

Social and Emotional Learning, Social and Emotional Competence, and Students' Academic Outcomes: The Roles of Psychological Need Satisfaction, Adaptability, and Buoyancy

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Abstract This chapter explores the possible relationships between students' social and emotional competencies, motivation, engagement, and achievement in the context of an autonomy-supportive environment. At the core of students' social and emotional learning are social and emotional competencies (SECs; e.g., social awareness, relationship skills). The present chapter broadens the view on SECs by considering novel constructs from the psycho-educational literature: basic psychological need satisfaction, adaptability, and academic buoyancy. Importantly, when SECs are effectively taught it leads to positive academic and non-academic outcomes. With the aim of promoting these positive outcomes, researchers have endeavored to better understand the climates that promote students' SECs. Harnessing perspectives from social and emotional learning, self-determination theory, and the broaden-and-build theory of positive emotions, we propose an autonomy-supportive environment as one that can promote the SECs. We further contend that by supporting SECs through an autonomy-supportive environment, motivation, engagement, and achievement can be positively influenced. Finally, given the hypothesized relationships, this chapter also briefly reviews avenues for further development of students' SECs, and more generally, their social and emotional learning.

Keywords Social and emotional competence · Basic psychological needs · Adaptability · Academic buoyancy · Autonomy support · Student outcomes

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1 The Roles of Psychological Need Satisfaction, Adaptability, and Buoyancy

Social and emotional learning (SEL) involves instructional approaches aimed at developing students’ social and emotional competencies (SECs; Weissberg et al. 2015). In addition to fostering these via instruction, SEL also promotes students’ SECs through the establishment of “positive classroom/school cultures, climates, and conditions for learning that are safe, caring, cooperative, well managed, and participatory” (Weissberg et al. 2015, p. 6). The present chapter concentrates on this latter aspect of SEL and broadens the view on SECs by considering novel constructs from the psycho-educational literature as three such SECs: basic psychological need satisfaction (of autonomy, competence, and relatedness; Deci and Ryan 2012), adaptability (students’ ability to adjust cognitions, behaviors, and emotions to deal with new, changing, or uncertain situations; Martin et al. 2012, 2013), and academic buoyancy (students’ ability to successfully navigate academic challenges and setbacks; Martin and Marsh 2008a). More precisely, the chapter looks at the impact of the classroom’s social-emotional climate on students’ SECs and, in turn, their educational outcomes. The proposed process is shown in Fig. 1.

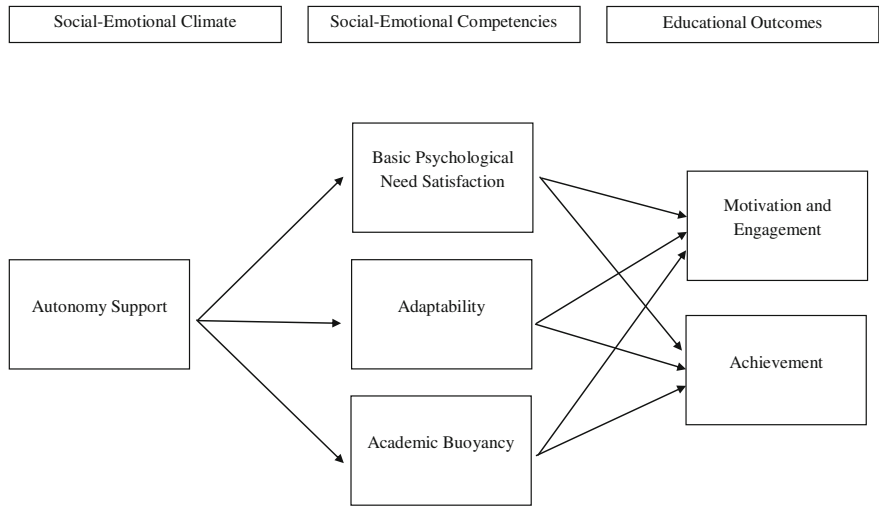


Fig. 1 A proposed SEL process of **a** autonomy support, **b** psychological need satisfaction, adaptability, buoyancy, and **c** motivation, engagement, and achievement. *Note* Although we include directional arrows, interventions can be independent of each other and need not be applied in sequence to be effective. There is scope for these interventions to be combined or applied in a way that addresses factors occurring earlier in the process (e.g., autonomy support) than other factors (e.g., adaptability)

2 Conceptual Overview

In exploring SECs and their connections, we draw together conceptualizing in the areas of SEL and self-determination theory (Deci and Ryan 2012). As noted above, SEL involves instructional approaches aimed at fostering students' SECs. According to the Collaborative for Social, Academic, and Emotional Learning (CASEL 2013), there are five core SEL competencies: self-awareness (i.e., recognizing one's emotions and thoughts and how they influence behavior, motivation, confidence, optimism, and knowing one's strengths and limitations), self-management (i.e., regulating cognitions, behaviors, and emotions effectively such as managing stress and impulses, motivating oneself, and working toward adaptive goals), social awareness (i.e., taking others' perspectives, empathizing with others, and recognizing resources and supports), relationship skills (i.e., establishing and maintaining high-quality relationships such as through effectively communicating, listening, cooperating, negotiating, and/or helping), and responsible decision making (i.e., making constructive and respectful choices, goal setting and striving, considering the well-being of others and self, and understanding ethical standards, social norms, and consequences of actions; see also Weissberg et al. 2015).

These five competencies are promoted by SEL instruction, as well as in the classroom, school, family, and community (Weissberg et al. 2015). In the classroom, SEL involves teaching and modeling SECs as well as providing appropriate opportunities for students to practice and apply these skills (Weissberg et al. 2015). Students' social and emotional development is also fostered by positive teacher-student interactions that create a supportive classroom environment—one that offers emotional support and provides opportunities for mastery experiences and feelings of autonomy (Jennings and Greenberg 2009; Weissberg et al. 2015). In turn, SEL and the development of SECs are linked with positive academic outcomes among students such as motivation, engagement, and achievement (e.g., Durlak et al. 2015; Durlak et al. 2011; Humphrey, 2013; Rhoades et al. 2011; Schonfeld et al. 2014).

Self-determination theory (SDT; Deci and Ryan 1985, 1991, 2002; Ryan and Deci 2000, 2002) has relevant alignments with and contributions to current the understanding of SEL. SDT posits that people are, by nature, active and self-motivated; yet, in some circumstances, they can also feel alienated and controlled. In any given context, how an individual is placed with regard to these experiences can either facilitate or impede their motivation and sense of self-determination (e.g., Deci and Ryan 1985, 1991). With respect to education, SDT assumes that students possess inherent growth tendencies and psychological needs (autonomy, competence, and relatedness) which promote optimal functioning, academic engagement, constructive social development, and personal well-being (Deci and Ryan 1985, 1991, 2002; Ryan and Deci 2000). SEL and SDT are aligned in that they posit that individuals learn more effectively when they have more positive affect and a high sense of efficacy, feel respected and a sense of belonging at school, and perceive that people at school have their best interests at heart (Bryk and Schneider 2002; Dweck 2006; Jennings and Greenberg 2009;

Noddings 2005). Moreover, SDT provides a framework for understanding individuals' motivation and healthy functioning, and by implication, how this may be supported from an SEL perspective.

Finally, the broaden-and-build theory of positive emotions (Fredrickson 2001) also lends itself to SEL. Broaden-and-build theory contends that particular emotions can positively impact momentary thought-action repertoires and in so doing increase an individual's social and psychological personal resources (Fredrickson 2001). In other words, these positive emotions widen the array of cognitions and behaviors that a person has and can use (Fredrickson 2001). In the context of this chapter, adaptability and academic buoyancy require adaptation of cognition, behavior, and/or emotion to respond to new and novel situations and setback (e.g., Martin et al. 2013). Having a large repertoire of cognitions and behaviors can aid in responding to different and novel situations. In terms of outcomes, these emotions broaden the scopes of attention and cognition, enable flexible and creative thinking, and potentially enhance coping skills (Fredrickson 2001). Thus, an environment that supports these positive emotions, such as an autonomy-supportive one, has the potential to positively influence students' adaptability and academic buoyancy (and possibly their basic psychological need satisfaction as well)—and subsequently a variety of academic and non-academic outcomes. In the sections to follow, we harness knowledge from SEL, SDT, and broaden-and-build theory to introduce the process shown in Fig. 1.

