Fun, Activities, and Social Context: Leveraging Key Elements of Recreation Programs to Foster Self-Regulation in Youth

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EXECUTIVE SUMMARY: Youth face a number of obstacles during adolescence that can make achieving a healthy trajectory into adulthood challenging. An abundance of literature indicates that the ability to effectively self-regulate is an important factor that helps youth navigate some of these challenges and is predictive of positive development (Dahl, 2004; Masten, 2004). Self-regulation is characterized by the ability to plan, guide, and monitor one's thoughts, feelings, behavior, and motivation to achieve self-set goals (Zimmerman, 2000). Although evidence shows that a number of youth contexts (family, school, athletics, etc.) can promote young people's self-regulation skills, there is very little evidence on how recreation programs may act a context to foster self-regulation. Yet, recreation programs are well positioned to serve as an important context that can promote self-regulation skill development in youth. This article examines the literature on self-regulation, youth development, and recreation programming, and offers recreation professionals suggestions on how to support self-regulation in youth. We argue that practitioners should leverage fun and enjoyment, activities that have developmental attributes, and a positive social context to promote self-regulation. More specifically, the underlying developmental qualities within recreation activities that support self-regulatory skills are those that are goal oriented, challenging, and build skills. These types of activities provide the opportunity to engage in the cognitive processing, motivation, and self-directed behaviors that reflect effective self-regulation (Larson, 2000; Watts & Caldwell, 2008). Moreover, the social context within recreation programs provides meaningful opportunities for participants to build healthy adult-youth and peer relationships (Bocarro & Witt, 2003), which this relational mechanism is argued to be the basis for developing self-regulation. The social fabric inherent to these programs is well situated for adults to scaffold opportunities that teach youth how to plan, guide, and monitor their efforts towards achieving self-set goals. Collectively, it appears that both the activities and relational mechanisms integral to recreation programs are well situated to support self-regulation in youth, yet their intentional application to a recreation setting has received little attention. However, if recreation professionals intentionally and proactively work to promote self-regulation, their programs may directly address this critical aspect of positive youth development.

KEYWORDS: self-regulation, positive youth development, community recreation, scaffolding

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Increasingly, youth professionals, educators, policy makers, parents, and other concerned adults are shifting their attention from seeing youth as problems to be fixed, to identifying what youth need in order to overcome challenges and grow into thriving young adults. Yet, despite this shift in perspective, questions remain as to why some youth thrive and others struggle and despair. The research exploring why some youth, who, in the face of challenge, are able to demonstrate remarkable resilience, while others fail to cope, points to important personal, social, and environmental mechanisms that drive these very different trajectories. These identified mechanisms have significant implications on how recreation programs are, or should be, designed. Evidence continues to accumulate that the ability to successfully navigate and adapt to the many challenges and growth opportunities is critical to healthy adolescent development (Masten, 2004). However, whether youth have access to these personal and social supports affects whether they are able to adapt effectively. This skill in adaptation is defined as self-regulation and is characterized by the ability to calibrate one's thoughts, feelings, actions, and motivation towards achieving a desired end state (Moilanen, 2007).

Self-regulatory behavior primarily consists of a range of skills including the ability to a) set goals; b) plan out and pursue goals; c) monitor emotions, thoughts, behaviors, and motivation tied to goal pursuit; and d) evaluate one's performance to achieve a goal (Zimmerman, 2000). The ability to engage in these skills is considered one of the most important human functions tied to healthy development (Posner & Rothbart, 2000). Another way to think of the importance of self-regulation is to compare it to the immune system. Some have suggested that in the same way that a healthy immune system is one of the most effective ways to protect against illness, youth who have healthy relationships, problem-solving skills, motivation, self-efficacy, and self-regulatory skills are more likely to develop into healthy, well-adjusted, and actively contributing members of society (Masten, Herbers, Cutili, & Lafavor, 2008). To this end, recreation service providers are well positioned to help youth develop important life skills that can serve as an "antibody" to protect against unhealthy development. Evidence indicates that activities and staff in youth programs play a critical role in youth achieving self-regulation because its development emerges through interpersonal relationships (e.g., Keating, 2004). Thus, it is argued that recreation programs are well situated to support the development of selfregulatory skills in youth.

Youth who are better able to self-regulate are better prepared to navigate the challenges and pressures associated with family, peers, school, and work (Gardner, Dishion, & Connell, 2008). Research shows that youth who effectively self-regulate exhibit behaviors linked to positive youth development ("6 Cs": Competence, Caring, Confidence, Connection, Character, and Contribution; Lerner, Lerner, Alermigi, Theokas et al., 2005) and demonstrate greater self-esteem (Buckner, Mezzacappa, & Beardslee,

2003) and resilience to challenging circumstances (Masten, 2004). Further, self-regulation is one of the key factors attributed to academic achievement, learning motivation, and life-long learning (Dignath, Buttner, & Langfeldt, 2008). On the other hand, inability to effectively self-regulate contributes to youth engaging in a number of unhealthy behaviors such as substance abuse (Percy, 2008), delinquency (Gestsdottir & Lerner, 2007), antisocial behaviors (Gardner et al., 2008), and risk-taking (Magar, Phillips, & Hosie, 2008). Further, youth who employ less effective self-regulatory strategies often show poor academic performance in comparison to their peers who utilize more adaptive strategies (Frydenberg, 2008). These outcomes are, however, significantly influenced by contextual factors, which play an instrumental role in supporting or impeding the development of self-regulation in youth (e.g., Boekaerts & Corno 2005; Hobfoll, 2010; Masten 2004). Although many youth programs show evidence of positive developmental gains in their participants, the role of self-regulation in recreation programs is one that has received little attention, despite its inherent potential.

Recreation programs offer a dynamic learning environment, where youth can try new things, develop skills, and build new relationships, providing them with meaningful experiences that support gains in important life skills (e.g., Eccles & Barber, 1999; Larson, 2000). Many of the outcomes associated with recreation participation (e.g., positive relationships, problem-solving skills) correspond to processes and outcomes tied to youth development and self-regulatory processes (Masten, 2004). As such, recreation professionals are already able to leverage, or more effectively utilize, many of the key elements within their programs to promote youth participant's development of self-regulation. However, conceptual and empirical links between recreation participation and self-regulatory functioning have largely been neglected.

Therefore, the aim of this paper is twofold: 1) To synthesize and link the literature on self-regulation, youth development, and recreation programs; and 2) To offer leverage points for recreation professionals to use to promote self-regulation in youth participants. To meet this objective, this article will first provide a background highlighting the significant role that self-regulation and cognitive development play in shaping youth development. Second, a discussion on the use of fun and enjoyment, activities, and social context to foster self-regulation is presented.

Conceptual Background on Self-Regulation and Youth Development

In this article, we draw on theories of self-regulation tied to a developmental systems framework and social-cognitive theory. In this vein, self-regulation is understood as the volitional processes directing emotional, behavioral, motivational, and cognitive efforts conducive to positive adjustment and adaptation to achieve a desired end state (Gestsdottir & Lerner, 2007). These theories have been the basis for extensive research in various youth settings (home, school, childcare, and youth programs) and provide a strong framework for understanding how recreation programs can promote self-regulation in youth.

