and occupational skills. It is notable that youth in programs report high motivation, markedly higher than in school. Furthermore, motivation increases over time and becomes more self-sustained. This chapter draws on our extensive qualitative interview research with youth and staff to examine questions about how programs – using a project-based learning model – facilitate high and sustained motivation. We find, first, that effective programs create an interpersonal environment of belonging and safety that allows youth to engage in high-functioning relationships, and that projects facilitate motivation because youth experience agency, increasing competency and comradery in their work. Second, although projects periodically confront youth with difficult challenges, which are sometimes overwhelming and can disrupt motivation, youth are typically resilient, and experienced leaders have well-developed strategies for helping youth navigate and learn from these experiences. Third, youth develop sustained motivation because they develop personal connections to program goals and learn techniques to regulate and preempt situations that disrupt motivation. Some youth report learning strategies to help them sustain motivation in the complex, open-ended work of projects.

Before she joined, Devin Mitchell's[1] impression of the Emerson theater program was: "I would never do that. Why would they put on makeup and act all weird?" But two years after joining, Devin, now sixteen, described how the program had become highly motivating for her:

> The atmosphere, the people. It was just a good feeling. I can't even explain it. It's just being surrounded by so many different people. I think that's why I keep wanting to do it. It's an experience I've never experienced before. Getting to know people. Just feeling the love. It just makes me want to do more. I'm like in a whole 'nother world.

1 All names of people and programs are pseudonyms.

Devin went on to explain that her motivation in this "whole 'nother world" was elevated by: the other youth ("feeling the love"), the director ("she's a teacher who cares"), and the comradery of working together to develop a successful production ("the best team I've ever been part of"). It was a world created by all these elements. The types of motivation Devin reported included a frequent *state* of intrinsic motivation: rehearsals were often "really, really fun". She also reported that, after completing several shows, she had developed longer-term *sustained motivation* in the work and learning: She was invested in creating a show that would "put smiles and tears on people's faces". This goal kept her going when rehearsals were exhausting or difficult.

The high motivation Devin described is frequent among teenagers in after-school and out-of-school youth development programs. "Youth development programs" includes community-based programs and extracurricular school activities, such as arts, leadership, STEM, civic, and other organized activities (Roth & Brooks-Gunn, 2003a). Research finds that these programs are the most consistently motivating learning context in adolescents' lives. When signaled to report on their psychological states at random times across a week, teens in three large studies reported high average state motivation in youth programs – much higher than during schoolwork (Csikszentmihalyi et al., 1993; Larson, 2011; Vandell et al., 2006). Additional evidence suggests that motivation increases over the course of program participation and, importantly, that youth develop longer-term, sustained motivation (Dawes & Larson, 2011; Smith et al., 2016b). Both the state and sustained motivation that youth report in programs is "self-motivation": it is intrinsic (rather than extrinsic); it originates from the self (Ryan & Deci, 2000).

What makes the experience of after-school programs so motivating, especially for adolescents who are often bored and unmotivated in other settings (Eccles & Roeser, 2009; Larson & Richards, 1991)? There is much to be gained from delving into this puzzle, as we do in this chapter. Programs are important learning contexts: Youth in high-quality programs learn cognitive, social-emotional, and occupational skills (Catalano et al., 2014; Smith et al., 2016b; Vandell et al., 2015). Educators and motivational theorists can benefit from understanding how programs successfully engage teens in learning these skills. Programs for adolescents typically have them do projects – produce plays, create videos, lobby officials, or plan events – which are vehicles for much of this learning (Heath, 1999; Larson, 2011). So, part of the puzzle is how projects support youth's experience of self-motivation in learning activities – and how projects might put it in jeopardy.

This chapter examines three central questions about youth's motivation in programs. The first is: How does the *environment* of programs support motivation? What creates the kind of highly motivating "world" that Devin experienced? Theorists argue that the environment is critical to understanding motivation (Bevan & Michalchik, 2013; Kaplan & Maehr, 2007).

Our second question focuses on fluctuations and possible disruptions in youth's day-to-day motivation. Average motivation in programs is high, but

participants like Devin also report experiences of frustration and setbacks in their projects, which can create substantial motivational downturns, including wanting to quit (Larson et al., (in press)). Blumenfeld et al. (1991) suggested that the work of projects is open-ended, making them "complex and inherently ambiguous and risky" (p. 380). We ask: Does the open-ended nature of projects create significant risks to youth's continued motivation?

Our third question is: How might youth in programs develop sustained motivation? This question is important to teens' preparation for adulthood: To function in a career, contribute to society, and navigate adult life, they need the ability to sustain attention and effort in goal pursuits (Bandura, 2006; Larson, 2000). Devin reported developing more stable investment in the long-term goals of producing shows. Motivational theorists suggest a range of other possible contributors to sustained motivation: developing individual interest, developing dispositions like grit, and learning skills for the regulation of motivation (Duckworth, 2016; Renninger & Hidi, 2016; Zimmerman & Campillo, 2003).

Each of these three questions – on the motivational environment, risks to youth's day-to-day motivation, and development of sustained motivation – is the topic of a separate section in the chapter. We address these questions from a social-cultural-ecological perspective, which views motivation as grounded in complex, unfolding human–environment transactions. Our focus is on *experiences-in-context*. To understand motivation in a complex learning context (like youth's projects), we believe it essential to understand these human–environment transactions as they are experienced and enacted by youth and staff. Such "context-sensitive" understanding, it is argued, is especially important to the development of knowledge that is useful to practice (Donovan, 2013; Kaplan et al., 2012, p. 177). We think the findings here will be helpful to practitioners, not only in programs, but in schools – where projects are often advocated as a valuable method of learning, but concerns about their complexity are a frequent obstacle to their use (Barron et al., 1998).

This chapter is based on a family of grounded-theory studies we conducted that obtained hundreds of interviews with youth on motivation-related experiences: interacting with peers, struggling with challenging projects, and learning to control their motivation. We augment the findings from youth with findings from program staff on how they facilitate youth's experiences.

Background: Programs and Methods

Before addressing the questions, we provide further background on youth development programs and on the methods of the studies used here.

Project-Based Programs: A Distinct Learning Model

Youth programs have some basic advantages in supporting youth's experiences of self-motivation. Compared to schools, programs are subject to fewer

top-down mandates, which gives them greater flexibility to adapt programming to youth (Walker et al., 2005). Further, youth's participation is voluntary: youth choose programs fit to their interests (Akiva & Horner, 2016) and can quit if they wish.