2.1 *Autonomy Support*

Autonomy support is a core aspect of SDT (Deci and Ryan 1985) that concerns how individuals' motivation can be supported. Autonomy support refers to “an interpersonal behavior that one person adopts toward another, in view of promoting the latter's willful intentions and psychological needs” (Sarrazin, Leroy, Bressoux, Sarrazin and Trouilloud 2007, p. 530). With respect to the educational context, autonomy support is conceptualized as the emotional and behavioral support that teachers provide to identify, nurture, and support students' volition and sense of autonomy (e.g., Reeve 2006; Reeve et al. 2004; Reeve and Jang 2006). With respect to SEL, autonomy support is an important determinant of the classroom's social and emotional climate and likely influences the quality of teacher–student relationships in the classroom. Autonomy-supportive practices include actions such as providing explanatory rationales for a particular task or activity, providing choice in a given task or activity, and acknowledging students' expressions of positive or negative affect (e.g., Deci and Ryan 1985, 2008b, 2012; Reeve 2006, 2009). As noted above, the classroom climate and healthy teacher–student relationships both play an important role in fostering students' SECs (Jennings and Greenberg 2009; Weissberg et al. 2015; Williford and Sanger Wolcott 2015). In the following sections, we describe the three SECs under focus in this chapter: psychological need satisfaction, adaptability, and academic buoyancy.

2.2 *Basic Psychological Needs*

Within SDT (Deci and Ryan 1985), satisfaction of basic psychological needs is posited as essential to growth, healthy psychological development, optimal functioning, and well-being (Deci and Ryan 2000; Ryan 1995). These psychological needs are considered general and widely applicable due to their expression across gender, age, social class, personality, and culture (Deci and Ryan 2000, 2002, 2008a; Vansteenkiste et al. 2010). Three basic psychological needs have been identified: autonomy, competence, and relatedness. Autonomy refers to the degree of volition and control in one's actions and behaviors (DeCharms 1968; Niemiec and Ryan 2009). Relatedness refers to the connection, support, and care by and for others (Baumeister and Leary 1995; Niemiec and Ryan 2009). Competence or efficacy (for clarity, we refer to competence as efficacy hereafter) refers to one's sense of capability in performing tasks of varying difficulty (Niemiec and Ryan 2009; White 1959).

The three basic psychological needs are aligned with the five core SELs described by CASEL (2013). A sense of autonomy and efficacy are relevant to self-awareness (e.g., recognizing one's strengths and limitations), self-management (e.g., motivating oneself), and responsible decision making (e.g., making constructive choices). For example, if a student is given an assignment in which she has to answer four out of the five questions, she will likely evaluate which questions she can answer best and choose those four to respond to. Finally, a sense of relatedness reflects the core SEL competency of relationship skills. For example, if a student feels a sense of connectedness and belonging in a group project, he/she may be more willing to communicate with, listen to, and cooperate with the group to complete the project. Thus, basic psychological need satisfaction seems important to consider when understanding students' SEL.

Of note, the three basic psychological needs have been linked to a number of positive psychological, emotional, and behavioral outcomes. Relevant to an SEL perspective, the satisfaction of these three needs is seen as promoting autonomous motivation, increasing students' bonding to school, and bolstering their achievement (Brock et al. 2008; Ryan and Deci 2000). Students' sense of autonomy is associated with "greater flexibility in problem solving, more efficient knowledge acquisition, and a strong sense of personal worth and social responsibility" (Deci et al. 1991, pp. 325–326). In addition, a sense of autonomy is positively associated with intrinsic motivation (e.g., Deci and Ryan 1985). A sense of efficacy is associated with goal commitment and goal progress (Schüler et al. 2010), enhanced intrinsic motivation (e.g., Deci 1971), adaptive behavior change, and increased learning (Deci et al. 1996). Finally, a sense of relatedness is associated with greater classroom engagement (Reeve 2006), positive feelings of self-worth and self-esteem (Connell and Wellborn 1991), and enhanced persistence, goal striving, and self-regulation (Martin and Dowson 2009). Therefore, the satisfaction of these needs appears to play a central role in promoting individuals' self-determination and optimal functioning.

2.3 *Adaptability*

Adaptability focuses on the extent to which an individual is able to navigate change, uncertainty, and novelty (e.g., beginning a new school, starting or changing jobs, getting married, having children, or retiring; Martin et al. 2012, 2013). Adaptability has been positioned as a sub-construct of self-regulation (Martin et al. 2013). Unlike self-regulation which tends to focus on cognitive and behavioral regulation, however, recent conceptions of adaptability have added emotional regulation to the framework (Martin et al. 2012, 2013). This reflects research surrounding the broaden-and-build theory of emotions which suggests that individuals are more likely to approach and explore novel objects and situations if they experience mild positive affect frequently (Fredrickson 2001). Thus, adaptability is defined as “an individual’s ability to effectively navigate change, uncertainty, and novelty by regulating and monitoring cognitive, behavioral, and emotional responses” (Burns and Martin 2014, p. 227). Cognitive adaptability involves modifying one’s thoughts; behavioral adaptability involves modifying the nature, level, and degree of action; and emotional adaptability involves modifying one’s (positive and negative) feelings—all aimed at effectively dealing with change, uncertainty, and novelty (Burns and Martin 2014; Martin and Burns 2014; Martin et al. 2012, 2013, 2014).

As this definition suggests, clear links can be seen between adaptability and the core SEL competency of self-management (e.g., regulating one’s thoughts, behaviors, and emotions; CASEL 2013). Of note, research has shown that adaptability is correlated with a number of positive academic and non-academic outcomes, including academic achievement, enjoyment of school, satisfaction with life, and a sense of meaning and purpose (Martin 2007; Martin et al. 2012, 2013, 2014; Wrosch and Scheier 2003). Martin et al. (2013) added that a student’s capacity to keep up with and participate in school and their willingness to consider more ambitious and positive future selves will in part depend on their adaptability. Most recently, research has shown that adaptability may be particularly appropriate in reducing failure experiences and failure dynamics (e.g., anxiety, performance avoidance, self-handicapping, and disengagement; Martin et al. 2015). Adaptability has thus shown to be an important concept to consider in students’ academic lives, with early findings suggesting it to be important for further investigation.

2.4 *Academic Buoyancy*

Alongside the capacity to navigate change and uncertainty, it is also important for students to navigate adversity and challenge in their academic lives. For example, SEL theorists acknowledge that “depending on the student and unique factors, stressors may combine in ways that are beneficial, tolerable, or toxic to a child’s learning and development” (Meiklejohn et al. 2012, p. 296; see also

Schonert-Reichl et al. 2015). Students' positive response to everyday academic challenges (e.g., poor performance, competing deadlines, performance pressure, or difficult tasks) is the focus of academic buoyancy (Martin and Marsh 2008a; Miller et al. 2013; Putwain et al. 2012). Specifically, academic buoyancy is defined as students' capacity to successfully overcome setback, challenge, and adversity that are typical of the ordinary course of academic life (Martin and Marsh 2006, 2008a, b, 2009). In that sense, it is also sometimes referred to as "everyday resilience" (Parker and Martin 2009). Broaden-and-build theory of positive emotions (Fredrickson 2001) contends that the ability to be resilient (a cognate-correlate of academic buoyancy) stems from a person's ability to cultivate experiences of positive emotions at opportune times. Thus, a focus on students' SEL has relevance to students' academic buoyancy by emphasizing positive emotions. With regard to the five core SECs, academic buoyancy is relevant to self-management (e.g., managing thoughts and emotions to navigate stress) and responsible decision making (e.g., making constructive choices to overcome difficulties).

Research has shown that academic buoyancy is positively related to several important SEL-related outcomes including general self-esteem (Martin and Marsh 2006, 2008a; Miller et al. 2013), greater persistence (Martin et al. 2010), and greater planning (Martin et al. 2010). Research has also shown that academic buoyancy is associated with lower levels of test-irrelevant thought (Malmberg et al. 2013), tension (Malmberg et al. 2013; Putwain et al. 2012; Putwain and Daly 2013), academic anxiety (e.g., Putwain and Daly 2013), emotional instability (Martin et al. 2013), and uncertain control (Martin 2013; Putwain et al. 2012). Data from a longitudinal study found that students who were unable to successfully navigate the setbacks and challenges characterized by the transition to secondary school had lower levels of engagement, learning motivation, and performance (Doddington et al. 1999). Thus, being buoyant appears to be important for minimizing many negative experiences that can impede learning and achievement and, as such, is a construct that is clearly relevant to students' adaptive academic and non-academic functioning, including their social and emotional development.