Healthy development depends on a person-context interaction in which an individual is able to adapt to environmental factors, as well as alter the environment to support personal needs and sustain goal pursuit (Lerner, Brentano, Dowling, & Anderson, 2002). This adaptive process suggests that young people are producers of their own development, as opposed to subjects shaped and molded by deterministic factors (e.g., biology). That is, the development of self-regulation occurs via an individual-contextual interaction that is both biologically (e.g., maturation) and contextually (e.g., relationships) driven (Lerner et al., 2002).

In practical terms, how does an individual (participant)—contextual (recreation program) interaction result in learning better self-regulation? The development of self-regulation is argued to first form through observing someone more knowledgeable or skilled (parent, teacher, coach, recreation staff) perform a task, which is then followed by the participant practicing emulating that particular action/process/skill. Finally, when the participant is able to self-direct and independently perform and achieves a particular goal, self-regulation is achieved (Zimmerman, 2000). To break it down further, self-

regulation is often characterized and measured by an individual's ability to employ various self-regulatory strategies or skills such as setting goals, planning how to achieve goals, monitoring strategy effectiveness, and evaluating performance (Zimmerman, 2000).

For example, consider a youth participant learning how to roll a kayak for the first time. First, the participant may watch and listen to the instructor describe and demonstrate basic moves. Then the youth might practice the various steps in rolling a kayak. Finally, after several practice sessions, the participant rolls the kayak successfully. Key throughout this process were several self-regulatory skills utilized that led to goal achievement. First, the participant had an interest and desire to learn how to kayak and thought it would be fun to learn how to roll a kayak (set a goal). As the participant practiced rolling, he worked with the instructor to generate ideas on how to improve technique step by step (came up with a plan to achieve his goal). Third, he tried using the techniques and asked for feedback, as well as self-assessed what was working and what was not (monitored progress). Finally, he continued to practice rolling and refining his technique, reflecting on strategies used, and evaluated how effective his strategies were and adjusted his plan accordingly (i.e., "this time I'll try it this way"). This basic process of learning how to plan, monitor, and evaluate is engaging the participant in a cognitive process that is helping him become more self-regulated. Studies show that when teachers, coaches, and mentors teach youth these self-regulatory skills, in a similar process as described above, achievement/performance outcomes improved (Cleary, Platten, & Nelson, 2008; Kitsantas, Reiser, & Doster, 2004; Perels, Merget-Kullman, Wende, Schmitz, & Buchbinder, 2009; Wyman et al., 2010).

Although the example provided above is not necessarily a novel way to instruct or work with youth, the recreational context provides unique and inherent elements (discussed later) that make it ideal to encourage young people to actively set goals, plan, monitor, and evaluate goal achievement. While this process of learning how to effectively self-regulate is essential to achieving healthy development, it is also dependent on cognitive processes that are still maturing, making it sometimes difficult for youth to effectively self-regulate (Steinberg, 2005).

Cognitive Development

Similar to other cognitive functions during one's youth, self-regulation is on a developmental trajectory that will continue to mature into young adulthood. The prefrontal cortex, the region of the brain responsible for a number of cognitive processes, including self-regulation, is still maturing and yet increasingly exhibits and resembles adult-like functionality. The significant maturation in physiology, perception, attention, memory, language, emotion, self-perceptions, and cognition reflects a noted increased use of metacognitive skills and emotion recognition that promote improved planning and cognitive skills that are used to self-regulate (Skinner & Zimmer-Gembeck, 2007).

Yet, despite maturation in cognitive functioning, and thus, self-regulatory competence, young people are still in a vulnerable place. The region of the brain activating emotional responses precede in maturation the self-regulatory processes (planning, inhibition, decision making) that assist in modulating intense emotional responses typical of young people (Johnson, Blum, & Giedd, 2009). This means that an imbalance exists between two systems of the brain related to emotional and incentive-driven behaviors and those related to cognitive and impulse control (Somerville, Jones, & Casey, 2010). Such a discrepancy lends to a susceptibility and propensity toward behavior driven by affect, not always moderated by strong self-regulatory skills. For example, young people tend to demonstrate fairly strong decision-making abilities in low-arousal, low-emotional environments; however, when placing the same young person in a high-arousal, highemotional environment, the ability to make sound decisions is much more difficult and effortful (Dahl, 2004). It is not surprising then that adolescents respond most effectively to self-regulation interventions directed at learning higher-order cognitive strategies (problem solving, planning, decision making, help-seeking) and reflection (Dignath & Buettner, 2008). This also points to adolescents' need to learn how to adaptively respond to emotionally intensive environments. Thus, learning how to adaptively respond to situations is an important component of effective self-regulation for which recreation programs are ideally positioned (for youth to learn and practice such skills).

Recreation Programs as a Context to Promote Self-Regulation

There is little debate that self-regulation is critical to healthy development and directly impacts the achievement of healthy outcomes. Although no direct link has established the relationship between self-regulation and recreation participation, related literature suggests that recreation programs may enhance self-regulatory functioning (Caldwell & Witt, 2011; Gestsdottir & Lerner, 2008; Larson, 2000). Indeed, self-regulation has often been compared to a muscle, meaning that it has the capacity to be strengthened and conditioned to effectively adapt and meet demanding situations (Muraven & Baumeister, 2000). Given the important role that context plays in supporting or detracting from the development self-regulation (Masten, 2004), we turn our focus now on how the recreation context can be utilized to promote self-regulation.

In this next section, research is summarized on three contextual factors integral to recreation programs that can be leveraged to help young people set goals, strategize and plan how to achieve goals, monitor their efforts, and evaluate their performance. The three factors are (a) fun and enjoyment, (b) activities, and (c) social context.

Leveraging Fun and Enjoyment

Foundational to the recreation experience is that participation tends to be fun and enjoyable. Some have argued that in order to get any benefit out of a recreational experience, it needs to be fun (e.g., Csikszentimihalyi, 1990). However, having fun as a primary purpose of a recreation program is oftentimes lost in pursuit of outcomes perceived as more important (e.g., health, positive youth development, social skills). Yet, the developmental value in having fun cannot be overstated. When participants have fun, there is often a sense of wanting to participate in the activity for its own sake, as opposed to doing it because it is good for you, or for some other rational, external, or obligatory reason (Henderson, Glancy, & Little, 1999). Most parents, teachers, and youth professionals will often use fun as a "hook" to motivate participation (Bianco, Higgins, & Klem, 2003). This is consistent with the long-held belief, supported by empirical evidence, that shows when participants have fun in an activity it makes them want to learn more about an activity and consequently, perform better (e.g., Ryan, Connell, & Plant, 1990). For example, when a young person participates in an activity (e.g., swimming) that he or she perceives as fun, the desire to stay engaged is strengthened and makes the activity more desirable and valuable to the participant. By setting the stage for continued engagement, a participant has the opportunity to stick with an activity and practice using self-regulation. In the swimming example, the participant enjoys swimming and, as a result, decides that he or she wants to get better. Yet, in order to get better, it might take a lot of hard work and be challenging. However, for the participant who enjoys swimming, the desire to push through the difficulty is there and along with the opportunity to strengthen self-regulation skills (i.e., setting realistic goals, planning how to improve, evaluating technique use). However, if the environment does not support or match the participant's orientation to the activity, meaning in this case that it is not fun, interest for further participation in the activity can diminish (Higgins, Cesario, Hagiwara, Spiegl, & Pittman, 2010). Fun fosters intrinsic motivation (Bisson & Luckner, 1996) and motivation helps to drive and sustain self-regulation (Zimmerman, 2000). In other words, when something is boring and disengaging, it oftentimes is more difficult to want to finish a task. In fact, some have argued that situations that are not perceived as "fun" can deplete future efforts at self-regulation because of the inherent lack of interest and motivation. On the other hand, when a task is fun, it strengthens future efforts at self-regulation because it is not as effortful and thus, lends to a sense of "vitality" (Laren & Janiszewski, 2011). As a result, fun and enjoyment can serve as a basis for sustained participation. In turn, that sense of enjoyment can foster intrinsic motivation, engagement, and positive emotions (Scalan & Simons, 1992).

