Chapter 7
Individual Factors: Academic Motivation

Abstract Chapter 6 presented the BPSEM as an organising framework for fostering school belonging. What does this look like in practice? In this chapter, we begin to unpack what this looks like, building from our deep investigation into the research literature and moving toward practical strategies for application. The relationship between academic motivation and school belonging is of great interest to researchers and schools. Studies suggest that the relationship between the two constructs appears to be reciprocal; academic motivation influences a sense of belonging and belonging influences student motivation. We present various evidence-based strategies found to increase academic motivation, with the flow on effects for school belonging. These individual-based strategies include perceived academic ability, future aspirations, goal pursuit, embracing failure, motivation, making learning meaningful and self-regulation.

Keywords Academic motivation · School belonging · Belonging · Failure · Goals · Motivation · Self-regulation

Chapter 6 presented the BPSEM as an organising framework for fostering school belonging. What does this look like in practice? We turn to considering evidenced informed practices, beginning with individual factors (This chapter, Chaps. 8), then social (Chap. 9) and ecological (Chap. 10) factors. In each chapter, we first summarise aspects that have been linked with greater school belonging in the studies that we reviewed. Consistent with the last chapter, we include the average Pearson r correlation coefficient (or range) as an indicator of how much of an effect that predictor had, based on the studies noted. Values close to one have a minimal effect; $r = 0.10$ is considered a small effect; $r = 0.30$ is considered a medium effect; and $r = 0.50$ is considered a strong effect.

We note, however, that while the effect sizes give some indication of how important the predictor might be, the size itself should be interpreted with caution. The effect size is impacted by the number of studies that were included and characteristics of those studies. Due to heterogeneity across the studies, often as more studies are included, the effect becomes smaller but more reliable. We

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encourage readers to see the tables simply as a summary of aspects that may be relevant to each domain, and the specific areas to target should be fit more to the specific school context.

This chapter will also look at practical strategies for building these different characteristics, suggesting practices and ideas that individuals, teachers, and schools might be able to use. These strategies are evidence informed, but need to be empirically tested across different educational settings. These are not intended to be prescriptive, and much more work is needed in understanding what this actually looks like in the classroom, and what works best, for whom, and under what condition. Thus, readers should take these suggestions into consideration in light of their own unique needs, culture, and context. In addition, Appendix C provides some resources that readers might find useful.

We begin with the individual factor that is closely tied to both school belonging and to academic performance: Academic motivation. Table 7.1 summarises markers of academic motivation that the studies in our review found to be significantly related to school belonging.

Academic motivation is impacted by the mindset, attitudes and beliefs that a student enters the classroom with, but it can also be impacted by the beliefs and mindset of the teacher. A student's perceived abilities, their goals and future aspirations, motivation, and ability to self-regulate all come together to impact their sense of academic motivation, and by proxy, their sense of belonging.

7.1 Perceived Academic Ability

Students arrive to class with different levels of ability. Some students have an accurate understanding of their academic abilities, while others under or over estimate their competencies. These perceptions—accurate or not—impact the goals students set for themselves as well as their future aspirations, their motivation for learning, and often the outcomes they achieve.

For example, Susie hates maths but loves literature. She enters math class with the mindset that she cannot do maths, and is unmotivated to learn. She has low

Table 7.1 Indicators of academic motivational that significantly predicted school belonging

Predictor	Effect size	Related studies
Self-academic rating, educational goals	0.48	Guthrie & Davis, 2003; Heaven et al., 2002; Klem & Connell, 2004
Perceived instrumentality	0.38	Walker, 2012
Valuing academics	0.40	Battistich et al., 1996; Whitlock, 2006
Mastery goal orientation	0.39	Dweck, 1986; Wentzel, 1998
Future aspirations	0.68	Reschly et al. (2008)
Motivation	0.46	Battistich et al., 1996; Goodenow & Grady, 1993
Academic self-regulation	0.50	Ryzin et al. (2009)

expectations and believes that she will barely pass the class—and this becomes a self-fulfilling prophecy. When assigned a series of homework problems, the numbers confuse her, and rather than working through the problems or getting help, she gives up. Not surprisingly, she scores poorly on her exams. In contrast, she arrives confidently to her English class. She soaks up the lessons like a sponge, and spends countless hours of additional time on her English assignments. Her teacher praises her natural talent, and she earns a consistent A+ in her class. Her perception of her academic abilities impact on her behaviour, and consequently, her resulting marks.