2.5 Educational Outcomes

Motivation, engagement, and achievement are some of the most studied constructs in the psycho-educational literature. Motivation and engagement are defined here as students' inclination and drive to learn, work effectively, and achieve to potential—and the behaviors that accompany these (e.g., self-efficacy, valuing, persistence, anxiety; for reviews, see Liem and Martin 2011; Martin 2007, 2009; Reschly and Christenson 2012; Schunk et al. 2012; Schunk and Miller 2002). Decades of research have been dedicated to investigating students' motivation and engagement, consistently noting its significance for students' academic well-being (e.g., Liem and Martin 2012; Martin 2009; Martin et al. 2015). For example, motivation and engagement positively impact school enjoyment, educational aspirations, and

positive participation in addition to other academic well-being indicators such as achievement (see Liem and Martin 2012 for a review).

With regard to achievement, numeracy and literacy are often salient indicators in educational research (e.g., Marks and Ainley 1997; Marks et al. 2000) and in national examinations (Australian Curriculum, Assessment, and Reporting Authority 2011; Department of Basic Education 2014). In Australia, for example, standardized literacy and numeracy is evaluated by the National Assessment Program—Literacy and Numeracy (NAPLAN; Australian Curriculum, Assessment and Reporting Authority 2011). Through NAPLAN, major dimensions of educational advantage and disadvantage have been identified (Rothman and McMillan 2003). NAPLAN has revealed that students in Year 9 with numeracy and literacy scores one standard deviation above the mean are more than two times more likely to participate in higher education than students with average scores (Marks et al. 2000). Further, students in Year 9 with numeracy and literacy scores that are one standard deviation below the mean are two times more likely to drop out of school (McMillan and Marks 2003). Not only does achievement affect educational outcomes, the successful transition to full-time employment, type of occupation, and income level are also significantly associated with prior numeracy and literacy achievement (Rothman and McMillan 2003). On a broader level, community participation, engagement in lifelong learning, and health are all linked with numeracy and literacy (Rothman and McMillan 2003). Taken together, students' motivation, engagement, and achievement in school are major factors relevant to their lives while at school and relevant to their post-school pathways. Figure 1 demonstrates these outcomes in the educational process, following from the social and emotional climate and SECs.

3 Linking the Central Constructs

In the previous section, we introduced the SECs under focus in this chapter. In this next section and with reference to conceptual and empirical work, we discuss how these different factors are associated to reflect the educational process shown in Fig. 1. To begin, we discuss the links between autonomy support and the three SECs: basic psychological need satisfaction, adaptability, and academic buoyancy. Following that, we discuss associations between the SECs and the educational outcomes.

3.1 *Linking Autonomy Support and the SECs and Educational Outcomes*

Links with the basic psychological needs. It has been well documented that an autonomy-supportive learning environment facilitates the satisfaction of the basic psychological needs for autonomy, efficacy, and relatedness among students

(e.g., Deci and Ryan 2012; Haerens et al. 2015; Turner et al. 2014). Thus, for example, if an autonomy-supportive teacher allows students a sense of choice and volition in their studies, this promotes students' autonomy. If that teacher also provides effective and constructive feedback, it helps the student feel more capable to complete that task and ultimately, feel more competent. Further, if that teacher also understands the student's perspective, it is likely the teacher is better able to relate to the student and better promote the student's sense of connection in the classroom. Indeed, the relationship between these variables is also consistent with formal SEL theorizing. The classroom's social and emotional climate (which is fostered by autonomy support) is linked with effective SEL implementation and the development of students' SECs (Jennings and Greenberg 2009). Taken together, autonomy-supportive learning environments and their support for students' basic psychological need satisfaction can be considered important bases for the promotion and maintenance of SECs in the academic context.

Links with adaptability. Although research into the direct association between autonomy support and adaptability has only just begun (Collie and Martin 2017), more established research investigating self-regulation (the umbrella construct under which adaptability resides; Burns and Martin 2014; Martin et al. 2012, 2013, 2014) does provide some indication of how the two may be connected. Researchers have found that when teachers facilitate and guide learning, use non-threatening evaluation practices, provide a choice of tasks, and provide thorough explanations (all autonomy-supportive practices), students demonstrate higher levels of self-regulation (Brown and Campione 1994; Eshel and Kohavi 2003; Pintrich et al. 1994). Indeed, Sierens et al. (2009) found a significant association between autonomy support and self-regulated learning. Given this prior work and the conceptual relatedness between adaptability and self-regulation, we posit a positive association between autonomy support and adaptability. We suggest that in order to regulate cognition, behavior, and emotion in the face of change and uncertainty, significant personal agency and autonomous regulation are required (see also Martin et al. 2012). Given that personal agency and autonomous regulation are promoted in an autonomy-supportive environment (Reeve 2009), such environments likely support students' capacity to adapt to uncertainty and novelty. Moreover, given the links between adaptability and the core SEL competency of self-management, this is relevant to SEL-related outcomes.

Links with academic buoyancy. We also suggest an important connection between autonomy support and students' academic buoyancy. Recall, academic buoyancy refers to students' ability to overcome setbacks and challenges that characterize everyday academic life (e.g., Martin 2014; Martin and Marsh 2009). Researchers suggest that teacher–student relationships play a key role in influencing students' development of academic buoyancy (Martin and Marsh 2009). When teachers seek out, listen to, and value students' opinions and perspectives, the students may be committed to overcoming the setbacks and challenges which characterize their learning (Furrer et al. 2014). These behaviors are among those which help to foster an autonomy-supportive environment (Reeve 2006). More generally this suggests that autonomy support influences students' capacities and

abilities to be academically buoyant. Collie et al. (2015) further contend that autonomy support is one approach teachers can use to spur students' academic buoyancy, achievement, and control.

Preliminary empirical findings support this contention. For example, research has shown that when students perceive they have a sense of control over their future academic outcomes, they are more likely to report academic buoyancy (Collie et al. 2015; Martin et al. 2010; Martin and Marsh 2006). Given that a sense of perceived control among students is a hallmark of autonomy-supportive teaching (e.g., Collie et al. 2015; Deci and Ryan 2012; Leptokaridou et al. 2014; Vansteenkiste et al. 2010), it may be argued that an autonomy-supportive learning environment is likely to promote academic buoyancy. Thus, autonomy-supportive environments promote students' academic buoyancy (through an increased sense of control)—a capacity relevant to students' social and emotional development.

Links with the Educational Outcomes. Although the proposed model in Fig. 1 focuses on the relationship between autonomy support and SECs and the relationship between the SECs and the educational outcomes, it is appropriate to briefly address the possible direct link between autonomy support and the educational outcomes. Autonomy-supportive teaching is positively associated with many educational outcomes including students' motivation, engagement, and achievement (e.g., Deci et al. 1991; Reeve 2002; Ryan and Deci 2000). In terms of motivation, research has shown that students in an autonomy-supportive classroom have higher levels of autonomous motivation (Deci et al. 1994; Deci and Ryan 2008b; Reeve et al. 1999; Vallerand et al. 1997; see also Reeve 2002; Ryan and Deci 2000, for reviews). Additionally, students in an autonomy-supportive classroom show higher levels of active engagement both behaviorally and cognitively (Deci et al. 1991, 1996; Jang 2008; Reeve et al. 2004). Finally, students in an autonomy-supportive classroom tend to have greater conceptual understanding (e.g., Vansteenkiste et al. 2005), enhanced creativity (e.g., Benita et al. 2014), better academic performance (Boggiano et al. 1993), and high academic achievement (Flink et al. 1992). Thus, it is possible that there is also a direct link between autonomy support and educational outcomes, in addition to the proposed relationships in Fig. 1.

3.2 *Linking the SECs with the Educational Outcomes*

Basic psychological needs and the outcomes. There is evidence that basic psychological need satisfaction impacts motivation, engagement, and achievement. For example, psychological need satisfaction has been consistently linked with intrinsic motivation (e.g., Vansteenkiste et al. 2010). Other researchers have found that autonomy, efficacy, and relatedness are associated with a mastery orientation, as evaluated through students' mastery goals (Reeve and Lee 2014). It has also been demonstrated that need satisfaction is negatively associated with anxiety (e.g., Deci et al. 2001).