The project-based learning model in most programs contains additional components that may contribute to youth's self-motivation. The primary mode of learning is *experiential*. Learning occurs through cycles of reflective trial-and-error (Halpern, 2009; Roth & Brooks-Gunn, 2003b). Most programs are *rooted in a specific disciplinary tradition* (e.g., theater, agriculture, social activism), and youth learn through taking on authentic tasks and employing tools and techniques of that discipline. Effective programs are *youth-centered*: staff support youth in taking ownership and responsibility for their work (Roth & Brooks-Gunn, 2003a). Projects are often *collaborative*: youth work together, and returning peers from prior years often help newer youth (Walker et al., 2005).

Youth's projects are structured in ways that might also be helpful to understanding youth's motivation. In some programs, youth receive initial training in basic skills or do smaller projects that lead to larger ones. Projects typically follow a schedule with deadlines; youth may receive staff or peer feedback on their work at significant milestones. Some programs model their schedule on the "production cycle" in the discipline, for example, the sequence of steps to building a boat or rehearsing a play. Finally, projects typically conclude with an outcome, performance, or showcase event that provides authentic feedback and reinforcement (Smith et al., 2016a).

Understand Experience-in-Context: Research Methods

For 20 years, our team has been studying how youth learn social-emotional competencies (e.g., responsibility, strategic thinking, self-motivation, emotion-management skills) through experiences in project-based programs. In this chapter, we present both published and new findings from this research. Many of our articles on these competencies contribute to knowledge of motivation-in-context, and are often cited herein. This is because the experiences related to each of the competencies are intertwined: Events in projects, interactions with peers and staff, and the internal thought processes associated with responsibility, emotions, etc., are part of an interconnected stream. For example, youth's ongoing work, emotions, and motivations affect each other (as described below). Likewise, developing both responsibility and strategic thinking depends on youth having some form of motivation that propels them through critical learning experiences in their projects. The new findings we report here build on these published findings.

Description of studies. Interviews were our method of choice for obtaining accounts of experiences-in-context. Our findings come primarily from the three major studies summarized in Table 5.1. The first two were conducted by our team at the University of Illinois, the third by the Weikart Center (with our

Table 5.1 *Description of the grounded-theory studies used in the chapter*

Name of study, PI, & institution	Description of youth programs	Criteria used to select programs	N of youth (N of interviews)	N of leaders (N of interviews)	Publications cited in this chapter
TYDE Larson, PI University of Illinois	12 programs for high-school-aged youth from Chicago and Central Illinois	Recommended by local youth professionals, had experienced leaders, youth-centered philosophy, low youth turnover, high youth engagement	113 (661)	26 (125)	**On motivation:** Dawes and Larson (2011), Larson (2011), Larson and Dawes (2015), Pearce and Larson (2007); **On strategic thinking:** Larson and Angus (2011), Larson and Hansen (2005); **On responsibility development:** Wood, Larson, and Brown (2009); **On emotions:** Larson and Brown (2007)
Pathways Project Larson, PI University of Illinois	Pilot Study: 4 programs in Central Illinois, Chicago, and Minneapolis	Same as main study	38	8	**On responsibility development** Salusky et al. (2014); **On emotional learning:** Rusk et al. (2013)
	Main Study: 13 programs for high-school-aged youth in Central Illinois, Chicago, and Minneapolis	Recommended by local youth professionals, had experienced leaders, youth-centered philosophy, low youth turnover	108 (280)	25 (96)	**On motivation:** Larson et al. (2017); Orson (2017); **On youth-leader relationships:** Griffith and Larson (2016), Griffith et al. (n.d.); **On youth's program roles:** Larson et al. (in press); **On leader practices:** Larson et al. (2016)
	Additional Program Leaders: 14 programs for middle school youth	Selected to approximately match the high school programs	0	25 (97)	
SEL Challenge Smith, PI Weikart Center	8 programs for high-school- and middle-school-aged youth from cities across the United States	Selection criteria: demonstrable high quality; a focus on social and emotional learning; the ability to articulate and describe how youth learn in relation to the design of the program; target vulnerable youth	52 (8 individual interviews; 8 focus groups)	19 (34)	**On social-emotional learning, including motivation:** Smith et al. (2016a, 2016b)

Note. TYDE is the acronym for The Youth Development Experience; SEL is the acronym for Social and Emotional Learning (SEL) Challenge.

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participation).[2] All three studies focused on programs that served ethnically-diverse youth (African-American, White, Latinx) from low- to middle-income families. For all, we selected programs identified as "high quality" – because we wanted to maximize procurement of accounts of developmental processes.[3] The Illinois studies included multiple interviews with youth and staff (at four points in time for Pathways), which allowed us to examine how projects unfolded and youth–staff relationships developed over time, among other things. All three studies obtained additional data from observations, questionnaires, and parents, which provided a deep base of knowledge for understanding the context of youth's experiences.

Youth's experiences and staff practices. The youth interviews in the two Illinois studies were our main source of findings on youth's motivational experiences. The first Illinois study, The Youth Development Experience (TYDE), provided valuable initial discoveries; the Pathways study, which is the source of our new findings, then sought "second-generation" knowledge based on more targeted questioning. Interviewers asked semi-structured questions aimed at obtaining youth's accounts of day-to-day experiences in projects and how these led to development. The Pathways interviews included questions about what influenced youth's motivation and what caused it to "grow or change". Most Pathways youth reported that their motivation had increased since they joined the program, and their explanations for this increase were a major source of the findings we present on the motivational environment (Q1), and on how formation of goals contributed to sustained motivation (Q3). Findings about motivational flux and disruptions (Q2) came mostly from questions about how program activities influenced youth's motivation but also from other questions in the interview (e.g., on emotions, responsibility).

The eight programs in the Weikart study were selected for exemplary quality, including the expertise of their staff. Therefore, we used the published Weikart findings as our primary source on staff practices that support youth's experiences of self-motivation. We also use published findings on these practices from the Illinois studies.