A student's perception of their ability can be influenced and shaped by parents, teachers, and peers. Indeed, teachers have both the privilege and the responsibility of setting and shaping students' goals and expectations of themselves.

Back in the 1970s, Professor Robert Rosenthal stumbled upon the idea of self-fulfilling prophecies. When we have expectations about a student's ability, we can act in ways that bring those expectations about. Imagine that Paul and Ben join Ms. Henry's class at the beginning of the year. Paul enters with a history of high performances, with notes by prior teachers praising him for his hard work. Ben, on the other hand, has barely passed his classes, with notes about him exhibiting problematic and disruptive behaviours. Ms. Henry immediately starts to worry about how she will keep Ben on track. Without realising it, she treats Paul and Ben differently. She listens carefully to Paul, positively affirming his answers, giving him extra resources and supporting his academic growth. For Ben, she's quick to notice every mistake, is critical of the comments he makes, and sends him to detention for the slightest disruption. She finds herself relieved as Ben misses a growing number of classes. Without realising it, her expectations about Paul and Ben influenced her behaviour, which subversively impacted their behaviour, attitudes towards school, their rapport with her and their resulting academic outcomes.

What can teachers do to support positive self-perceptions in their students, and to avoid falling prey to underlying biases they might have? First, it can be helpful for teachers to recognise that everyone is prone to biases and misperceptions. Teachers need to get to know their students personally, assessing where they are at academically, mentally, and socially. This can be challenging in a time-poor environment. A variety of self-reported surveys has been developed, speaking to academic and psychosocial functioning. For example, the Values in Action (VIA) survey identifies 24 different character strengths, such as kindness, curiosity, love of learning, zest, leadership and humour (Peterson & Seligman, 2004). The free survey takes about 20 min to complete (see www.viacharacter.org).

A variety of subject-specific tests and tasks can also be used to determine each students' academic level in a subject, and what might be reasonable expectations for a given time period. When they are successful in learning, celebrate that success. Learning can then be individualised to the level that the student currently is at, incorporating flexible teaching methodologies, and scaffolding lessons and learning expectations at a level and rate that match the student. Learning then becomes about demonstrating *personal* growth over the year rather than growth compared to the general average (Hattie, 2007).

7.2 Future Aspirations

Students' perceptions of themselves, as well as their teachers' perceptions, impact their future aspirations. An A+ student at a private secondary school might have high hopes for the future, expecting to be accepted at a top university, graduate with honours, and go on to have a successful career. A struggling student from a low socioeconomic background often has much lower expectations—hoping to graduate from secondary school at best, and seeking a minimum wage job. Such expectations are shaped, reinforced, or changed by teachers and parents who can affirm, encourage, and praise; or criticise and discourage the aspirations a young person may express.

We should expect more out of our students than what first seems possible, but within reason. Students ought to be encouraged to have hopes and dreams for the future, but not aim so high that failure is inevitable. A tone-deaf student is unlikely to become a virtuoso opera singer. Those who work with young people have the privilege and responsibility of helping young people find the right balance for them.

It is important for educators to gain a realistic understanding of a student's abilities, strengths, weaknesses, and resources available to them. Teachers and school psychologists play a key role in providing guidance and helping students to set achievable long-term goals and ambitions. They also can assist students in creating realistic pathways to make those goals possible.