In addition to need satisfaction as an overarching construct being linked to motivation and engagement, individual psychological needs have also been linked with these outcomes in distinct ways. For example, a sense of autonomy vitalizes students such that they are more actively involved in learning activities—reflecting participation and persistence, two key components of engagement (Fredricks et al. 2004). Benita et al. (2014) found that students who felt they had a high level of choice (thus, autonomy) were more likely to set mastery goals and adopt a mastery orientation. Additionally, efficacy is positively associated with persistence (Vansteenkiste et al. 2010), a key variable of the motivation and engagement scale (MES; see, for review, Liem and Martin 2012). Finally, a sense of relatedness is considered a fundamental human motivation affecting cognition and emotion specifically and healthy psychological functioning more generally (Baumeister and Leary 1995). Thus, relatedness could be seen as fundamental to supporting students' motivation and engagement. Further still, if a student feels volition in his/her actions, feels efficacious about his/her ability to do well, and feels connected and related to teachers, he/she is probably more likely to internalize the learning and be more autonomously engaged (Niemic and Ryan 2009). Taken together, there are several established linkages between need satisfaction, motivation, and engagement.

There is also a positive link between psychological need satisfaction and achievement. That is, when students experience a sense of autonomy, efficacy, and relatedness, academic achievement follows (e.g., Deci and Ryan 2002; Hardre and Reeve 2003; Jang et al. 2012; Reeve et al. 2004a, b; Reeve and Lee 2014; Vansteenkiste et al. 2010). This relationship is often a result of need satisfaction promoting optimal functioning more generally, academic achievement being one aspect of it. For example, a sense of autonomy promotes not only intrinsic motivation, but also academic achievement by way of more efficient knowledge acquisition and greater flexibility in problem-solving (Deci et al. 1991). Additionally, students with a high sense of efficacy tend to have positive expectations for success which lends itself to not only high motivation but also high achievement (Nicholls et al. 1989). Finally, in a recent study, King (2015) found that relatedness facilitates optimal functioning both academically and non-academically in terms of students' engagement, academic achievement, and general well-being. Taken together, autonomy, efficacy, and relatedness can be seen as important antecedents to optimal student motivation, engagement, and achievement (Fig. 1).

Adaptability and the outcomes. Though the adaptability construct is a relatively new contribution to psycho-educational research, several studies have indicated direct and indirect connections with motivation, engagement, and achievement (Martin et al. 2013, 2014, 2015). With regard to the adaptive dimensions of motivation and engagement, Martin et al. (2013) showed that adaptability was positively associated with task management and persistence. This association may be explained by the fact that students who are able to regulate cognition, behavior, and emotion in new or novel situations are also likely to regulate their cognition or behavior in other situations—such as those requiring academic task management and persistence (Martin et al. 2013). Extending this, it is possible that there are similar relationships

between adaptability and other aspects of self-regulation, such as planning and monitoring actions. For example, it may be that if a student is able to regulate his/her cognition to figure out a novel homework problem, this student might also be able to regulate his/her cognition to plan out how to complete that homework by the due date—and monitor his/her progress as that task is done.

Research has also demonstrated inverse links between adaptability and maladaptive dimensions of motivation and engagement. For example, recent work demonstrated that adaptability was associated with lower levels of self-handicapping, disengagement (Martin et al. 2013), anxiety, and failure avoidance (Martin et al. 2015). It seems that if a student is able to adapt his/her cognitive, behavioral, and/or emotional repertoire in response to a novel or uncertain academic task (e.g., by minimizing negative emotions or thinking through different options), there is an enhanced chance of solving it. This leaves little motivation to engage in self-handicapping behavior or to disengage from the task. Hence, adaptability has been linked to reduced inclination and motivation to self-handicap or disengage.

With respect to academic achievement, research has shown that there is a significant direct relationship between adaptability and achievement, with this relationship being positive and of a medium effect size (Martin et al. 2013, 2014, 2015). In order to understand why adaptability and achievement are associated, it is again helpful to consider the conceptual nature of the constructs. If a student sees a question on an examination for which he/she has not studied, the student's ability to adapt his/her cognition (e.g., by thinking of related knowledge that may be relevant), behavior (e.g., by upwardly adjusting the amount of time on that question), and emotion (e.g., minimizing disappointment or fear) is likely to assist in better responding to that question. In this case, there is a credible link between a student's adaptability and his/her achievement (Fig. 1).

Academic buoyancy and the outcomes. Several studies have demonstrated a relationship between students' academic buoyancy and their motivation, engagement, and achievement (e.g., Martin 2014; Martin et al. 2010; Martin and Marsh 2006, 2008b; Putwain et al. 2012). Such research has shown that students who are academically buoyant are also higher in self-efficacy, valuing of school, mastery orientation, planning, task management, and persistence (e.g., Martin et al. 2013). Research has also shown that academic buoyancy is negatively associated with maladaptive dimensions of motivation and engagement. As Martin et al. (2010) suggest, motivation plays a key role in students' ability or capacity to be buoyant and overcome adversity and setback. It follows that if a student experiences anxiety, is failure avoidant, and is uncertain about his/her ability to do well, the capacity to overcome setback and failure may be limited or hindered. SEL research has found that programs promoting resilience (a cognate-correlate of academic buoyancy) and social skills aid in decreasing students' stress and anxiety (Boniwell et al. 2016). Further, empirical evidence has shown that when students are not able to effectively navigate the typical setbacks and challenges that occur at school (evidenced by low buoyancy), they tend to be higher in anxiety, failure avoidance, uncertain control, self-handicapping, and disengagement (e.g., Martin 2013; Martin et al. 2010, 2013).

In addition to the link with motivation and engagement, researchers suggest that academic buoyancy is positively associated with academic achievement (Malmberg et al. 2013; Martin and Marsh 2008a; Putwain et al. 2012). Malmberg et al. (2013) showed that students who can successfully deal with academic risk and setback tend to experience higher achievement—and, interestingly, this is even more apparent when buoyancy is accompanied by a sense of control. Further, Collie et al. (2015) suggest that when a student is academically buoyant, he/she is more likely to perceive an internal locus of control over academic outcomes, an important foundation for future achievement (see Bandura 2001; Skinner 1996). It is thus evident that academic buoyancy plays an important role in influencing students' achievement as well as motivation and engagement (described above).

4 Implications for Practice

With regard to our central factors, SEL has much to contribute on the matter of psycho-educational intervention and practice. Notably, although these interventions can be independent of each other and need not be applied in sequence to be effective, there is also scope for these interventions to be combined or applied in a way that addresses factors occurring earlier in the process (e.g., autonomy support).

As Fig. 1 shows, autonomy support is suggested to be an important SEL-related construct predictive of students' psychological need satisfaction, adaptability, and academic buoyancy. Thus, SEL approaches for optimizing students' educational outcomes could target autonomy support as one potential avenue for attention and intervention. Autonomy support can be nurtured through teachers allowing students a sense of choice in their learning, listening and acknowledging student perspectives, and providing explanatory rationales for activities that show students their learning is paramount to the teacher (e.g., Deci and Ryan 1985, 2012; Reeve 2006, 2009).

Secondly, teachers can also directly assist students' psychological need satisfaction. For example, autonomy can be promoted by emphasizing a student's sense of control in his/her learning (given that a sense of control is a key component of autonomy). Researchers suggest that when students understand the connection between their effort and strategy and their outcomes such as achievement, they are likely to have a greater sense of control over their ability to achieve (Martin 2007). Suggested ways of supporting this connection are by providing task-based feedback and administering reinforcement directly contingent on students' effort and behavior (Martin 2007). In terms of efficacy, researchers suggest that it can be supported through individualizing tasks, responding to students' (negative) beliefs about themselves and their achievement, and enhancing goal-setting skills (Martin 2007). Finally, relatedness, and an increased sense of community and belonging more generally, can be promoted through cooperative learning environments (Martin and Dowson 2009). Relatedness is also enhanced on an individual level

through what has been referred to as “connective instruction” (Martin and Dowson 2009). This instruction emphasizes connections between the student and the material (the “substantive relationship”), the student and the teacher (the “interpersonal relationship”), and the student and the instruction (the “pedagogical relationship”; Martin and Dowson 2009). Taken together, teachers can employ a number of different strategies to better ensure students’ psychological needs are met and thus, positively impact their motivation, engagement, and achievement.