Grounded-theory analyses. The published and new findings for youth and staff were obtained from grounded-theory data analysis, a methodology designed to systematically examine the variety of human experiences and processes in complex contexts (Strauss & Corbin, 2008). Our use of these procedures involved iterative cycles of: identifying patterns in the interviews that addressed specific research questions; conceptualizing those patterns; confirming the sturdiness of those conceptualizations to the data among multiple coders; and repeating

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2 David P. Weikart Center for Youth Program Quality at the Forum for Youth Investment.
3 Programs in the Illinois studies were selected following procedures for identifying high-quality programs formulated by McLaughlin et al. (1994). The eight programs in the Weikart study were selected through a competitive application process with 242 applicants (see Smith et al., 2016b).

these analytic processes as higher-order concepts and findings were identified (Charmaz, 2014). Following grounded-theory methods, we gave priority to the language and concepts employed by interviewees. At the same time we used findings and concepts from motivational theories as "sensitizing concepts" to help interpret and frame the patterns emerging in later iterations of the analyses (Charmaz, 2014). Thus, for example, we found youth consistently reported that feelings of belonging and safety were important to their experience of a motivating program environment. So, we drew on relevant motivational literature to help conceptualize that pattern, but we also present representative quotes in the text to maintain the connection to the patterns of experience-in-context. As a whole, this chapter should be seen as providing preliminary grounded theory about motivation-in-context in youth programs.

Youth Programs as Motivating Environments: "A Whole 'Nother World"

As in other studies, youth in our research described being highly motivated. They repeatedly described the program and its activities as "fun" and "exciting." Youth in the Pathways study reported being "passionate" about program activities, "intensely involved," "supermotivated," and "really into it." They described repeated experiences where they were "hyped up" or "everyone's motivation skies up." Some described a cascade of motivation, for example, "You get more interested and you want to do more things." High motivation was evident in youth's accounts of their actions: exercising new initiative; generating ideas and plans, developing their own style, taking ownership, and enduring hardships. Alonzo, in an urban agriculture program, described how he likes to stay clean: "I don't like to get dirty. [But] now I can get in the sun and work for hours. I don't mind getting dirty." Nearly all Pathways youth reported their motivation had increased over time (one said it increased "exponentially") as they discovered opportunities in the program. One said, "It was just kind of like, 'Whoa! We can do stuff like that?'"

What makes programs so motivating? Like Devin, many youth in our studies and others attribute their high motivation to experiencing programs as a world where things are done differently (McLaughlin et al., 1994). They relate to people in different ways, have new kinds of conversations, and become absorbed in serious work in ways that didn't happen elsewhere. The environment of the program provided affordances for them to actively engage with people and activities in new ways that were highly motivating. Blyth et al. (2015) suggest that programs afford youth new, active *ways of being*, including "ways of feeling, relating, and doing." In this section, we describe how these affordances are related to the culture and other features of the environment. By culture we refer to values, norms, language, meanings, ways of relating to people, and ways of engaging in activities that are shared among members of

a group (Shweder et al., 2006). Other features include the structure of program activities and the intentional professional practices of staff.

We began our analyses for this section by identifying all passages in which the 108 Pathways youth identified experiences related to the environment as reasons for their increased motivation. We found that youth's explanations could readily be separated into descriptions of the social environment and the activity environment. Within each of these, our grounded-theory analyses identified elements of youth's experiences-in-context that supported motivation, most of which accorded with motivational theory.

Motivating Social Environment

Cultivating a positive social environment is a high priority in most programs (Roth & Brooks-Gunn, 2003b). We identified two elements of youth's experiences in the social environment that contributed to their motivation: belonging and principled relationships.

Belonging. Feeling that one belongs, research shows, is a precondition to motivation (Baumeister & Leary, 1995). Many Pathways youth pointed to the experience of belonging and interpersonal safety as reasons for high motivation in the programs. When asked to describe why her motivation increased, Katie, a first-year member of Rising Leaders, explained: "Other people are happy to see me and are glad when I come up with opinions and ideas. Just knowing I am needed." Youth reported feeling safe with each other – free from fears that inhibited them in other contexts. Jessica at The Station made a comparison to school: "I feel like people at school judge me more, I can trust people here." She went on to say: "I feel more motivated here because people know me and won't make fun of me." Youth experienced a culture of inclusion, which is created through deliberate staff practices in high-quality programs (Smith et al., 2016a).

Youth's relationships with staff contributed to this collective experience of belonging and safety. In explaining their high motivation, many Pathways youth said program leaders were different and more caring than other adults. Aurelia at The Station said, "He would actually talk to us. You felt like he was another friend, rather than just an older person." Many American adolescents experience disrespect and hostility from adults in their lives (teachers, principals, police), which undermines how secure they feel in many adult-occupied settings (Cohen & Steele, 2002). Carisa at Visionaries attributed her motivation to the leader being different: "She is one of the best people you can meet because … she knows we are teenagers so she understands us; She doesn't yell." We found that nearly all youth in Pathways reported a trusting relationship with at least one staff member; and they said this trust transformed their program experience, including increasing their motivation (Griffith & Larson, 2016).

Participation in principled high-functioning relationships. Research finds that belonging, safety, and trust provide a foundation for other powerful relationship processes (Eccles & Gootman, 2002; Rhodes, 2002), and this appeared

to happen for Pathways youth. They described being motivated by their experience of high-functioning relationships, both among individuals and in the group. In recounting what was distinct about these relationships, youth described core values and principles that appeared to guide them.

One set of core principles included acting respectfully and maturely towards each other (see also Deutsch & Jones, 2008). One youth explained his motivation: "No one is ever mad at each other." Another said: "Mostly, kids here, they're not having tantrums or trying to own the situation by themselves." A youth in another program explained her high motivation by saying: "Staying positive – that's what Rising Leaders is about." Program members' embrace of these principles was motivating because it allowed them to have honest, mutual, and caring conversations and to work more effectively together.

Another shared core principle was taking their work seriously. Youth described being motivated by the ways youth and staff valued the importance of the work. Nadir in the theater program said: "We held ourselves to a higher standard, which made it more fun." A youth who was interviewing community members for a video said it "was motivating because you could tell [everyone] was serious about it." In some programs, discussions about society, inequality, and their own place in the world were important activities, and the covenant of seriousness (and mutual respect) made them highly engaging (e.g., Larson et al., 2012).

Smith et al. (2016a) found that leaders in high-quality programs are intentional in cultivating these and related core principles for high-functioning relationships (including listening, turn-taking, and "all are different, equal, and important"). In some programs, youth are enlisted to help formulate rules for them to follow. Leaders also model principles in their relationships with youth. Pathways youth described experiencing their relationships with leaders as blueprints for mature relationships, which they applied to their relationships with people in the program and beyond (Griffith & Larson, 2016).