7.3 Goal Pursuit

To effectively assist students to meet personal and academic goals in a supportive manner, it is important to challenge them, while scaffolding learning to meet those challenges. The SMART goal framework (Doran, 1981) is an immensely popular and widely used strategy for goal setting, which provides a practical approach to effectively scaffold growth.

First, achievable goals are *Specific*. Goals are often vague in nature, making it unclear as to what the goal actually is. For instance, Jen might have the goal of being a good student. But what does that mean? SMART goals are clear and well defined. Instead, Jen sets the goal of earning a high score on an advanced calculus exam. A series of smaller specific goals, such as attending class each day, paying attention to the lessons, completing each homework assignment, and spending an hour each day studying, will move her towards that larger specific goal.

Second, SMART goals are *Measurable*. There is some way of knowing when the goal is fulfilled, and progress can be measured along the way. Jen has reached the goal when she receives the results of the calculus exam. Along the way, she can track how much time she spends studying, looks at her score on homework and class exams, and complete some practice tests to see that her knowledge and skills are increasing.

Third, SMART goals are *Achievable*. An achievable goal will take work and effort, but is possible. The A can also refer to *Agreed upon*—stakeholders agree what the goal should be. Jen's teacher and parents affirm that a high score will be challenging to earn, but she has enough natural maths ability that it appears possible.

Fourth, SMART goals are Realistic. SMART goals can be achieved with the constraints of existing time and resources. A high score is within Jen's ability level, she has time available to study, and resources from her teacher to help her master the lessons. SMART goals are also relevant—there is a reasonable rationale for focusing on the goal. A high score will allow Jen to fulfil the university maths requirements, so she will be able to take more of the classes that she is passionate about.

Finally, SMART goals are *Time-bound*. There must be enough time to reach the goal, but this timeframe cannot extend on endlessly. For Jen, the exam is on a specific date, and she can arrange her study schedule leading up to it.

SMART goals challenge students to go beyond what they think is possible. Achieving such goals builds greater self-efficacy and interest in learning. A SMART framework also teaches students how to set and pursue other goals, be they educational, occupational, social, physical, or in respect to their other pursuits in life.

7.4 Embracing Failure

A teacher's role is not only to challenge students and scaffold learning, but also to help young people learn to accept and deal with failure. Failure and mistakes are a part of the learning process, but also is something that many students and teachers fear. Students who comfortably manage mistakes and failure in the short term are more likely to succeed academically in the long term. They are also more likely to feel a sense of belonging.

The process of taking risks with learning new concepts begins early in life. Toddlers and young children learn at an exponential rate and develop an understanding of how the world works through trial and error. A child tries to build a block tower, and places a square block on top of a triangular shape. The tower falls down. The child moves the blocks around, and discovers that by placing the triangle on top of the square block, both blocks remaining standing.

The willingness to take risks in the learning process becomes more difficult as children grow older. This is due in part to traditional school structures (e.g., exploration might be replaced by memorisation and exam-specific learning), cultural perspectives around failure, and the needs and motivations of the student. For instance, the media perpetuates the message that winners succeed, losers fail. Parents, teachers, and governments communicate that this type of success is based upon grades and standardised test scores.

As young people develop an identity as a learner, they can form unrealistic beliefs and ideals about what a successful student looks like. For example, they may believe that the purpose of learning is about scoring well on the exam, not the process of learning itself. The student who can easily achieve high marks has little motivation to try harder. The student who cannot achieve high marks feels increasingly helpless and becomes disengaged from school.

Martin and Marsh (2003) suggested that the extent to which students are motivated to avoid failure and oriented towards success results in different attitudes and behaviours around failure, which can be grouped into four general types. *Overstrivers* are oriented towards approaching success and avoiding failure. They deal with their fear by succeeding, so they perform well, but also experience anxiety and low self-esteem. Failure is a foe, to be avoided at all costs. *Self-protectors* similarly fear failure, but deal with the fear by undermining success, through behaviours such as self-handicapping and setting low expectations for themselves. *Failure acceptors* have given up, not even avoiding failure, disengaged from learning, unmotivated, and demonstrate learned helplessness behaviours. Then there are the *optimists*, who are motivated towards success, but not afraid of failure. Failure is a friend, not a foe.