In addition to targeting basic psychological need satisfaction, teacher practices can be and are effective at enhancing students’ adaptability and academic buoyancy. It is suggested that adaptability can be promoted and sustained by attending to the cycle of self-regulation relevant to change, uncertainty, and novelty. In this cycle, students are taught how to: recognize uncertainty or novelty; effectively regulate cognition, behavior, and emotion in response to this uncertainty; recognize the value in that regulation; and further refine their regulation skills for future novel or uncertain situations as the need arises (Martin et al. 2013). Thus, through continual management and promotion of this cycle, teachers can impact students’ adaptability.

Finally, in terms of academic buoyancy, an SEL approach can be effective. For example, one SEL strategy is seen in the “Personal Well-Being Lessons” program (Boniwell et al. 2016) that addresses the challenges and social upheavals students often face in the transition from elementary/middle school to secondary school. This program involves 18 scripted lessons of 50 min each, addressing the scientific bases of happiness comprising positive emotions/experiences and positive relationships (Boniwell et al. 2016). Findings have suggested that this approach helps increase students’ ability to handle the challenges and adversities associated with the transition (Boniwell et al. 2016). By implication, adopting this SEL-based program has the potential to increase students’ academic buoyancy.

5 Conclusion

Drawing on key elements of theory, research, and practice related to SEL, SDT (Deci and Ryan 2012), and broaden-and-build theory of positive emotions (Fredrickson 2001), the present chapter has considered the extent to which autonomy-supportive learning and instruction is associated with psychological need satisfaction, adaptability, and academic buoyancy among students and, in turn, greater motivation, engagement, and achievement (Fig. 1). In that sense, the chapter has focused on three SECs relevant to SEL, how these are influenced by the classroom’s social and emotional climate, and the influence that these SECs have on students’ educational outcomes. Future research would benefit from empirically testing the proposed relationships between SEL, SECs, and educational outcomes. Notwithstanding such future empirical testing, this chapter provides a conceptual mapping for the relationships among these variables.

As described above, research suggests that in autonomy-supportive environments, students are more likely to feel a sense of autonomy, efficacy, and relatedness and are also more likely to be adaptable and academically buoyant. By implication, autonomy support is proposed to be an important foundational experience for the development of students' SECs. Following from this, students whose basic psychological needs are met and who are adaptable and buoyant are also more likely to evince positive motivation, engagement, and achievement. To that end, SEL provides an informative foundation by which to consider factors and processes relevant to students' basic psychological need satisfaction, adaptability, and academic buoyancy. Through this, it is possible to better promote students' motivation, engagement, and achievement in school and beyond.

References

- Australian Curriculum, Assessment and Reporting Authority. (2011). *NAPLAN*. Retrieved from <http://www.nap.edu.au/>
- Bandura, A. (2001). Social cognitive theory: An agentic perspective. *Annual Review of Psychology*, 52, 1–26. doi:[10.1146/annurev.psych.52.1.1](https://doi.org/10.1146/annurev.psych.52.1.1)
- Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin*, 117, 497–529. doi:[10.1037/0033-2909.117.3.497](https://doi.org/10.1037/0033-2909.117.3.497)
- Benita, M., Roth, G., & Deci, E. L. (2014). When are mastery goals more adaptive? It depends on experiences of autonomy support and autonomy. *Journal of Educational Psychology*, 106, 258–267. doi:[10.1037/a0034007](https://doi.org/10.1037/a0034007)
- Boggiano, A. K., Flink, C., Shields, A., Seelbach, A., & Barrett, M. (1993). Use of techniques promoting students' self-determination: Effects on students' analytic problem-solving skills. *Motivation and Emotion*, 17, 319–336. doi:[10.1007/bf00992323](https://doi.org/10.1007/bf00992323)
- Boniwell, I., Osin, E. N., & Martinez, C. (2016). Teaching happiness at school: Non-randomized controlled mixed-methods feasibility study on the effectiveness of personal well-being lessons. *The Journal of Positive Psychology*, 11, 85–98. doi:[10.1080/17439760.2015.1025422](https://doi.org/10.1080/17439760.2015.1025422)
- Brock, L. L., Nishida, T. K., Chiong, C., Grimm, K. J., & Rimm-Kaufman, S. E. (2008). Children's perceptions of the classroom environment and social and academic performance: A longitudinal analysis of the contribution of the responsive classroom approach. *Journal of School Psychology*, 46, 129–149. doi:[10.1016/j.jsp.2007.02.004](https://doi.org/10.1016/j.jsp.2007.02.004)
- Brown, A. L., & Campione, J. C. (1994). Guided discovery in a community of learners. In K. McGilly (Ed.), *Classroom lessons: Integrating cognitive theory with classroom practice*. Cambridge, MA: MIT Press.
- Bryk, A. S., & Schneider, B. H. (2002). *Trust in schools: A core resource for improvement*. New York: Russell Sage Foundation.
- Burns, E., & Martin, A. J. (2014). ADHD and adaptability: The roles of cognitive, behavioural, and emotional regulation. *Journal of Psychologists and Counsellors in Schools*, 24, 227–242. doi:[10.1017/jgc.2014.17](https://doi.org/10.1017/jgc.2014.17)
- Collaborative for Academic, Social, and Emotional Learning, (2013). *2013 CASEL guide: Effective social and emotional learning programs—Preschool and elementary* (school ed.). Chicago: Author.
- Collie, R. J., & Martin, A. J. (2017). *Teachers' sense of adaptability: Examining links with perceived autonomy support, teachers' psychological functioning, and students' numeracy achievement* (Manuscript submitted for publication).

- Collie, R. J., Martin, A. J., Malmberg, L.-E., Hall, J., & Ginns, P. (2015). Academic buoyancy, student's achievement, and the linking role of control: A cross-lagged analysis of high school students. *British Journal of Educational Psychology*, 85, 113–130. doi:[10.1111/bjep.12066](https://doi.org/10.1111/bjep.12066)
- Connell, J. P., & Wellborn, J. G. (1991). Competence, autonomy, and relatedness: A motivational analysis of self-esteem processes. In M. R. Gunnar & L. A. Sroufe (Eds.), *Self Processes in Development: Minnesota Symposium on Child Psychology* (Vol. 29, pp. 244–254). Hillsdale, NJ: Lawrence Erlbaum.
- DeCharms, R. (1968). *Personal causation: The internal affective determinants of behavior*. New York, NY: Academic Press.
- Deci, E. L. (1971). Effects of externally mediated rewards on intrinsic motivation. *Journal of Personality and Social Psychology*, 18, 105–115. doi:[10.1037/h0030644](https://doi.org/10.1037/h0030644)
- Deci, E. L., Eghrari, H., Patrick, B. C., & Leone, D. R. (1994). Facilitating internalization: The self-determination theory perspective. *Journal of Personality*, 62, 119–142. doi:[10.1111/j.1467-6494.1994.tb00797.x](https://doi.org/10.1111/j.1467-6494.1994.tb00797.x)
- Deci, E. L., & Ryan, R. M. (1985). Intrinsic motivation and self-determination in human behavior. *Springer Science & Business Media*. doi:[10.1007/978-1-4899-2271-7](https://doi.org/10.1007/978-1-4899-2271-7)
- Deci, E. L., & Ryan, R. M. (1991). A motivational approach to self: Integration in personality. In R. Dienstbier (Ed.), *Perspectives on motivation* (Vol. 38, pp. 237). Lincoln: University of Nebraska Press.
- Deci, E. L., & Ryan, R. M. (2000). The “what” and “why” of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry*, 11, 227–268. doi:[10.1207/S15327965PLI1104_01](https://doi.org/10.1207/S15327965PLI1104_01)
- Deci, E. L., & Ryan, R. M. (2002). Overview of self-determination theory: An organismic dialectical perspective. *Handbook of self-determination research* (pp. 3–33).
- Deci, E. L., & Ryan, R. M. (2008a). Facilitating optimal motivation and psychological well-being across life's domains. *Canadian Psychology/Psychologie Canadienne*, 49, 14–23. doi:[10.1037/0708-5591.49.1.14](https://doi.org/10.1037/0708-5591.49.1.14)
- Deci, E. L., & Ryan, R. M. (2008b). Self-determination theory: A macrotheory of human motivation, development, and health. *Canadian Psychology*, 49, 182–185. doi:[10.1037/a0012801](https://doi.org/10.1037/a0012801)
- Deci, E. L., & Ryan, R. M. (2012). Motivation, personality, and development within embedded social contexts: An overview of self-determination theory. In R. M. Ryan (Ed), *The Oxford handbook of human motivation* (pp. 85–107). Oxford, UK: Oxford University Press. doi:[10.1093/oxfordhb/9780195399820.013.0006](https://doi.org/10.1093/oxfordhb/9780195399820.013.0006)
- Deci, E. L., Ryan, R. M., Gagné, M., Leone, D. R., Usunov, J., & Kornazheva, B. P. (2001). Need satisfaction, motivation, and well-being in the work organizations of a former eastern bloc country: A cross-cultural study of self-determination. *Personality and Social Psychology Bulletin*, 27, 930–942. doi:[10.1177/0146167201278002](https://doi.org/10.1177/0146167201278002)
- Deci, E. L., Ryan, R. M., & Williams, G. C. (1996). Need satisfaction and the self-regulation of learning. *Learning and Individual Differences*, 8, 165–183. doi:[10.1016/S1041-6080\(96\)90013-8](https://doi.org/10.1016/S1041-6080(96)90013-8)
- Deci, E. L., Vallerand, R. J., Pelletier, L. G., & Ryan, R. M. (1991). Motivation and education: The self-determination perspective. *Educational Psychologist*, 26, 325–346. doi:[10.1080/00461520.1991.9653137](https://doi.org/10.1080/00461520.1991.9653137)
- Department of Basic Education. (2014). *Report on the Annual National Assessments of 2014*. South Africa: Department of Basic Education.
- Doddington, C., Flutter, J., & Rudduck, J. (1999). Exploring and explaining ‘dips’ in motivation and performance in primary and secondary schooling. *Research in Education*, 61, 29–38. doi:[10.7227/RIE.61.4](https://doi.org/10.7227/RIE.61.4)
- Durlak, J. A., Weissberg, R. P., Dymnicki, A. B., Taylor, R. D., & Schellinger, K. B. (2011). The impact of enhancing students' social and emotional learning: A meta-analysis of school-based universal interventions. *Child Development*, 82, 405–432. doi:[10.1111/j.1467-8624.2010.01564.x](https://doi.org/10.1111/j.1467-8624.2010.01564.x)