Intrinsic motivation and engagement. A central facet of the recreation experience is intrinsic motivation and engagement. Intrinsic motivation is important because it can lead to a sense of competence, autonomy, and relatedness (Ryan & Deci, 2000). When youth are encouraged to exert choice and autonomy, they show greater engagement in their learning (e.g., Deci & Ryan, 2000; Perry, VandeKamp, Mercer, & Nordby, 2002). Unlike other settings relevant to a young person's life, recreation programs provide tremendous opportunity to engage in voluntary activity that develops competence in various domains while requiring one to exert a degree of self-control over one's actions (e.g., Hansen, Larson, & Dworkin, 2003; Kleiber, 1999; Witt & Caldwell, 2005). Not surprisingly, youth consistently report more motivation and cognitive engagement when participating in youth activities in comparison to other settings (e.g., school; Csikszentmihalyi & Larson, 1984; Larson & Kleiber, 1993). This type of motivation helps young people sustain continued engagement, which is essential to achieving personal goals (Tsorbatzoudis, Alexandris, Zahariadis, & Grouios, 2006). Because these activities are intrinsically rewarding and elicit high levels of engagement, they may act as a catalyst for development (Larson, 2000; Walker, Marczak, Blyth, & Borden, 2005). Recreation programs can be an important context that fosters motivation and helps youth learn how to use that motivation to effectively self-regulate. Motivation drives self-regulation because it provides the means to sustain one's efforts, even in the face of challenges (e.g., Blumenfeld, Kempler, & Krajcik, 2006; Zimmerman 2000).

For example, if a youth is not interested or motivated to participate in a soccer league, rarely will that youth regulate his or her efforts toward playing soccer better. Alternatively, youth who are motivated to play soccer may focus on learning more about the game, improving technique, practicing, and so forth. Recreation programs afford youth the opportunity to select activities that are meaningful and set self-endorsed goals that provide the basis for developing intrinsically motivated behaviors. When youth feel like they have choice and freedom to engage in activities, they are more likely to experience developmental outcomes (Caldwell & Witt, 2011). Thus, when youth are motivated to participate in activities, engagement promotes self-regulation because the activities encourage youth to think about goals, problem solve, and overcome obstacles (Larson, 2000; Larson & Hansen, 2005). Furthermore, one of the common explanations for continued participation and motivation is the enjoyment and positive emotional response experienced (Scanlan & Simons, 1992).

Positive emotional response. Recreation programs often result in positive emotions (Caldwell & Witt, 2011; Dworkin, Larson, & Hansen, 2005). In turn, positive emotions help support self-regulation. Studies have found a significant relationship between students who experience positive emotions (i.e., enjoyment, hope) and higher self-regulation scores (e.g., Pekrun, Goetz, Titz, & Perry, 2002). One explanation on the role of emotions and self-regulation suggests that emotions (positive or negative) can either recharge or deplete self-regulation. Imagine an athlete training for a race. Throughout the training period, the athlete will take periodic rest days as a way to repair muscles and restore strength. Positive emotions work much in the same way, as they help to restore self-regulatory "strength" (Tice, Baumeister, Shmueli, & Murayen, 2007). In contrast, negative emotions can impair self-regulation. This is likely because the focus of attention shifts from completing a task to wanting to feel better. As a result, efforts involving self-regulation get derailed (Baumeister, Zell, & Tice, 2009). Emotions can also help signal progress (or the lack of) towards goal achievement. In other words, an individual will often feel unsatisfied or frustrated by lack of achievement or progress. On the other hand, a feeling of satisfaction and a sense of accomplishment often accompany goal achievement or goal progress. Such positive emotions help to support motivation and the desire for continued engagement (Pekrun et al., 2002).

Consider a youth who took a dance class and had a great time and later begged her parents to sign up for an afterschool dance program at the local recreation center. The positive affect she experiences during (and after) dance helps her to cognitively engage, to take in new information and apply it, to focus on what she's learning, to set goals ("I

want to perform in the end of the year dance recital") and to plan ("If I practice three times a week, I'll be ready to perform in the recital"). Despite all the practicing and hard work, she experiences joy and satisfaction from dancing and continually looks forward to getting better. Alternatively, consider another youth, who is not at all interested in dance and was pressured into enrolling in the class, and is especially anxious and frustrated for having to take dance classes. For the second girl, the goal, in this example, is not to learn how to dance, but rather on getting through the process, managing anxiety, frustration and insecurity. Such responses often cause negative thoughts and emotions. This in turn, leads an individual to focus and direct their efforts on regaining a sense of emotional wellbeing, as opposed to using self-regulation strategies that would more effectively move them towards goal achievement (Boekaerts & Corno, 2005).

Practical implications for fun and enjoyment. As discussed, recreation programs are typically a context that youth can experience fun and engaging activities in ways that other settings (school, home) may not provide. This experience of fun and enjoyment can help to fuel intrinsic motivation, engagement, and positive emotions, all of which help to provide the basis for, and fuel, self-regulation. Table 1 offers a summary and suggestions on ways recreation professionals can promote self-regulation by leveraging fun and enjoyment. This might include, for example, getting to know participants and finding out what they enjoy doing. It could also involve giving participants an opportunity to decide which activities to participate in, or offering them a chance to help to plan out which activities the group participates in for an afternoon.

Table 1

Applied Examples on Leveraging Fun and Enjoyment

Leverage Factor		Suggested Strategies	Example
Fun an	nd Enjoyment	Provide opportunities for participants to exert choice and have an authentic voice in decisions Give participants options	Enrollment: Give participants options to choose which activities they enroll in (sports, outdoor education, theater, gymnastics, etc.). Have participants select and plan the activities that they want to do for the day.
•	Intrinsic motivation/ Engagement		
•	Positive emotional response	Identify/highlight positive experiences	Team sports: Help youth identify and develop greater awareness of emotions during activities (e.g., "What was a high point during the game?" "Why?" "How can you achieve a similar feeling next time?")

Other suggestions might include giving participants important opportunities to make choices and exert voice, which is key to fostering intrinsic motivation. Having participants reflect on the day and highlight positive experiences and feelings may encourage youth towards continued engagement in activities that they enjoy.