In sum, this research suggests that the social environment of effective programs appears to be highly motivating, because a shared culture of inclusion and principled relationships allows youth to relate to each other in powerful, new ways.

Motivating Activity Environment

Educational research has identified features of activity environments that support (and disrupt) motivation in classrooms (Kaplan & Maehr, 2007), but little is known about how such features might apply to programs. Our analyses of youth's accounts of what increased their motivation identified three elements of youth's experiences in program activities. These elements, we find, represent environmental affordances provided by projects, program culture, and staff practices. Further, when we brought in the motivational literature, we found that these elements were closely aligned with motivational theory,

especially the three basic human motivators (autonomy, competence, relatedness) that Ryan and Deci (2000) identified from reviewing decades of motivational research.

Experience of agency. First, many youth attributed their motivation to participation in work that granted them a high degree of agency. Their projects were open-ended. Youth had freedom to make choices, experiment, and be in charge of their work, as individuals or as part of a team. A youth in an arts program was motivated because: "We had to be independent; we had to learn how to do our own thing, we had to learn our own style." A youth making a film was motivated because: "I can work it into something great, with the help of my partners." Youth described enjoying the process of trial-and-error and "seeing" what happens. Alonzo in Urban Farmers became highly motivated by "messing with the dirt. It was interesting seeing, 'Wow, dirt can actually do all of that to just a seed!'" Projects afforded youth experiences of individual or group agency over a long time span. In a leadership program, Alexis was motivated by: "Seeing things develop: our plans, the step-by-step that we're taking, leading to bigger things." Motivational research shows that the experience of agency (or "autonomy") is a basic motivator (Ryan & Deci, 2000), and that motivation is enhanced in environments where learners can make decisions, be creative, and learn from trial-and-error (Kaplan & Maehr, 2007). Leaders in high-quality programs intentionally maximize youth's experience of agency as much as is pragmatically feasible within the constraints of the situation and program (Larson et al., 2016; Smith et al., 2016a).

Learning skills for action. Closely related, youth attributed their motivation to their experience of developing competencies. Imani, in a graffiti arts program, said: "Every day I improve my skills, which improves my motivation." These competencies included action skills for managing open-ended work: using "if-then" thinking, weighing trade-offs, navigating open-ended challenges, and employing strategic concepts from the discipline of their work (e.g., film-making, leadership, teaching children [Larson & Angus, 2011]). For example, youth at Nutrition Rocks, who ran a summer camp for children, described being motivated by learning and practicing action skills that helped their work of teaching. These included skills for how to get the children's "brains working" and "take them out of their shell," and being able to "raise my voice but not all the way" (Diaz et al., 2015). Research shows that developing and using competencies is a basic motivator (Ryan & Deci, 2000). What is especially important here is that youth were being motivated by learning skills they could then apply to the unstructured challenges of projects.

Leaders in high-quality programs deliberately create affordances for youth's development of these action skills (Smith et al., 2016a). Heath (1999) discovered that strategies for dealing with unstructured challenges were embedded in the language and culture of high-quality programs. Leaders deliberately cultivated this language and culture; youth internalized it and helped pass it on to new youth (see also Larson & Hansen, 2005).

Collaboration. Third, youth attributed their high motivation to positive experiences of collaborative work, and relatedness to others is Ryan and Deci's third basic motivator. When youth worked on projects together, they motivated each other. Rosanna at High Definition said, "We each helped each other motivate ourselves." Some youth described their motivation as contagious: Excitement flowed from one person to another. Youth were also motivated from discovering that they accomplished more when working in a team – particularly a team that followed the core principles described earlier. Lorelei provided an example in which brainstorming with others led to a better product than she could have created on her own: "It won't just be my ideas. It would be, with the help of someone else's, too, that we mold it into something that's really cool." In separate articles we report findings on how youth's experiences of cooperation and mutual accountability created "good pressure" that is a powerful force in motivating their work (Larson et al., (in press); Salusky et al., 2014). Program leaders support a positive culture of collaboration by cultivating group norms and helping ensure they are followed, and by modeling teamwork and coaching youth on group processes (Smith et al., 2016a).

This third element represents the convergence of the social and activity environment. Feeling safe and trusting others allows youth to take risks in ways that lead to groups developing ideas successfully. Following core principles of high-functioning relationships allows youth to experience group agency, learn together, and, by their accounts, help them do higher-quality work than they would have done working alone.

Conclusion

The explanation for youth's experience of high motivation in programs, then, appears to be that programs successfully create the favorable affordances identified by motivational research: belonging, safety, agency, competence, and connection. The environment and culture of high-quality programs support youth's active experiences of ways of relating and working with others that are known to be motivating. This general picture of a highly motivating environment, however, is incomplete unless we also examine how motivation can be disrupted.

Motivational Flux and Disruptions in the Day-to-Day Work of Projects

Dahlia Sanchez was writing an article for a program magazine, and her frustration mounted as she realized that her topic wasn't going to work. She became so distraught, she wanted to quit the project: "I didn't want to do it anymore. I just wanted to be done." In the prior section, we focused on stable elements of programs that create high motivation. In this section, we zoom in

on emergent situations in projects that impact youth's motivation, including – as Dahlia experienced – disrupting it. Blumenfeld et al. (1991) observed that the open-ended nature of projects can lead to situations that put youth's continued motivation at risk. We focus here on accounts of specific unfolding episodes in youth's work. Can these episodes create fluctuations in motivation? What kind of situations cause downturns or major disruptions like Dahlia's? When downturns and disruptions occur, are youth – or staff – able to respond in ways that successfully restore youth's motivation?

We first describe general patterns in youth's day-to-day motivational fluctuations and downturns. Then we examine a subset of situations in which youth's motivation is significantly disrupted or blocked and, lastly, present findings on staff responses to these disruptive episodes.

Motivation in Flux

We found that fluctuations in motivation were normative among youth we studied. In describing their motivation, youth in the Pathways and TYDE research reported ups and downs related to shifting situations and circumstances in their projects (Griffith et al., 2017; Larson, 2011). Their motivation changed as they became excited about an idea, encountered obstacles, lost direction, and experienced breakthroughs. Joseph at High Definition described multiple motivational changes while making a video:

> At first, I was really, really into it – but not the theme. I wanted to do "how high school affects your identity" and, within that, how people, drugs, and your surroundings influence you. I just didn't have enough time and that aggravated me. So we changed to skateboarding and then I was not that into it. Then we changed to "how music influences your identity," and I was a little more interested. So that motivated me to try to have creative ideas and put out something I would be proud of.