- Durlak, J. A., Domitrovich, C. E., Weissberg, R. P., & Gullotta, T. P. (2015). *Handbook on Social and Emotional Learning: Research and Practice*. New York: The Guilford Press.
- Dweck, C. (2006). *Mindset: The new psychology of success*. New York: Random House.
- Eshel, Y., & Kohavi, R. (2003). Perceived classroom control, self-regulated learning strategies, and academic achievement. *Educational Psychology*, 23, 249–260. doi:[10.1080/0144341032000060093](https://doi.org/10.1080/0144341032000060093)
- Flink, C., Boggiano, A. K., Main, D. S., Barrett, M., & Katz, P. A. (1992). Children's achievement-related behaviors: The role of extrinsic and intrinsic motivational orientations. In A. K. Boggiano & T. S. Pittman (Eds.), *Achievement and motivation: A social-developmental perspective* (pp. 189–214). New York: Cambridge University Press.
- Fredricks, J. A., Blumenfeld, P. C., & Paris, A. H. (2004). School engagement: Potential of the concept, state of the evidence. *Review of Educational Research*, 74, 59–109. doi:[10.3102/00346543074001059](https://doi.org/10.3102/00346543074001059)
- Fredrickson, B. L. (2001). The role of positive emotions in positive psychology: The broaden-and-build theory of positive emotions. *American Psychologist*, 56, 218. doi:[10.1037/0003-066x.56.3.218](https://doi.org/10.1037/0003-066x.56.3.218)
- Furrer, C. J., Skinner, E. A., & Pitzer, J. R. (2014). The influence of teacher and peer relationships on students' classroom engagement and everyday motivational resilience. *National Society for the Study of Education*, 113, 101–123.
- Haerens, L., Aelterman, N., Vansteenkiste, M., Soenens, B., & Van Petegem, S. (2015). Do perceived autonomy-supportive and controlling teaching relate to physical education students' motivational experiences through unique pathways? Distinguishing between the bright and dark side of motivation. *Psychology of Sport and Exercise*, 16, 26–36. doi:[10.1016/j.psychsport.2014.08.013](https://doi.org/10.1016/j.psychsport.2014.08.013)
- Hardre, P. L., & Reeve, J. (2003). A motivational model of rural students' intentions to persist in, versus drop out of, high school. *Journal of Educational Psychology*, 95, 347. doi:[10.1037/0022-0663.95.2.347](https://doi.org/10.1037/0022-0663.95.2.347)
- Humphrey, N. (Ed.). (2013). *Social and emotional learning: A critical appraisal*. London: SAGE Publications Limited. doi:[10.4135/9781446288603](https://doi.org/10.4135/9781446288603)
- Jang, H. (2008). Supporting students' motivation, engagement, and learning during an uninteresting activity. *Journal of Educational Psychology*, 100, 798. doi:[10.1037/a0012841](https://doi.org/10.1037/a0012841)
- Jang, H., Kim, E. J., & Reeve, J. (2012). Longitudinal test of self-determination theory's motivation mediation model in a naturally occurring classroom context. *Journal of Educational Psychology*, 104, 1175. doi:[10.1037/a0028089](https://doi.org/10.1037/a0028089)
- Jennings, P. A., & Greenberg, M. T. (2009). The prosocial classroom: Teacher social and emotional competence in relation to student and classroom outcomes. *Review of Educational Research*, 79, 491–525. doi:[10.3102/0034654308325693](https://doi.org/10.3102/0034654308325693)
- King, R. B. (2015). Sense of relatedness boosts engagement, achievement, and well-being: A latent growth model study. *Contemporary Educational Psychology*, 42, 26–38. doi:[10.1016/j.cedpsych.2015.04.002](https://doi.org/10.1016/j.cedpsych.2015.04.002)
- Leptokaridou, E. T., Vlachopoulos, S. P., & Papaioannou, A. G. (2014). Experimental longitudinal test of the influence of autonomy-supportive teaching on motivation for participation in elementary school physical education. *Educational Psychology*. doi:[10.1080/01443410.2014.950195](https://doi.org/10.1080/01443410.2014.950195)
- Liem, G. A. D., & Martin, A. J. (2011). Peer relationships and adolescents' academic and non-academic outcomes: Same-sex and opposite-sex peer effects and the mediating role of school engagement. *British Journal of Educational Psychology*, 81, 183–206. doi:[10.1111/j.2044-8279.2010.02013.x](https://doi.org/10.1111/j.2044-8279.2010.02013.x)
- Liem, G. A. D., & Martin, A. J. (2012). The Motivation and engagement scale: Theoretical framework, psychometric properties, and applied yields. *Australian Psychologist*, 47, 3–13. doi:[10.1111/j.1742-9544.2011.00049.x](https://doi.org/10.1111/j.1742-9544.2011.00049.x)
- Malmberg, L.-E., Hall, J., & Martin, A. J. (2013). Academic buoyancy in secondary school: Exploring patterns of convergence in english, mathematics, science, and physical education. *Learning and Individual Differences*, 23, 262–266. doi:[10.1016/j.lindif.2012.07.014](https://doi.org/10.1016/j.lindif.2012.07.014)