Leveraging Activities

Activities are a defining feature of recreation programs, and when designed and delivered appropriately result in developmental outcomes. According to the Carnegie Council on Adolescent Development (1992) report, activities that generate positive outcomes are typically characterized by those that are goal-oriented, offer challenges, and build skills that lead to mastery. These types of activities are referred to as *high yield*

activities. High-yield activities are more likely to contribute to personal growth, whereas low-yield activities often lead to boredom or apathy (Caldwell, 2005). In addition, high-yield activities are characterized by autonomously driven behaviors associated with, and implicated in, self-regulatory functioning. In fact, some argue they encourage youth in the production and adaptation driving their development (Larson, 2000). Three essential features of high-yield activities are linked to self-regulation including (a) goal-oriented, (b) challenging, and (c) skill building (Dworkin et al., 2005). Each of these characteristics is discussed in greater detail below. They are important because not only do they contribute to satisfying recreational experiences, but they are also implicated in developmental and self-regulatory processes.

Goal oriented. Having a goal for an activity identifies a beginning, middle, and end point that afford intentionality and direction towards reaching specified outcomes. This "temporal arc" suggests that the activity will require effort and persistence to achieve. Activities that lack a goal and do not require much effort generally are less engaging and less beneficial. This is similar to Larson's (2000) concept of *initiative*, which is defined as the ability to direct attention and effort toward achieving a goal. Larson found that youth participating in activities reported how to identify goals, sustain goal pursuit through perseverance, and manage time in order to achieve their goals. Yet not all youth know how to set and achieve goals. In some low-resource contexts, youth fail to learn how to set realistic goals that encourage exploration and interest (Lerner, Freund, De Stanfis, & Habermas, 2001). Within a recreation program, a youth might set a social goal tied to making new friends or taking on a leadership role in the after-school teen program, or a mastery goal, such as improving a particular skill. When young people are in a context that matches their personal goals that are consistent with a given task, it is much more likely that they will experience positive emotions, which in turn helps them to choose selfregulation strategies necessary to achieve competence. On the other hand, when a setting or task does not match the participant's personal goals, it is more likely that negative emotions ensue, and avoidance of the task (Boekarts, 2007).

For that reason, young people need structural support and strategy instruction to learn how to set appropriate goals that are meaningful and of interest. They also need help identifying and using effective self-regulatory strategies to reach goals, making accurate assessments about their efforts, and knowing how to adaptively react to challenging situations (e.g., Dignath & Buttner, 2008). When recreation activities are designed in a way to facilitate goal setting, recreation professionals can help teach youth to set realistic goals and strategically plan how to achieve those goals, and thus, learn important skills necessary for healthy development (e.g., Larson & Hansen, 2005).

Challenging. Activities that reflect an element of challenge, appropriately matched to skill level, result in optimal experiences associated with positive developmental outcomes (e.g., Csikszentmihalyi, 1990). On the other hand, activities lacking challenge often result in boredom and lack of engagement. Challenging and goal-directed activities offer a young person the opportunity to experience successes that contribute to greater levels of motivation, self-directed behaviors, and engagement (Larson, 2000). Structuring challenging experiences can also contribute to the development of self-regulation. A challenging context is one that directs youth to focus their attention, which in turn facilitates goal achievement (Rathunde, 2001). Consider a recreation professional who misjudges what a group of participants are capable of and proceeds to structure an activity in a way that does not challenge participants. The lack of challenge results in a disengaged group of participants and does not require or elicit the use of self-regulation skills. Such an experience limits the opportunity for youth to practice and improve their use of selfregulation skills. On the other hand, if the activity is too difficult and the staff does not provide sufficient support, it is likely that their attempts to accomplish the task will be unsuccessful, resulting in poor evaluative judgments about strategy use and effectiveness (Diamond, 2010). Consequently, structuring an experience that adequately matches a participant's skill level with the difficulty of the task is critical to creating an appropriately challenging environment to foster engagement (Csikszentmihalyi, 1990).

Skill building. Lastly, activities in recreation programs that focus on developing or improving a skill promote positive growth. The importance in developing competence is central within the youth development literature and shows that youth need opportunities to engage and grow their knowledge and skills (Pittman, Irby, Tolman, Yohalem, & Ferber, 2003). These skills often include both task-oriented (e.g., technical, academic, vocational) and social (e.g., team work, trust, communication) skills. Consider a young person enrolled in a rock-climbing club, a swimming league, ceramics class, or taking dancing lessons. The purpose behind each of these examples is to learn and improve in a given activity. These types of activities also provide opportunities for continued progress in competency directed toward mastery. This may further extend toward developing other important life skills such as leadership, communication, teamwork, conflict resolution, and coping skills. For example, a young person learning how to rock climb will typically learn how to tie knots, belay, and use appropriate climbing techniques. When structured effectively, such a program could also foster communication, collaboration, trust, and relationship-building skills. In both cases, skill development requires concerted effort that relies on important self-regulatory processes. For young people who likely need self-regulatory support, observing an adult role model or competent peer and then imitating self-regulatory efforts improves strategy use. This is especially effective when they set clear goals, practice different ways to achieve those goals, and monitor the effectiveness of strategy use (Cleary et al., 2006).

Practical implications for leveraging activities. As Table 2 illustrates, there are multiple ways to leverage activities to promote self-regulation. For example, recreation professionals can help participants learn to set specific and reasonable to attain goals (e.g., "by the end of this rock-climbing program, I want to be able to tie five different knots" or "by the end of the season, I want to improve my batting average from .275 to .300"). These types of goals are specific, easy to determine whether they have been accomplished, and serve as a reference point to monitor goal progress. Another way to leverage activities is by creating an appropriately challenging environment. For example, when taking participants rock climbing, having multiple routes set up that range in difficulty could be one way to allow participants to balance their abilities with the level of difficulty in the climb. Finally, creating opportunities for participants to build skills allows participants to work toward improving and tracking their own development. Providing opportunities for skill building can be as easy as sequencing an activity, or set of activities, in a way that progressively requires greater skill. Another way to sequence is by having participants first observe an instructor perform a task and then practice the skill on their own. This also helps to establish a standard by which to reference and monitor their own progress.

Leveraging Social Context

Although good recreation programs with quality activities are desirable, the social context is arguably the crux of the experience. Relationships with adults remain one of the most important elements in an effective program. Youth professionals are frequently cited as a significant adult in the lives of youth (e.g., Blyth, Hill, & Thiel, 1982; Rhodes, 2002). Recreation professionals are expected to be fun, engaging, patient, responsive to needs, and committed to the success of youth. There can be little doubt as to the critical role they play as teachers and role models, who not only know how to teach activities, but how to foster engagement and interest, guide good decision making, and serve as a concrete examples of success. Youth may observe and compare their own performance to that of the adult role model, thus eliciting an opportunity for feedback and adoption of new behaviors (Rhodes, Spencer, Keller, Liang, & Noam 2006). The social interactions in recreation activities are one of the most frequently cited sources where natural mentoringtype relationships occur (Barrera & Bonds, 2005). Youth professionals are often looked to for knowledge, support, and advice as they provide important resources necessary for positive development (Dworkin et al., 2003). The fact that these relationships occur in a setting where youth report high levels of engagement (e.g., Larson, 2000) affords a powerful opportunity to maximize adult-youth and peer interactions that foster adaptive regulatory skills through a social scaffold.