As is apparent in Joseph's accounts, it was not just the situation but his experience of the situation that affected his motivation (e.g., his interest in topics, perceptions of the time they will take).

Researchers agree on a number of *experiential conditions* in person-situation interactions that influence intrinsic motivation, and several of these are helpful in describing youth's fluctuations. Motivation is highest when someone experiences the challenges in an activity as matched to their skill level (not too easy, not overwhelmingly hard), and when they experience control and self-efficacy (Kaplan et al., 2012; Larson & Rusk, 2011). Youth and leader accounts often identified the absence of these experiential conditions as contributors to motivational downturns, thus we incorporated them into our analysis of general patterns.

Setbacks. Downturns in motivation, we found, were often attributed to youth encountering setbacks or challenges they experienced as above their skill level (Griffith & Larson, 2016; Larson & Dawes, 2015). For example, John,

who (like Joseph) was making a film, described how unsuccessful attempts shook his perception of his ability to make a good film: "I kind of lost faith in it. I made two films that were not that good, and I was like, 'Ugh.' I kind of gave up." These setbacks undercut his self-efficacy.

Setbacks and situations in which youth perceived challenges as too difficult appeared to be almost inherent in youth's projects. Most youth reporting these experiences were novices trying new things and taking risks; they often overestimated what they could achieve, leading to situations where they felt overwhelmed (Blumenfeld et al., 1991; Griffith & Larson, 2016). We also found this pattern when youth accepted program roles (e.g., news reporter, team leader). As they took on roles, the majority of youth discovered that it was harder than they expected: unanticipated challenges, complexities, and obligations emerged. For example, they discovered that holding a leadership role did not mean people would do what you asked (Larson et al., (in press); Salusky et al., 2014).

Experiencing lack of control. A contributing factor was youth's frequent experience of motivational fluctuations as outside their control. This occurred often for downturns. Youth often felt helpless – that they could not influence whatever caused their motivation to fall. For example, Caleb, who was practicing for a 4-H archery contest, reported, "When I'm shooting good, I just want to keep shooting." But, "When I don't shoot right I get mad, because I'm doing everything I'm supposed to do and it's just not going right." Rather than being inspired to work on his shot, Caleb got angry. This perceived helplessness was also evident in diminished motivation when a role a youth accepted required dealing with difficult emergent demands (Larson et al., (in press)).

Youth's experience of helplessness was sometimes due to *not knowing* what caused their low motivation. "I knew I could do it," one youth said, "but something was holding me back." Youth also reported lack of knowledge and control over upswings in motivation. Lorelei said her artistic motivation "comes and goes – I don't know how that happens." She explained: "Sometimes I don't feel creative, but then inspiration hits me and I feel like drawing something … But it can't be forced or it won't come out as good."

Motivational resilience. Despite this vulnerability to motivational downturns, youth were typically resilient. When they got caught up on sleep or had time away from the work, they were able to approach difficult challenges with fresh energy. The collaborative culture of the program also helped restore youth's motivation: Peers provided encouragement, members of a team solved problems together, and experienced peers provided tips that helped youth surmount difficulties (Larson et al., (in press)).

Some youth were proactive in addressing conditions that undermined their motivation. John, whose motivation fell after two unsuccessful films, learned new camera techniques that helped him regain his self-confidence and work on a new film. Some youth reported having a pre-existing disposition for perseverance – to "never give up" or "not back outta things" – which helped them

rally to overcome setbacks and difficult challenges (Salusky et al., 2014; Wood et al., 2009).

Leaders' role in modulating downturns. Our studies indicate that program leaders can be effective in helping youth respond to downturns and restore the experiential conditions for intrinsic motivation. Youth report that, when they need assistance, leaders are available to help (Larson & Angus, 2011); when they experience self-doubts, leaders often provide helpful encouragements (e.g., "they're always there to fire you up when you're down"; Griffith & Larson, 2016); and when they feel helplessness, skilled staff can help them see that progress comes through effort and perseverance (Smith et al., 2016a).

Youth's Experiences of Disrupted Motivation

Despite youth's resilience and the availability of staff, sometimes youth's downturns in motivation went from bad to worse and became paralyzing. Youth reported situations in which a challenge grew to become overwhelmingly hard, leading to major disruptions in motivation. Episodes like these were frequent and disruptive enough that we felt it important to understand how they happened. To do this, we searched the Pathways data for all accounts of episodes where youth experienced a major disruption in motivation, then we analyzed how they unfolded.

These episodes, we found, began when a setback or difficult challenge led to a swell of frustration, worry, or self-doubt. Youth encountered a vexing problem, felt overwhelmed by a complex task, or felt they had "messed up." For example, Delphia was helping paint a mural and had progressed from the easy step of outlining a picture of "the ice cream man" to the harder step of using spray paint to try to bring the outline to life. The spray-painted picture, however, clashed with her mental image of how the man should look. This led to mounting anxiety from successive failed attempts.

These swells of emotion then disrupted motivation. They led to loss of interest, constricted attention, wanting to quit, and active avoidance. During rehearsals for a musical in a theater program, Amanda reported a "meltdown," after which she was not able to land the steps of a dance. She was rehearsing with other cast members when the emotional swell started: "It was kind of a buildup of a bunch of things. I had a fight with my father. I was having trouble with my knee. I couldn't get the dance. It was just kind of a modge-podge of crap." Amanda was so angry and frustrated that she "went and hid backstage while everybody else was on stage practicing." Her earlier investment in the musical had been transformed into active avoidance. Other youth in similar episodes reported, "I just keep thinking about how mad I was … you go into zombie mode" and "I'm not gonna be able to do this. Why am I even in here?"

Psychological research and theory suggest the psychological mechanisms driving this sequence of experiences. People who are novices in a domain (e.g., using spray paint) are prone to becoming overwhelmed with

information (Zimmerman & Campillo, 2003). Repeated frustration and failure in a task readily leads to helplessness and self-doubt (Bandura, 1991a). The emotions created by challenging experiences do not inevitably disrupt motivation (Pekrun et al., 2007) but, when they are extreme and feel inescapable, they can distract attention (e.g., "I just keep thinking about how mad I am"), compromise performance, and reduce motivation through other means (Carver & Scheier, 2007). Fisher (2013) suggested the term "spiral" for this set of convergent processes, a term that fits youth's experience of an uncontrollable downward swirl of feelings leading to "I can't do this" or "I don't want to do this."