- Marks, G., & Ainley, J. (1997). *Reading comprehension and numeracy among junior secondary school students in Australia (LSAY Research Report 3)*. Camberwell, Australia: Australian Council for Educational Research.
- Marks, G., Fleming, N., Long, M., & McMillan, J. (2000). *Patterns of participation in Year 12 and higher education in Australia: Trends and issues (LSAY Research Report Number 17)*. Melbourne: Australian Council for Educational Research.
- Martin, A. J. (2007). Examining a multidimensional model of student motivation and engagement using a construct validation approach. *British Journal of Educational Psychology*, 77, 413–440. doi:[10.1348/000709906X118036](https://doi.org/10.1348/000709906X118036)
- Martin, A. J. (2009). Motivation and engagement across the academic life span: A developmental construct validity study of elementary school, high school, and university/college students. *Educational and Psychological Measurement*, 69, 794–824. doi:[10.1177/0013164409332214](https://doi.org/10.1177/0013164409332214)
- Martin, A. J. (2013). Academic buoyancy and academic resilience: Exploring ‘everyday’ and ‘classic’ resilience in the face of academic adversity. *School Psychology International*, 34, 488–500. doi:[10.1177/0143034312472759](https://doi.org/10.1177/0143034312472759)
- Martin, A. J. (2014). Academic buoyancy and academic outcomes: Towards a further understanding of students with attention-deficit/hyperactivity disorder (ADHD), students without ADHD, and academic buoyancy itself. *British Journal of Educational Psychology*, 84, 86–107. doi:[10.1111/bjep.12007](https://doi.org/10.1111/bjep.12007)
- Martin, A. J., & Burns, E. C. (2014). Academic buoyancy, resilience, and adaptability in students with ADHD. *The ADHD Report*, 22, 1–9. doi:[10.1521/adhd.2014.22.6.1](https://doi.org/10.1521/adhd.2014.22.6.1)
- Martin, A. J., Colmar, S. H., Davey, L. A., & Marsh, H. W. (2010). Longitudinal modelling of academic buoyancy and motivation: Do the 5Cs hold up over time? *British Journal of Educational Psychology*, 80, 473–496. doi:[10.1348/000709910X486376](https://doi.org/10.1348/000709910X486376)
- Martin, A. J., & Dowson, M. (2009). Interpersonal relationships, motivation, engagement, and achievement: Yields for theory, current issues, and educational practice. *Review of Educational Research*, 79, 327–365. doi:[10.3102/0034654308325583](https://doi.org/10.3102/0034654308325583)
- Martin, A. J., Ginns, P., Brackett, M. A., Malmberg, L.-E., & Hall, J. (2013a). Academic buoyancy and psychological risk: Exploring reciprocal relationships. *Learning and Individual Differences*, 27, 128–133. doi:[10.1016/j.lindif.2013.06.006](https://doi.org/10.1016/j.lindif.2013.06.006)
- Martin, A. J., & Marsh, H. W. (2006). Academic resilience and its psychological and educational correlates: A construct validity approach. *Psychology in the Schools*, 43, 267–281. doi:[10.1002/pits.20149](https://doi.org/10.1002/pits.20149)
- Martin, A. J., & Marsh, H. W. (2008a). Academic buoyancy: Towards an understanding of students’ everyday academic resilience. *Journal of School Psychology*, 46, 53–83. doi:[10.1016/j.jsp.2007.01.002](https://doi.org/10.1016/j.jsp.2007.01.002)
- Martin, A. J., & Marsh, H. W. (2008b). Workplace and academic buoyancy: Psychometric assessment and construct validity amongst school personnel and students. *Journal of Psychoeducational Assessment*, 26, 168–184. doi:[10.1177/0734282907313767](https://doi.org/10.1177/0734282907313767)
- Martin, A. J., & Marsh, H. W. (2009). Academic resilience and academic buoyancy: Multidimensional and hierarchical conceptual framing of causes, correlates and cognate constructs. *Oxford Review of Education*, 35, 353–370. doi:[10.1080/03054980902934639](https://doi.org/10.1080/03054980902934639)
- Martin, A. J., Nejad, H., Colmar, S., & Liem, G. A. D. (2012). Adaptability: Conceptual and empirical perspectives on responses to change, novelty and uncertainty. *Journal of Psychologists and Counsellors in Schools*, 22, 58–81. doi:[10.1017/jgc.2012.8](https://doi.org/10.1017/jgc.2012.8)
- Martin, A. J., Nejad, H., Colmar, S., & Liem, G. A. D. (2013b). Adaptability: How students’ responses to uncertainty and novelty predict their academic and non-academic outcomes. *Journal of Educational Psychology*, 105, 728–746. doi:[10.1037/a0032794](https://doi.org/10.1037/a0032794)
- Martin, A., Nejad, H., Colmar, S., & Liem, G. (2014). *From measurement to modeling: A case study of the development and implementation of the Adaptability Scale*. In SAGE Research Methods Cases. London, United Kingdom: SAGE Publications, Ltd. doi:[10.4135/978144627305013520918](https://doi.org/10.4135/978144627305013520918)

- Martin, A. J., Nejad, H., Colmar, S., Liem, G. A. D., & Collie, R. J. (2015a). The role of adaptability in promoting control and reducing failure dynamics: A mediation model. *Learning and Individual Differences*, 38, 36–43. doi:[10.1016/j.lindif.2015.02.004](https://doi.org/10.1016/j.lindif.2015.02.004)
- Martin, A. J., Papworth, B., Ginns, P., Malmberg, L.-E., Collie, R. J., & Calvo, R. A. (2015b). Real-time motivation and engagement during a month at school: Every moment of every day for every student matters. *Learning and Individual Differences*, 38, 26–35. doi:[10.1016/j.lindif.2015.01.014](https://doi.org/10.1016/j.lindif.2015.01.014)
- Martin, A. J., Yu, K., & Hau, K.-T. (2013c). Motivation and engagement in the ‘Asian Century’: A comparison of Chinese students in Australia, Hong Kong, and Mainland China. *Educational Psychology*, 34, 417–439. doi:[10.1080/01443410.2013.814199](https://doi.org/10.1080/01443410.2013.814199)
- McMillan, J., & Marks, G. (2003). *School leavers in Australia profiles and pathways (LSAY Research Report 31)*. Melbourne: Australian Council for Educational Research.
- Meiklejohn, J., Phillips, C., Freedman, M. L., Griffin, M. L., Biegel, G., Roach, A., ... Soloway, G. (2012). Integrating mindfulness training into K-12 education: Fostering the resilience of teachers and students. *Mindfulness*, 3, 291–307. doi:<https://doi.org/10.1007/s12671-012-0094-5>
- Miller, S., Connolly, P., & Maguire, L. K. (2013). Wellbeing, academic buoyancy and educational achievement in primary school students. *International Journal of Educational Research*, 62, 239–248. doi:[10.1016/j.ijer.2013.05.004](https://doi.org/10.1016/j.ijer.2013.05.004)
- Nicholls, J. G., Cheung, P. C., Lauer, J., & Patashnick, M. (1989). Individual differences in academic motivation: Perceived ability, goals, beliefs, and values. *Learning and Individual Differences*, 1, 63–84. doi:[10.1016/1041-6080\(89\)90010-1](https://doi.org/10.1016/1041-6080(89)90010-1)
- Niemiec, C. P., & Ryan, R. M. (2009). Autonomy, competence, and relatedness in the classroom: Applying self-determination theory to educational practice. *Theory and Research in Education*, 7, 133–144. doi:[10.1177/1477878509104318](https://doi.org/10.1177/1477878509104318)
- Noddings, N. (2005). *The challenge to care in schools: An alternative approach to education*. New York: Teachers College, Columbia University.
- Parker, P. D., & Martin, A. J. (2009). Coping and buoyancy in the workplace: Understanding their effects on teachers’ work-related well-being and engagement. *Teaching and Teacher Education*, 25, 68–75. doi:[10.1016/j.tate.2008.06.009](https://doi.org/10.1016/j.tate.2008.06.009)
- Pintrich, P. R., Roeser, R. W., & de Groot, E. A. M. (1994). Classroom and individual differences in early adolescents’ motivation and self-regulated learning. *The Journal of Early Adolescence*, 14, 139–161. doi:[10.1177/027243169401400204](https://doi.org/10.1177/027243169401400204)
- Putwain, D. W., Connors, L., Symes, W., & Douglas-Osborn, E. (2012). Is academic buoyancy anything more than adaptive coping? *Anxiety, Stress, & Coping*, 25, 349–358. doi:[10.1080/10615806.2011.582459](https://doi.org/10.1080/10615806.2011.582459)
- Putwain, D. W., & Daly, A. L. (2013). Do clusters of test anxiety and academic buoyancy differentially predict academic performance? *Learning and Individual Differences*, 27, 157–162. doi:[10.1016/j.lindif.2013.07.010](https://doi.org/10.1016/j.lindif.2013.07.010)
- Reeve, J. (2002). Self-Determination theory applied to educational settings. In E. L. Deci & R. M. Ryan (Eds.), *Handbook of self-determination research* (pp. 183–203). Rochester, NY: University of Rochester Press.
- Reeve, J. (2006). Teachers as facilitators: What autonomy supportive teachers do and why their students benefit. *The Elementary School Journal*, 106, 225–236. doi:[10.1086/501484](https://doi.org/10.1086/501484)
- Reeve, J. (2009). Why teachers adopt a controlling motivating style toward students and how they can become more autonomy supportive. *Educational Psychologist*, 44, 159–175. doi:[10.1080/00461520903028990](https://doi.org/10.1080/00461520903028990)
- Reeve, J., Bolt, E., & Cai, Y. (1999). Autonomy-supportive teachers: How they teach and motivate students. *Journal of Educational Psychology*, 91, 537. doi:[10.1037//0022-0663.91.3.537](https://doi.org/10.1037//0022-0663.91.3.537)
- Reeve, J., Deci, E. L., & Ryan, R. M. (2004a). Self-determination theory: A dialectical framework for understanding socio-cultural influences on student motivation. In D. M. McInerney & S. Van Etten (Eds.), *Big theories revisited* (pp. 31–60). Greenwich, CT: Information Age Press.