 Table 2

 Applied Examples on Leveraging Activities

Leverage Factor	Suggested Strategies	Example			
Activities					
Goal-Oriented	Have individuals and groups set goals for activities	Art class: Ask participants to set goals (e.g., "What would you like to accomplish during this art session?")			
	Have a purpose for the activity/program	Share a purpose for the activity/project (e.g., "By the end of this art class, I want you all to feel comfortable using a pottery wheel").			
Challenging	Offer activities that adequately match challenge and abilities	Rock climbing: Ensure a range of challenging opportunities (e.g., easier rock climbing routes to more difficult climbing routes).			
Skill building	Include activities in the program that progressively build skills and competence, and are directed towards mastery	Skateboarding class: Have participants learn about safety, basic maintenance, beginner, techniques, intermediate techniques, advanced techniques, and so forth.			

Although there are varying approaches to interventions promoting self-regulation, there is general agreement that scaffolding is critical to the process (Diaz, Neal, & Amaya-Williams, 1990; Keating, 2004). Scaffolding is widely understood as a metaphor describing a supportive structure that provides guidance as the learner progressively assumes responsibility for the learning process within the learner's range of competence (Meyer, 1993). The crux of scaffolding, however, lies in the balance between creating a context of challenge while providing the necessary support within the learner's domain of competence. To this end, scaffolding acts as a form of "other" or external regulation, where the more knowledgeable other is initially providing the regulation for the learner and slowly shifts regulatory responsibility over to the learner, as the individual becomes more competent and knowledgeable (Holton & Clarke, 2006; Meyer, 1993). Given what is known about scaffolding and the development of self-regulation, there are several interventions using scaffolding frameworks that are useful to discuss, as they are especially applicable to the social dynamics within recreation programs.

Scaffolding adult-youth interaction. There are several self-regulation interventions that center around a scaffolding model between adults and youth (e.g., Cleary et al., 2008; Perels, Merget-Kullman, Wende, Schmitz, & Buchbinder, 2008; Wyman et al., 2010). The Rochester Resilience Project (Wyman et al., 2010) is an exemplary model of an intervention that uses adult mentors to scaffold the development of emotion selfregulatory skills in children. Adult mentors meet with students one on one and instruct, model, role play, and provide in vivo coaching that is tailored to meet the student's level of knowledge and self-regulatory skill. For instance, in the beginning of the intervention, the child and the mentor discuss or read a story to learn about cues that identify emotions. This would then lead to a role-playing session or putting on a skit where the child can observe the mentor modeling effective regulatory skills and begin to emulate and practice those skills, while also allowing the mentor to provide feedback. As the child develops greater self-awareness over the course of the intervention, the mentor slowly removes the scaffold and expects more self-directed behaviors from the child. Mentors also provide in vivo coaching, where the mentor gives feedback and support to the children as they use newly acquired skills. Using this scaffolding approach, children are taught skills related to monitoring their emotions (e.g., feelings check-in), self-control strategies (e.g., stepping

back), and ways to maintain/regain equilibrium (e.g., using an imaginary umbrella to protect yourself). The results of this intervention are effective and show improved social skills, and fewer withdrawn, off-task, and behavioral problems (Wyman et al., 2010).

Many self-regulation interventions suggest that through training, recreation staff can gain the means by which to teach self-regulatory skills through scaffolding. This can be as simple as engaging youth in conversation about their challenges, successes, and the accompanying thoughts, feelings, and behaviors to situations. While having a conversation may not appear overly beneficial, it is a critically important component to fostering self-regulation (e.g., Eisenberg, Spinard, & Eggum, 2010) and may provide a mechanism to encourage other positive outcomes (Hamilton & Darling, 2002). Providing a safe space for youth to voice concerns, insecurities, and successes allows for adults to transfer values, advice, and support (Rhodes, 2002).

Helping youth set goals, problem solve, and identify ways to overcome challenging situations and maximize on the positive experiences is an effective tool to encourage higher order cognitive processing central to self-regulation (Bodrova & Leong, 2007). Using the social environment to teach youth how, when, where, and why to apply strategies by modeling such skills offers them an opportunity to learn about effective methods and raises their own self-awareness of what they are doing and why (e.g., Lakes & Hoyt, 2004; Veenman, Van Hout-Wolters, & Afflerbach, 2006). While recreation professionals appear to be a natural fit to promote self-regulation through scaffolding, the role of peers is also an

important factor contributing to positive outcomes.

Scaffolding peer relationships. Youth activities are widely believed to support interpersonal skills and the development of healthy social relationships (e.g., Barber, Stone, Hunt, & Eccles, 2005). For many reasons this is important, but especially as it points to an important resource in developing self-regulation. Research shows that the brain, specifically, the regions of the brain tied to self-regulation, functions better when an individual does not feel isolated or excluded (Diamond, 2010). When an individual experiences exclusion, impairment of self-regulatory abilities occurs (e.g., Baumeister, DeWall, Ciarocco, & Twenge, 2005). A fundamental assumption of self-regulation is that it is guided by group norms insofar as they dictate standards of behaviors, and on some level indicate social acceptance and a sense of belonging to a group (Vohs & Baumeister, 2011). Therefore, when an individual is excluded, the desire to self-regulate to maintain social norms could dissolve and lead to frustration, acting out, and so forth (Baumeister, DeWall, Ciarocco, & Twenge, 2005). Thus, learning skills associated with positive social interactions and healthy relationships can reasonably be argued to support adaptive regulatory processes (Bell & Calkins, 2000). Activities are often a source of common ground that link peers to similar others. This, in turn, fosters friendships, sharing in experiences, and setting goals for the future (Brown, 1990). Youth who engage in prosocial activities are significantly less likely than their counterparts to engage in a risky peer social environment (Barber et al., 2005). This may be because youth who are well functioning typically are part of a wellfunctioning peer group. (Eccles, Early, Fraser, Belansky, & McCarthy, 1997) Thus, an important component to social scaffolding might involve connecting peers to other youth who share similar interests, and by engaging in positive and healthy behaviors can help each other self-regulate (Masten, 2004).

As the development of self-regulation originates through social relations, one approach to improving self-regulation is to give youth opportunities to other-regulate. Other-regulation, as the term implies, refers to one person observing another's behavior, monitoring task performance, and pointing out errors in the behavior (Diamond, 2010). Developmentally speaking, youth are able to detect errors in others' behavior before their own and can therefore serve as an impetus to learning self-regulation (Diamond, 2010). In one educational intervention called *Tools of the Mind*, children are paired together to perform a task with the purpose of helping them developing monitoring and evaluating skills. One child is assigned as 'observer' to his/her partner, who is responsible to perform a given task. Meanwhile the observer has the correct answer/method to completing the task and is responsible to assess the actions that his/her partner makes. The children then

reverse roles. Over time, the children learn how to engage in thoughtful monitoring and evaluative processing and, as a result, they apply these actions to their own learning, thus internalizing these regulatory skills (Bodrovo & Leong, 2007).

The positive social climate and development of strong peer relationships suggest that recreation programs can be a supportive environment to test, practice, and reflect on self-regulatory skills. For example, many activities in recreation programs involve group interactions and collaboration that offer youth a chance to take on different roles, both as leader and follower. Such opportunities allow youth to act as initiator, observer, and evaluator. By regulating another's behavior and offering feedback on task performance, they learn how to monitor and evaluate a peer's actions, which they can later apply to their own actions (Bodrova & Leong, 2007; Diamond, 2010).