Leaders' Responses to Youth's Disrupted Motivation

When youth experienced spirals of emotion and demotivation they sometimes recovered on their own. But other times, leaders intervened to help them become re-engaged. Understanding how leaders do this successfully is a vital topic for motivational theory and practice. To gain insight, we asked leaders to describe a situation they encountered when "youth's anxieties or worries about a project interfered with making progress" and how they responded (Orson, 2018). The sample for this analysis was 40 experienced leaders from the Pathways study.[4] The situations they described were similar to those mentioned by youth – they often began with a setback or situation that was overwhelmingly challenging.

Leader's reframing. Leaders recounted using a variety of strategies for responding to youth in these situations. These included asking an experienced program member to help a struggling youth and helping youth understand that mistakes help them learn (Orson, 2018). We focus here on the most common strategy, *reframing* (used by 20 of 40 leaders), which appears to have been well-fitted to youth's needs in these episodes. Reframing involves helping youth look at situations from new and different perspectives. Often leaders suggested a specific framework – or several – to help youth reinterpret the circumstance that created the emotional spiral. In a few cases, leaders provided a frame to help youth understand their emotions. The new frameworks that leaders suggested contextualized the difficulties youth were facing, challenged youth's assumptions, or drew attention to situational dimensions that youth hadn't seen, often including strengths in youth's ideas (Orson, 2018).

When the difficulty of a challenge created anxiety, leaders suggested new frames that made the situation more manageable. They showed youth alternative, easier pathways or worked to shift youth's expectations by, for example, introducing different criteria for evaluating progress, success, or failure. Desiree Bustamante, a leader at the graffiti arts programs, described helping a youth who (like Delphia) was frustrated by the imprecision of spray paint.

4 Leaders had an average of 12 years' professional experience.

Desiree explained that detail and perfection aren't goals with graffiti art. She suggested a different perspective: stepping back to see how the spray-painted figure looked from a distance.

In situations when self-doubt was the main driver of blocked motivation, leaders helped youth reframe their perceptions of themselves and their abilities. Cathy Murphy, a middle-school theater director, described how the actress in the lead role of "Annie" suddenly lost all confidence midway through rehearsals. She was in great distress, telling Cathy, "I'm not good enough. I can't do it." Cathy spent 20 or 30 minutes "rebuilding" the actress's confidence, using evidence of her competence in previous productions. Leaders' reframing addressed the cause of anxiety and helped restore experiential conditions for youth's motivation (Orson, 2018).

A case example of reframing. A more in-depth example is useful to illustrate how leaders adapt reframing strategies to the complex situations youth face. Allie, a young woman who had been working on a film at Reel Makers, explained to leader Tyler Bates through a flow of tears: "I just want to give up. I want to scrap the whole thing." Allie was a first-time filmmaker, and she had put much effort into the film – a story she'd written about a girl who is abused by her boyfriend. But her lead actor quit before she could finish filming her 20-page script. Now she had hours of footage for an unfinished story.

Tyler's first objective with Allie was to provide a framework to help her understand and deal with her intense feelings of distress. He sat down with her, acknowledged the seriousness of the situation, and told her, "This is not the end of the world. This is serious, but you are physically okay, so let's work on the emotional place you are in." This framing helped Allie move through her strong emotions.

When ready, Tyler began helping Allie reframe the cause of her emotions. He explained that her experience was frequent in creative work and "it can feel like absolutely everything that could go wrong has gone wrong." But, Tyler emphasized, "This is something in your control." Like Cathy Murphy, he helped build up Allie's confidence with evidence from previous successes: "I know you're capable of doing this. I don't just have blind faith. This is grounded in the work you've shown me."

Tyler then helped Allie reframe the situation with her film. He drew on his experience to suggest ways she might organize the footage into a strong film. "You can mold something out of this that is close to your original idea … there's absolutely a way to work with what you have and create something in the spirit of that story." He helped her construct a viable plan to reorganize her footage in a powerful way. Tyler had used several different frames aimed at helping Allie understand her emotions, see setbacks as normal, recognize her abilities, and re-plan her film.

The effectiveness of leaders' responses. When faced with difficult challenges, novice problem solvers (like these youth) tend to persist with their initial framework and approach (Zimmerman & Campillo, 2003). As a result, when

they experience mounting frustration and anxiety, they often remain stuck and demotivated. The experienced leaders in our research, however, appeared to have well-developed strategies for helping youth reconceptualize difficult situations and restore the experiential conditions for motivation (Orson, 2018).

Did these interventions work? A number of youth in Pathways and TYDE provided accounts that suggested leaders' reframing helped them restore their motivation. After being frustrated by how an art project turned out, Eloise at Voces Unidas was "mad, upset, and did not want to do it anymore." But the leader reassured her that the project she was attempting was really difficult – "It rarely works the first time" – and helped her devise a new approach, which produced a result she liked. Some youth said leaders were especially helpful because they were not prescriptive. Leaders had given them multiple choices and, as expressed by Xavier at High Definition, "then we could make our own decision on whether we still wanted to do our thing or take the advice that he [was] giving us" (Griffith et al., 2017). This example illustrates how leaders provided "autonomy support," which facilitates youth motivation (Ryan & Deci, 2000) by providing helpful suggestions while supporting youth's ideas and agency.

We were fortunate to have Allie's account of her episode, which illustrates the nuances of autonomy support. Allie did *not* follow the plan Tyler had made with her, but the discussion with him helped her think through another framework for her footage: organizing it into a movie trailer. Using this concept, she became highly motivated editing her material around the goal of making viewers interested in a (hypothetical) full-length film. Allie also reported being motivated by wanting to prove to Tyler that she could achieve success *on her own*.

Importantly, Allie said this experience with her film was "a good thing because the next time [it happens] I'll be able to control it, and I won't be too nervous." She felt she had gained insights that would help her control anxiety and motivational disruptions in the future. We cannot verify whether Allie had actually become less vulnerable, but she expressed a phenomenon identified by resilience research: when people successfully overcome setbacks, it can lead to valuable social-emotional learning (Masten, 2013). Indeed, many youth in our research report learning resilience from these challenging episodes (Larson et al., (in press); Larson & Walker, 2006). Helping youth develop motivational resilience from overcoming difficult challenges is a deliberate pedagogical strategy in some programs (Priest & Gass, 2005).