- Reeve, J., & Jang, H. (2006). What teachers say and do to support students' autonomy during a learning activity. *Journal of Educational Psychology*, 98, 209–218. doi:[10.1037/0022-0663.98.1.209](https://doi.org/10.1037/0022-0663.98.1.209)
- Reeve, J., Jang, H., Carrell, D., Jeon, S., & Barch, J. (2004b). Enhancing students' engagement by increasing teachers' autonomy support. *Motivation and emotion*, 28, 147–169. doi:[10.1023/B:MOEM.0000032312.95499.6f](https://doi.org/10.1023/B:MOEM.0000032312.95499.6f)
- Reeve, J., & Lee, W. (2014). Students' classroom engagement produces longitudinal changes in classroom motivation. *Journal of Educational Psychology*, 106, 527–540. doi:[10.1037/a0034934](https://doi.org/10.1037/a0034934)
- Reschly, A. L., & Christenson, S. L. (2012). Jingle, jangle, and conceptual haziness: Evolution and future directions of the engagement construct. In S. Christenson, A. Reschly, & C. Wylie (Eds.), *Handbook of research on student engagement*. New York: Springer. doi:[10.1007/978-1-4614-2018-7_1](https://doi.org/10.1007/978-1-4614-2018-7_1)
- Rhoades, B. L., Warren, H. K., Domitrovich, C. E., & Greenberg, M. T. (2011). Examining the link between preschool social-emotional competence and first grade academic achievement: The role of attention skills. *Early Childhood Research Quarterly*, 26, 182–191. doi:[10.1016/j.ecresq.2010.07.003](https://doi.org/10.1016/j.ecresq.2010.07.003)
- Rothman, S., & McMillan, J. (2003). *Influences on achievement in literacy and numeracy (LSAY Research Report 18)*. Camberwell, Australia: Australian Council for Educational Research.
- Ryan, R. M. (1995). Psychological needs and the facilitation of integrative processes. *Journal of Personality*, 63, 397–427. doi:[10.1111/j.1467-6494.1995.tb00501.x](https://doi.org/10.1111/j.1467-6494.1995.tb00501.x)
- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55, 68–78. doi:[10.1037/0003-066X.55.1.68](https://doi.org/10.1037/0003-066X.55.1.68)
- Ryan, R. M., & Deci, E. L. (2002). An overview of self-determination theory. In E. L. Deci & R. M. Ryan (Eds.), *Handbook of self-determination research* (pp. 3–33). Rochester, NY: University of Rochester Press.
- Sarrazin, P., Leroy, N., Bressoux, P., Sarrazin, P., & Trouilloud, D. (2007). Impact of teachers' implicit theories and perceived pressures on the establishment of an autonomy supportive climate. *European Journal of Psychology of Education*, 22, 529–545. doi:[10.1007/BF03173470](https://doi.org/10.1007/BF03173470)
- Schonert-Reichl, K. A., Oberle, E., Lawlor, M. S., Abbott, D., Thomson, K., Oberlander, T. F., et al. (2015). Enhancing cognitive and social-emotional development through a simple-to-administer mindfulness-based school program for elementary school children: A randomized controlled trial. *Developmental Psychology*, 51, 52–66. doi:[10.1037/a0038454](https://doi.org/10.1037/a0038454)
- Schonfeld, D. J., Adams, R. E., Fredstrom, B. K., Weissberg, R. P., Gilman, R., Voyce, C., et al. (2014). Cluster-randomized trial demonstrating impact on academic achievement of elementary social-emotional learning. *School Psychology Quarterly*, 30, 406–420. doi:[10.1037/spq0000099](https://doi.org/10.1037/spq0000099)
- Schüler, J., Sheldon, K. M., & Fröhlich, S. M. (2010). Implicit need for achievement moderates the relationship between competence need satisfaction and subsequent motivation. *Journal of Research in Personality*, 44, 1–12. doi:[10.1016/j.jrp.2009.09.002](https://doi.org/10.1016/j.jrp.2009.09.002)
- Schunk, D. H., Meece, J. R., & Pintrich, P. R. (2012). *Motivation in education: Theory, research, and applications*. London: Pearson Higher Ed.
- Schunk, D. H., & Miller, S. D. (2002). Self-efficacy and adolescents' motivation. In F. Pajares & T. Urdan (Eds.), *Academic motivation of adolescents* (pp. 29–52). Greenwich, CT, USA: Information Age Publishing.
- Skinner, E. A. (1996). A guide to constructs of control. *Journal of Personality and Social Psychology*, 71, 549–570. doi:[10.1037/0022-3514.71.3.549](https://doi.org/10.1037/0022-3514.71.3.549)
- Sierens, E., Vansteenkiste, M., Goossens, L., Soenens, B., & Dochy, F. (2009). The synergistic relationship of perceived autonomy support and structure in the prediction of self-regulated learning. *British Journal of Educational Psychology*, 79, 57–68. doi:[10.1348/000709908X304398](https://doi.org/10.1348/000709908X304398)

- Turner, J. C., Christensen, A., Kackar-Cam, H. Z., Trucano, M., & Fulmer, S. M. (2014). Enhancing students' engagement: Report of a 3-year intervention with middle school teachers. *American Educational Research Journal*, 51, 1195–1226. doi:[10.3102/0002831214532515](https://doi.org/10.3102/0002831214532515)
- Vallerand, R. J., Fortier, M. S., & Guay, F. (1997). Self-determination and persistence in a real-life setting: Toward a motivational model of high school dropout. *Journal of Personality and Social Psychology*, 72, 1161. doi:[10.1037/0022-3514.72.5.1161](https://doi.org/10.1037/0022-3514.72.5.1161)
- Vansteenkiste, M., Niemiec, C. P., & Soenens, B. (2010). The development of the five mini-theories of self-determination theory: An historical overview, emerging trends, and future directions. In T. C. Urdan & S. Karabenick (Eds.), *The decade ahead: Theoretical perspectives on motivation and achievement* (Vol. 16). Bingley: Emerald Group Publishing. doi:[10.1108/S0749-7423\(2010\)000016A007](https://doi.org/10.1108/S0749-7423(2010)000016A007)
- Vansteenkiste, M., Simons, J., Lens, W., Soenens, B., & Matos, L. (2005). Examining the motivational impact of intrinsic versus extrinsic goal framing and autonomy-supportive versus internally controlling communication style on early adolescents' academic achievement. *Child Development*, 76, 483–501. doi:[10.1111/j.1467-8624.2005.00858.x](https://doi.org/10.1111/j.1467-8624.2005.00858.x)
- Weissberg, R. P., Durlak, J. A., Domitrovich, C. E., & Gullotta, T. P. (2015). Social and emotional learning: Past, present, and future. In J. A. Durlak, C. E. Domitrovich, R. P. Weissberg, & T. P. Gullotta (Eds.), *Handbook of social and emotional learning: Research and practice* (pp. 3–19). New York: Guilford.
- White, R. W. (1959). Motivation reconsidered: The concept of competence. *Psychological Review*, 66, 297–333. doi:[10.1037/h0040934](https://doi.org/10.1037/h0040934)
- Williford, A. P., & Sanger Wolcott, C. (2015). SEL and student–teacher relationships. In J. A. Durlak, C. E. Domitrovich, R. P. Weissberg, & T. P. Gullotta (Eds.), *Handbook of social and emotional learning: Research and practice* (pp. 229–243). New York: Guilford.
- Wrosch, C., & Scheier, M. F. (2003). Personality and quality of life: The importance of optimism and goal adjustment. *Quality of Life Research*, 12, 59–72. doi:[10.1023/A:1023529606137](https://doi.org/10.1023/A:1023529606137)

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