Practical implications for leveraging the social context. As noted before, relationships are the crux to the development of self-regulation, as well as, effective recreation programming for youth. Table 3 provides some examples on how recreation professionals can leverage both their interactions with youth participants as well as, participant interactions to enhance self-regulation. One way to accomplish this, for example, could be through mentoring participants. Mentoring can be as formal as a sit-down conversation, or as informal as a brief "check-in" with youth. Either way, mentoring can serve as a way to model for youth how to set and achieve goals and encourage and support them in their own pursuits by observing and providing participants feedback. Again, this could involve a structured process that involves participants writing down goals ("By the end of summer day camp, I want to make three new friends") and talking to their mentor about the steps they are taking to accomplish these goals.

 Table 3

 Applied Examples on Leveraging a Positive Social Climate

Positive Social Climate	Have adult staff mentor youth	Have staff do one-on-one "check-
Scaffolding adult-youth relationships	participants	ins" with youth participants to build relationships, set goals, strategize how to achieve goals, and monitor/evaluate goal progress.
 Scaffolding peer relationships 	Ensure productive social norms	Team-building activities: Teach youth how to give and receive
	Have youth work in small groups	specific feedback on performance (i.e., "What worked well?" "What
	Pair older/younger youth together	did not work well?" "What would you do differently next time?")

Strategies to leverage peer relationships might include focusing on building a strong sense of community and sense of belonging among participants, being sure that no one is excluded. Completing activities that facilitate other-regulation could be another method. For instance, during a team building exercise choose one or two participants to be observers and to write down what they see the group doing (e.g., good/poor communication, acting thoughtfully/ impulsively, considering consequences to actions/not considering consequences) while completing the task and to later share with the group their observations and what they thought the group could of done to improve (e.g., "What worked?", "What didn't?" "What can we do next time to improve how we complete tasks?"). Again, the point behind leveraging social context is to cognitively, behaviorally, emotionally, and motivationally engage participants to learn how to set goals, plan, monitor and evaluate. One of the most effective ways to do this is through relationships (Wyman et al., 2010).

Conclusion

Recreation programs are a promising context that when effectively designed and implemented can promote self-regulation and thus, extend critical growth opportunities

for young people. In this article, we have suggested that there are three primary leverage points that recreation programs can utilize to promote self-regulation in youth. First, at the core of recreation programs, they are fun and enjoyable. This provides the basis for intrinsic motivation, engagement, and positive emotions, all of which are conceptually and empirically linked to the development of self-regulation. Second, drawing on the concept of high yield activities, we argued that activities could be an important tool to promote self-regulation, particularly when activities are goal-oriented, challenging, and directed towards developing skills. Finally, recreation settings offer a positive social context that can be an important social scaffold for adults to serve as role models and teach youth how to plan, guide, and monitor their efforts to achieve self-set goals. Peers can also serve as an important protective factor in recreation settings, when structured appropriately. These relationships offer opportunities for youth to learn how to support and regulate one another, which in turns helps them internalize regulatory competence (e.g., Diamond, 2010). As youth become more proficient in these skills, the scaffold is slowly removed, affording youth to engage in more autonomous behaviors predictive of healthy adjustment.

The important point to emphasize about that these leverage points is that they occur in a context where youth can learn and practice: a) setting goals, b) planning and strategizing how to achieve those goals, and finally c) monitoring and evaluating their goal progress or achievement. The suggestions and applied examples in this paper (see Tables 1–3) are broad in scope and highlight that there are many ways that these recommendations can be incorporated into a program. Under social context, for example, one of the recommended strategies was to have adult staff mentor youth. The example suggests that one way to accomplish this is by doing brief "check-ins" that focus on relationship-building, goalsetting, monitoring strategy use, and evaluating performance. While this might be effective for some programs, it may not be for others, due to limiting factors such as time or staff/participant ratios. Yet, there are a number of different ways to accomplish the general point (mentoring) through different mediums ("informal check-ins", e-mentoring, coaching, formalized and structured mentoring sessions, etc.). On the other hand, some programs may already be implementing some of these suggestions, while others may have to get creative. Regardless, each program is unique with specific resources, constraints, populations, and so forth. As such, the examples provided are intentionally offered with flexibility to meet individual program needs.

Although many of the leverage points discussed in this article may seem intuitive, it is important to emphasize the need to move youth into an awareness of their knowledge and skills as a means to foster more sophisticated and effective forms of self-regulatory strategy use. As many of the experiences in recreation programs are new, it is oftentimes the way a program is designed and the way staff and participants interact that determine successful outcomes. When designed and implemented well, programs can provide the critical external support to guide youth and help them to identify *how* to navigate through new and various situations, use different self-regulation strategies, and to understand the situations under which a particular strategy is most effective, and why (Dignath & Buttner, 2008).

Finally, no single youth development program can ensure that all youth experience and receive all the necessary nutriments associated with positive development. Nor do all youth programs elicit or support regulatory functioning in the same manner. However, the collective impact of youth having multiple access points (home, school, recreation

programs, athletics) in which to learn effective self-regulation is a powerful predictor of healthy development (Masten & Cicchetti, 2010). In the same way that physical activity improves physical fitness, youth need opportunities to exercise and challenge their self-regulatory capacities to improve self-regulation (Diamond, 2010). What better time or place to help youth practice self-regulation, than when they are having fun, engaging in meaningful activities, and connecting with others? Thus, leveraging these inherent elements of recreation programs to promote self-regulation in youth should be a primary focus for recreation professionals.

References

- Barber, B. L., Stone, M. R., Hunt, J. E., & Eccles, J. S. (2005). Benefits of activity participation: The roles of identity affirmation and peer group norm sharing. In J. L. Mahoney, R. W. Larson, & J. S. Eccles (Eds.), *Organized activities as contexts of development; extracurricular activities, after-school and community programs* (pp. 3–22). Mahwah, NJ: Lawrence Erlbaum.
- Barrera, M., & Bonds, D. (2005). Mentoring relationships and social support. In D. DuBois & M. Karcher (Eds.), *Handbook of youth mentoring* (pp. 133–142). Thousand Oaks, CA: Sage.
- Baumeister, R. F., DeWall, C., Ciarocco, N. J., & Twenge, J. M. (2005). Social exclusion impairs self-regulation. *Journal of Personality & Social Psychology*, 88(4), 589–604.
- Baumeister, R., Zell, A., & Tice, D. (2009). How emotions facilitate and impair self-regulation. In J. Gross (Ed.), *Handbook of emotion regulation* (pp. 408–428). NY: Guilford.
- Bell, K., & Calkins, S. (2000). Relationships as inputs and outputs of emotion regulation. *Psychological Inquiry*, 11(3), 160–209.
- Bisson, C., & Luckner, J. (1996). Fun in learning: The pedagogical value of fun in adventure education. *Journal of Experiential Education* 19(2), 108-112.
- Blumenfeld, P. C., Kempler, T. M., & Krajcik, J. S. (2006). Motivation and cognitive engagement in learning environments. In R. K. Sawyer (Ed.), *The Cambridge* handbook of the learning sciences (pp. 475–488). New York: Cambridge University Press.
- Blyth, D., Hill, J., & Thiel, K. (1982). Early adolescents' significant others: Grade and gender differences in perceived relationships with familial and nonfamilial adults and young people. *Journal of Youth and Adolescence, 11*, 425–450.
- Bocarro, J., & Witt, P. (2003). Relationship based programming: The key to successful youth development in recreation settings. *Journal of Park and Recreation Administration*, 21(3), 75-96.
- Bodrova, E., & Leong, D. J. (2007). *Tools of the mind: The Vygotskian approach to early childhood education* (2nd ed.). New York: Merrill/Prentice Hall.
- Boekaerts, M., & Corno, L. (2005). Self-regulation in the classroom: A perspective on assessment and intervention. *Applied Psychology: An International Review, 54*(2), 199–231.
- Brown, B. B. (1990). Peer groups and peer cultures. In S. S. Feldman & G. R. Elliot (Eds.), *At the threshold: The developing adolescent* (pp. 171–196). Cambridge, MA: Harvard Press.
- Buckner, J., Mezzacappa, E., & Beardslee, W. (2003). Characteristics of resilient youth living in poverty: The role of self-regulatory processes. *Development and Psychopathology*, 15, 139–162.
- Caldwell, L. (2005). Recreation and youth development. In P. Witt & L. Caldwell (Eds.), *Recreation and youth development* (pp.169–191). State College, PA: Venture.
- Caldwell, L. L., & Witt, P. A. (2011). Leisure, recreation, and play from a developmental context. *New Directions for Youth Development, 130*, 13–27.
- Carnegie Council on Adolescent Development. (1992). Task force on youth development and community programs. A matter of time: Risk and opportunity in the nonschool hours. Washington, DC: Author.