Conclusion

In sum, youth conducting projects experience downturns in motivation that, in some cases, are severe enough to threaten continued motivation. However, most youth bounce back on their own or do so with skilled support from leaders. Moreover, we found evidence that the process of bouncing back and

overcoming challenges can lead to valuable learning that helps youth control motivation.

Development of Sustained Motivation in Challenging Work

We turn now to the question of whether youth who do projects gain abilities to sustain motivation for the longer haul. What skills might teens develop or learn to help them remain engaged through distractions and downturns? Answers to these questions are important, not only for teens' projects in programs, but for the open-ended, real-world projects of adulthood that lie ahead in their lives (Csikszentmihalyi, 1990; Duckworth, 2016). We had reason to be optimistic. Research shows that adolescents develop an expanded future perspective and can learn to think systematically about how their present actions influence what happens in the minutes, days, and months ahead (Nurmi, 2004; Steinberg, 2014). Indeed, teens doing projects in programs learn skills to plan their work and anticipate future contingencies, including twists and turns (Heath, 1999; Larson & Angus, 2011). How might this expanded future perspective contribute to the development of sustained motivation? Youth in our research identified two ways: by developing personal investments in long-term goals and by learning techniques for regulating their motivation.

Development of Personal Investment in Goals

Investment in goals is known to be a significant contributor to stable motivation, especially when people have confidence that a goal is achievable (Eccles, 2005). Self-set goals are particularly powerful motivators (Bandura, 1991b). We found that many youth in programs became invested in self-set goals related to their work. In a major analysis of the TYDE data, Dawes and Larson (2011) identified this investment process as one of *forming a personal connection* to goals. Over time, these TYDE youth had formulated goals for their work that were personally meaningful – significant to their personal values, ambitions, and identity. Dawes and Larson (2011) describe this process as "convergence between self and the activity" (p. 263). It involved youth not just picking a goal but developing the self in ways that made the goal come alive with meaning.

Youth in TYDE reported that their increased motivation came from forming connections to three types of self-set goals (Dawes & Larson, 2011), and these three types were replicated in new analyses of the Pathways data.

First, we found that as youth developed skills and had success in their work, they became more invested in *experiencing competency* through their projects. For youth who were creating works of art, planning events, and growing a garden, it became a personally meaningful and motivating goal to achieve a high-quality outcome. Yesenia recounted how gaining skills in a graffiti arts

program transformed her motivation: "When I was first starting, I was really hesitant in my abilities, and I couldn't do a fill or anything." But as she gained experience and skills with spray painting, that hesitancy receded, and she was able to plan a picture and know she would feel good about it. "Now I can put up a piece on a wall … do my *own* pieces, and I'm proud of it." As a result, the episodes of low or disrupted motivation became less of a threat for Yesenia and other youth. As Devin Mitchell, the actress we started with, said: "Knowing the outcome will be good – that's what motivates me. Just picturing it all at the end and being satisfied with what I've done. That's what keeps me going." This ability for confidently "picturing" or visualizing a pathway to a personally satisfying goal outcome can be an important contributor to stable motivation in complex work (Bandura, 2006).

Second, as youth gained competence, some also reported becoming motivated by long-term *future goals* (e.g., for post-secondary education or adult employment) that were served by their program work and learning. Forming personal connections to these goals often involved youth doing identity work concurrently with the work of the program. They developed values, ambitions, and visions of future selves that converged with – and gave meaning to – their learning in the program (Dawes & Larson, 2011; Rickman, 2009).When asked what increased her motivation, Adalyn at Emerson theater, described this process:

> When I first started, it was something that I really enjoyed. I loved being on stage in middle school. Then I slowly realized that, "I'm decent at this. Maybe this is what I love doing, and I have a lot of passion for it. I feel like I've grown as a person, I've grown as a performer." That's when I realized I wanted to do it for the rest of my life and I wanted to go in a college and learn and just do more with it.

The third category of goals youth developed was altruistic: It involved *pursuing purpose.* Damon (2008) defines "purpose" as a goal "that is at the same time meaningful to the self and consequential to the world beyond the self" (p. 121). Youth in programs reported increased motivation when they experienced their actions as consequential to their communities or the people they served. At Nutrition Rocks, youth planned and ran a summer camp for children. Evelyn initially viewed the work as just tending children, but that changed:

> When I first started, I had this mindset: "It's just kids. You're just gonna do activities with them, and they're gonna go about their day." *It's not about that.* It's teaching kids how to live a healthier life, learn things they never learned before. And it just motivates you to do better for yourself and for them.

Evelyn came to see how her work influenced the children's future lives, and she became motivated by the conjoined goals of doing "better for yourself and for them."

Youth's development of goals contributes to sustained motivation, because it reduces dependence on immediate rewards and susceptibility to motivational

downturns. Youth often cited these long-term goals as the thing that kept them going in the face of instrumental and motivational challenges in their work (Larson et al., (in press)). A significant takeaway in these findings is that formation of personal connections may need to come from youth's own *active processes* of building meaning. Staff in high-quality programs, however, support this meaning-making by encouraging youth to choose topics they feel passionate about and by helping youth use their expanding future perspective to explore connections between program work and life goals (Larson & Rusk, 2011; Smith et al., 2016a).

Learning Techniques for Regulating Motivation

Goals help youth persevere through downturns; we wondered if they also learned skills to *control* these downturns. Adolescents gain capabilities to develop meta-cognitive skills for understanding and regulating their own mental processes (Johnson et al., 2014; Steinberg, 2014), possibly including skills for influencing their motivation (Renninger & Hidi, 2016). We were interested in what youth in programs might learn for regulating motivation in projects – where challenges and setbacks can emerge unexpectedly.

We found that youth reported learning techniques that specifically addressed the causes of downturns discussed in the section on motivation flux. These included use of self-encouragements – aimed at directly raising their motivational state – and more nuanced strategies for regulating the person-situation interactions that influenced their state.[5]

Self-encouragements. Self-doubt was a frequent cause of motivational downturns, and the most frequent regulation technique youth learned was self-talk to rally their self-confidence and determination. They repeated words of encouragement to themselves: "try your best," "it depends on effort," and "there is nothing you can't do regardless of the situation." A number of youth reported picking up these encouragements from a leader. Findings in sports psychology suggests that this encouraging self-talk can aid motivation, partly by counteracting negative self-talk (Hardy, 2006). Javier recounted how early in the program: "I would say 'I can't do this,' and then I knew I couldn't. But I learned that I actually could, and now I know not to ever let myself down." He had learned that self-doubt easily became a self-fulfilling prophesy – but that he could countermand it. These youth appeared to be learning the positive or "optimistic" self-talk associated with grit (Duckworth, 2016).