- Cleary, T., Platten, P., & Nelson, A. (2008). Effectiveness of the Self-Regulation Empowerment Program with urban high school students. *Journal of Advanced Academics*, 20(1), 70–107.
- Cleary, T. J., Zimmerman, B. J., & Keating, T. (2006). Training physical education students to self-regulate during basketball free throw practice. *Research Quarterly for Exercise and Sport*, 77(2), 251–262.
- Csikszentmihalyi, M. (1990). Flow: The psychology of optimal experience. New York, NY: Harper and Row.
- Csikszentmihalyi, M., & Larson, R. (1984). Being adolescent. New York: Basic Books.
- Dahl, R. (2004). Adolescent brain development: A period of vulnerabilities and opportunities. Keynote Address. *Annals of the New York Academy of Sciences*, 1021, 1–22.
- Deci, E., & Ryan, R. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry: An International Journal for the Advancement of Psychological Theory, 11*(4), 227–268.
- Diamond, A. (2010). The evidence base for improving outcomes by addressing the whole child and by addressing skills and attitudes, not just content. *Early Education and Development 21*(5), 780–793.
- Diaz, R., Neal, C., & Amaya-Williams, M. (1990). The social origins of self-regulation. In L. Moll (Ed.), Vygotsky and education (pp.127–154). New York: Cambridge University Press.
- Dignath, C., & Buttner, G. (2008). Components of fostering self-regulated learning among students. A meta-analysis on intervention studies at primary and secondary school level. *Metacognition and Learning*, *3*(3), 231–264.
- Dignath, C., Buttner, G., & Langfeldt, H. (2008). How can primary school student learn self-regulated learning strategies most effectively? A meta-analysis on self-regulation training programmes. *Educational Research Review*, *3*, 101–129.
- Dworkin, J. B., Larson, R., & Hansen, D. (2005). Adolescents' accounts of growth experiences in youth activities. *Journal of Youth and Adolescence*, 32, 17–26.
- Eccles, J., & Barber, B. (1999). Student council, volunteering, basketball, or marching band: What kind of extracurricular involvement matters? *Journal of Adolescent Research*, 14, 10–34.
- Eccles, J., Early, D., Fraser, K., Belansky, E., McCarthy, K. (1997). The relation of connection, regulation, and support for autonomy to adolescents' functioning. *Journal of Adolescent Research*, 12(2), 263–286.
- Eisenberg, N., Spinard, T., & Eggum, N. (2010). Emotion-related self-regulation and its relation to children's maladjustment. *Annual review of Clinical Psychology, 6,* 495–525.
- Frydenberg, E. (2008). *Adolescent coping: Advances in theory, research and practice*. New York: Routledge.
- Gardner, T., Dishion, T., & Connell, A. (2008). Adolescent self-regulation as resilience: Resistance to antisocial behavior within the deviant peer context. *Journal of Abnormal Child Psychology*, *36*, 273–284.
- Gestsdottir, S., & Lerner, R. (2007). Intentional self-regulation and positive youth development in early adolescence: Findings from the 4-H study of positive youth development. *Developmental Psychology*, 43(2), 508–521.
- Gestsdottir, S., & Lerner, R. (2008). Positive development in adolescence: The development and role of intentional self-regulation. *Human Development*, 51, 202–224.
- Hamilton, S., & Darling, N. (2002). Naturally occurring mentoring in Japan and the United States: Social roles and correlates. *American Journal of Community Psychology*, 30(2), 245–270.
- Hansen, D. M., Larson, R. W., & Dworkin, J. B. (2003). What adolescents learn in organized youth activities: A survey of self-reported developmental experiences. *Journal of Research on Adolescence 13*(1), 25–55.

- Henderson, K. A., Glancy, M., & Little, S. (1999). Putting the fun into physical activity. *Journal of Physical Education, Recreation, and Dance*, 70(8), 43–45, 49.
- Higgins, E., Cesario, J., Hagiwara, N., Spiegel, S., & Pittman, T. (2010). Increasing or decreasing interest in activities: The role of regulatory fit. *Journal of Personality & Social Psychology*, 98(4), 559–572.
- Hobfoll, S. (2010). Conservation of resources theory: Its implication for stress, health, and resilience. In S. Folkman (Ed.), *The Oxford handbook of stress, health, and coping* (pp. 127–147). New York: Oxford University Press.
- Holton, D., & Clarke, D. (2006). Scaffolding and metacognition. *International Journal of Mathematical Education in Science and Technology*, 37(2), 127–143.
- Johnson, J., Blum, R., & Giedd, J. (2009). Adolescent maturity and the brain: The promise and pitfalls of neuroscience research in adolescent health policy. *Journal of Adolescent Health*, 45(3), 216–221.
- Keating, D. (2004). Cognitive and brain development. In R. Lerner & L. Steinberg (Eds.), Handbook of adolescent psychology (pp. 45–84). Hoboken, NJ: John Wiley & Sons.
- Kitsantas, A., Reiser, R., & Doster, J. (2004). Developing self-regulated learners: Goal setting, self-evaluation, and organizational signals during acquisition of procedural skills. *Journal of Experimental Education*, 72(4), 269–287.
- Kleiber, D. A. (1999). Leisure experience and human development: A dialectical interpretation. New York: Basic.
- Lakes, K., & Hoyt, W. T. (2004). Promoting self-regulation through school-based martial arts training. *Journal of Applied Developmental Psychology*, 25(3), 283–302.
- Larson, R. (2000). Toward a psychology of positive youth development. *American Psychologist*, 55, 170–183.
- Larson, R., & Angus, R. (2011). Adolescents' development of skills for agency in youth programs: Learning to think strategically. *Child Development*, 82, 277–294.
- Larson, R. & Hansen, D. (2005). The development of strategic thinking: Learning to impact human systems in a youth activism program. *Human Development*, 48, 327–349.
- Larson, R., & Kleiber, D. A. (1993). Daily experience of adolescents. In P. Tolan & B. Cohler (Eds.), Handbook of clinical research and practice with adolescents (pp. 125–145). New York: Wiley.
- Lerner, R. Brentano, C., Dowling, E., & Anderson, P. (2002). Positive youth development: Thriving as the basis of personhood and civil society. In R. Lerner, C. Taylor, & A. von Eye (Eds.), *Pathways to positive development among diverse youth* (pp.149–164). San Francisco: Jossey-Bass.
- Lerner, R., Freund, A., De Stanfis, I., & Habermas, T. (2001). Understanding developmental regulation in adolescence: The use of the selection, optimization, and compensation mode. *Human Development*, 44, 29–50.
- Lerner, R., Lerner, J., Alermigi, J., Theokas, C., Phelps, E., ... & von Eye, A. (2005). Positive youth development, participation in community youth programs, and community contributions of fifth grade adolescents: Findings from the first wave of the 4-H study of positive youth development. *Journal of Early Adolescence*, 25(1).
- Magar, E., Phillips, L., & Hosie, J. (2008). Self-regulation and risk-taking. *Personality and Individual Differences*, 45, 153–159.
- Masten, A. (2004). Regulatory processes, risk, and resilience in adolescent development. *Annals of the New York Academy of Sciences, 1021*, 310–319.
- Masten, A., & Cicchetti, D. (2010). Developmental cascades. *Development and Psychopathology*, 22, 491–495.
- Masten, A., Herbers, J., Cutuli, J., & Lafavor, T. (2008). Promoting competence and resilience in the school context. *Professional School Counseling*, *12*(2), 76–84.
- Meyer, D. (1993). What is scaffolded instruction? Definitions, distinguishing features, and misnomers. In D. J. Leu & C. K. Kinzer (Eds.), *Examining central issues in literacy research, theory, and practice: Forty-second yearbook of The National Reading Conference* (pp. 41–53). Washington, DC: National Reading Conference.