Strategies for regulating the person-situation interaction. Fewer youth, mostly program veterans, reported learning strategies to regulate conditions in the *person-situation interaction* that disrupt their motivation. For example,

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5 Findings come from a subset of Pathways youth who were asked what they had learned about "how to motivate yourself or keep your motivation going," including "when your motivation is low."

John said that, when his motivation was low, he had learned to: "Just analyze everything around me, just slow down everything, and do hundreds of little tests on whatever *I'm doing and the situation* (emphasis added)." He was analyzing conditions in his person-situation interactions. We didn't find out what John's "little tests" were or how he acted on them. Other youth, however, described two specific strategies for regulating person-situation conditions.

Regulating challenges to match skills. We previously found that overwhelming challenges were a frequent cause of downturns. Several youth described learning to control the challenges they were taking on, so as to be within their abilities. For example, in previous years, Xavier at High Definition had been overwhelmed when he finished filming and faced trying to organize hundreds of video segments. But he had developed strategies for this situation: "Try looking at it from a different way. Or break it down into parts so it doesn't seem like as much of a load on you." These strategies resemble the reframing techniques that Tyler at Reel Makers had used to help Allie deal with being overwhelmed. Xavier, an experienced filmmaker, had learned to reframe on his own.

Evelyn, who ran activities for children at Nutrition Rocks, had learned to *both* control challenges and elevate her use of skills. She said, "You learn what to expect out of yourself. What you can do, what you can't do. When do you need to stop? When has it gone overboard?" She had learned to restrain her tendency to get too ambitious and set challenges that were too high. At the same time, she had learned that working with children required using all her skills: "You always have to be on top of your game … You can't slack off or they slack off … You learn how to keep yourself up high." It appears that she had developed a meta-cognitive balancing act: keeping challenges manageable, but also devoting all the skills and effort she could.

Regulating emotions. Finally, many youth reported learning skills for regulating emotions (Rusk et al., 2013). They described gaining strategies to manage disruptive emotions; several learned strategies for avoiding the downward emotional spiral that can disrupt motivation. Dani at 4-H Shooting Sports had discovered (as Caleb mentioned earlier) that: "You miss a few targets in a row, and your motivation drops down really, really far." But (unlike Caleb) she had learned "to step away, take a deep breath, count to ten, and try again." This strategy, she found, helped her preempt the spiral of anxiety and self-doubt. We also found that many learned to *use* excitement, pride, and, sometimes, righteous anger as sources of motivation in their projects (Kirshner, et al., 2011; Larson & Brown, 2007; Rusk et al., 2013).

These youth appeared to be developing meta-cognitive strategies for managing the abstract conditions that influence motivation. These strategies included slowing down thoughts to analyze the issues affecting their motivation, adjusting the challenges they were trying to address, and understanding how emotions affect motivation. They also included recognizing that missing several targets in a row can make your motivation drop quickly and that taking a break can recharge your mind. Youth were developing tools to control

their motivation. They were learning to use flexible meta-cognitive *structures* (i.e., models of person-situation processes) to help them sustain motivation in the *unstructured* situations of complex work.

Conclusion

Youth's development of goals and strategies is important, we think, because it represents youth's active process of constructing control over their motivation. But humility is warranted. We suspect goals and strategies are components of a larger set of overlapping processes that contribute to development of sustained self-motivation. These are likely to include coming to feel at home in the activity, gradual accumulation of experiences, gaining knowledge and skills, and developing individual interest and dispositions like grit (Duckworth, 2016).

Concluding Thoughts

This chapter has examined motivation from the inside-out: starting from teens' accounts of experiences that shaped their motivation. These accounts indicate that project-based youth programs are highly motivating, because they provide an environment with new and "different" values, norms, and ways of being. These include ways of participating in human relationships that are based on a shared ethos of mutual respect, trust, and principles of high-functioning communication. They also include new ways of acting – conducting long-term projects, plunging into the unknown, taking responsibility, and experiencing ups and downs and learning from them. This chapter suggests that, when environments support these ways of being and acting, adolescents become self-motivated and "intensely involved," have "fun," and invest themselves in the challenges and goals of the work.

Elsewhere we have argued that the high self-motivation youth experience in programs and projects may be a particularly valuable catalyst for social-emotional learning (Larson et al., 2017). Research shows that experiencing intrinsic motivation is associated with deeper cognitive processing, more strategy use, and more expansive and integrative reasoning (Larson & Rusk, 2011). Combined with high self-motivation, these active mental processes might help youth engage in the important social-emotional learning work of questioning assumptions, unpacking emotions, navigating knotty real-world challenges, and developing skills for action (Larson, 2011; Smith et al., 2016a).

The skills of frontline staff, we believe, are key to youth's self-motivation and the accompanying social-emotional learning. The day-to-day running of a project-based program is not a simple matter. The open-ended and challenging nature of youth's projects creates open-ended (emergent) challenges for staff as well. When do they step in to help youth? When do they "pump up" youth's motivation with encouragements – and when do they let youth

take responsibility for their own motivation? Throughout the chapter, we have cited findings on effective practices, but all of these need to be adapted to specific situations (Larson & Rusk, 2011; Smith et al., 2016a). Kaplan et al. (2012) detail how educators need to be attuned and responsive to a myriad of contextual dynamics that may affect students' motivation (e.g., youth who are influenced by different motivational processes or interpret information from different frames of reference). A major challenge with adolescents is how to balance providing the right amount of structure and guidance *with* granting youth latitude for their agency and learning from experience. We have found that experienced program leaders have the situational knowledge to achieve this (Larson et al., 2016).

The state of scientific knowledge on motivation in youth programs is limited. Much work needs to be done to follow up on the findings here and to better understand variations across youth and types of programs and projects. A valuable line of study would be intensive time-sampling research on the fluctuations in youth's motivation and how they are related to episodes in youth's work and to the actions of leaders. Comparison of "expert" and novice leaders can be a helpful starting point for understanding the application of effective strategies. Further interview and observational research could lead to better understanding of the trade-offs associated with different strategies.

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