- Meyer, D., & Turner, J. (2002). Using instructional discourse to study the scaffolding of student self-regulation. *Educational Psychologist*, 37(1), 17–25.
- Moilanen, K. L. (2007). The adolescent self-regulatory inventory: The development and validation of a questionnaire of short-term and long-term self-regulation. *Journal of Youth and Adolescence*, *36*, 835–848.
- Muraven M., & Baumeister, R. (2000). Self-regulation and depletion of limited resources: Does self-control resemble a muscle? *Psychological Bulletin*, *126*(2), 247–259.
- Pekrun, R., Goetz, T., Titz, W., & Perry, R. (2002). Academic emotions in students' self-regulated learning and achievement: A program of qualitative and quantitative research. *Educational Psychologist*, *37*(2), 91–106.
- Percy, A. (2008). Moderate adolescent drug use and the development of substance use self-regulation. *International Journal of Behavioral Development*, 32(5), 451–458.
- Perels, F., Merget-Kullman, M., Wende, M., Schmitz, B., & Buchbinder, C. (2009). Improving self-regulated learning of preschool children: Evaluation of training for kindergarten teachers. *British Journal of Educational Psychology*, 79, 311–327.
- Perry, N. E., VandeKamp, K. O., Mercer, L. K., & Nordby, C. J. (2002). Investigating teacher-student interactions that foster self-regulated learning. *Educational Psychologist*, 37(1), 5–15.
- Pittman, K., Irby, M., Tolman, J., Yohalem, N., & Ferber, T. (2003). Preventing problems, promoting development, encouraging engagement: Competing priorities or inseparable goals? Washington, DC: The Forum for Youth Investment.
- Posner, M., & Rothbart, M. (2000). Developing mechanisms of self-regulation. Development and Psychopathology, 12, 427–441.
- Rathunde, K. (2001). Family context and the development of undivided interest: A longitudinal study of family support and challenge and adolescents' quality of experience. *Applied Developmental Science*, 5(3), 158–171.
- Rhodes, J. (2002). Stand by me: The risks and rewards of mentoring today's youth. Cambridge, MA: Harvard University Press.
- Rhodes, J., Spencer, R., Keller, T. E., Liang, B., & Noam, G. (2006). A model for the influence of mentoring relationships on youth development. *Journal of Community Psychology*, 34(6), 691–707.
- Ryan, R. M., Connell J., & Plant, R. (1990). Emotions in nondirected text learning. *Learning and Individual Differences*, 2(1), 1–17.
- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55(1), 68–78.
- Scanlan, T., & Simons J. P. (1992). The construct of sport enjoyment. In G. C. Roberts (Ed.), *Motivation in sport and exercise* (pp. 199–215). Champaign, IL: Human Kinetics.
- Skinner, E., & Zimmer-Gembeck, J. (2007). The development of coping. Annual Review of Psychology, 58, 119–144.
- Somerville, L. H., Jones, R. M., & Casey, B. J. (2010). A time of change: Behavioral and neural correlates of adolescent sensitivity to appetitive and aversive environmental cues. *Brain and Cognition*, 72, 124–133.
- Steinberg, L. (2005). Cognitive and affective development. *Trends in Cognitive Science*, 9(2), 69–74.
- Tice, D. M., Baumeister, R. F., Shmueli, D., & Muraven, M. (2007). Restoring the self: Positive affect helps improve self-regulation following ego depletion, *Journal of Experimental Social Psychology*, 43(3), 379–384.
- Tinsley, H., &. Eldredge, B.D. (1995). Psychological benefits of leisure participation: A taxonomy of leisure activities based on their need-gratifying properties. *Journal of Counseling Psychology*, 42(2), 123–132.
- Tsorbatzoudis H., Alexandris, K., Zahariadis, P., & Grouios, G. (2006). Examining the relationship between recreational sport participation and intrinsic and extrinsic motivation and amotivation. *Perceptual Motor Skills*, 103(2), 363–374.

- Veenman, M., Van Hout-Wolters, B. H. A. M., & Afflerbach, P. (2006). Metacognition and learning: Conceptual and methodological considerations. *Metacognition and Learning*, 13–14.
- Vohs, K., & Baumeister, R. (2011). Understanding self-regulation: An introduction. In R. Baumeister & K. Vohs (Eds.), *Handbook of self-regulation second edition: Research, theory, and applications* (pp. 1–12). New York: Guilford.
- Walker, J. Marczak, M., Blyth, D., & Borden, L. (2005). Designing intentional youth programs: Toward a theory of developmental intentionality. In J. Mahoney, R. Larson, & J. Eccles (Eds.), Organized activities as contexts of development (pp. 399–418). Mahwah, NJ: Lawrence Erlbaum Associates.
- Watts, C. E., & Caldwell, L. L. (2008). Self-determination and free time activity participation as predictors of initiative. *Journal of Leisure Research*, 40(1), 156–181.
- Witt, P., & Caldwell, L. (2005). 10 principles of youth development. In P. Witt & L. Caldwell (Eds.), *Recreation and youth development* (pp. 3–23). State College, PA: Venture.
- Wyman, P., Cross, W., Brown, H., Yu, Q., Tu, X., & Eberly, S. (2010). Intervention to strengthen emotional self-regulation in children with emerging mental health problems: Proximal impact on school behavior. *Journal of Abnormal Child Psychology, 38*, 707–720.
- Zimmerman, B. (2000). Attaining self-regulation. A social cognitive perspective. In M. Boekaerts, P. Pintrich, & M. Zeidner (Eds.), *Handbook of self-regulation* (p. 13–39). San Diego: Academic Press.