While there might not be specific "types" of students, this model provides a way of thinking about how to support a positive approach to successful learning. Martin (2001) suggested four factors that support a success orientation, which can be targeted to promote a healthy perspective on failure: self-belief (confidence in one's abilities to perform well, accomplish the tasks at hand, and face challenges), the value of school (to what extent is school material useful and relevant), learning focus (focusing on solving problems and developing skills, rather than on specific outcomes), and control (how much they can control success and failure outcomes).

In recent years, a key focus of schools has increasingly become student performance on standardised tests. High stakes testing has resulted in education being focused on performance, rather than the process of learning. Shifting the focus to the learning process itself, rather than the end goal (e.g., achievement measures) encourages students to strive for their personal best, regardless of the outcome achieved. Failure is part of the experimental process, and there is reason to keep trying, striving for mastery rather than performance.

Teachers, parents, and clinicians can equip young people with actions to take when failure occurs. In the face of failure, they can give up and walk away, or they can pick themselves up and try again. By equipping students with skills to overcome mistakes and learn from them, we are empowering them with a choice as to how they can react. They also model behaviour to students, based on how they respond to failure in their own lives.

The relationships a student has with their parents and teachers can also perpetuate a fear of failure or support success orientation. Most students want to know that others care about them, and there can be a fear of losing that care if they fail. Consistent, positive messages are needed to encourage students that failure will not negatively impact the relationship, whether it is with a caregiver, parent or teacher. Teachers, parents and peers can be cheerleaders and supporters. The learning

process requires on-going effort and persistence. Along the way, there might be a lot of missteps, failures and barriers that make students vulnerable to giving up. Students need significant others to encourage them to keep going, cheering them along the way.

Returning to Jen and her SMART goals for the calculus exam, her teacher structures the conversation around the process, rather than earning top marks. Her teacher encourages her to put her full effort into each learning task, trusting the learning process. Jen understands that when she takes the exam, the top marks may or may not happen. Her teacher affirms that he is proud of the effort that she has given to her studies, regardless of how she scores. While Jen has her eye on a performance goal, by focusing on the process itself, her identity becomes focused on being a hard worker, rather than whether she is smart enough to score well.

7.5 Motivation

Closely tied to performance, success and feedback are the motivations underlying learning. Self-determination theory suggests that the motivation for any behaviour can be internalised, externalised or lacking completely (i.e. amotivation) (Deci & Ryan, 2001).

External motivation involves avoiding punishment or gaining reward. Students might be rewarded with a sticker or other token for completing their assignment. Disrupting the class will earn a trip to detention. External motivation is the easiest to provide, but often becomes increasingly unsustainable over time. The behaviour can become dependent on the reward and may stop once the reward is gone. It may also hinder the development of internal motivation.

Internal (intrinsic) motivation comes from within, growing from one's own interests and passions. For example, George loves to read. He soaks up every book assigned to him and seeks out more. His behaviour is not driven by token rewards, but rather by a love of learning. Internal motivation is more complex to cultivate, but is more sustainable over time.

Motivation influences how engaged students are in their learning. Activities that are student-directed and based on strengths and abilities are more likely to engage students. Here are a few ideas to encourage student engagement:

- Present novel and interesting learning opportunities to students that are based on their interests and abilities.
- Use interactive approaches such as role play, group work and problem-solving.
- Teach skills and strategies related to academic motivation, competence and effective study (i.e. positive self-talk, goal setting, time management, organisation, help seeking).
- Encourage intrinsic rewards from learning by seeking feedback of student work from other students, teachers, parents and the local school community.

Feedback also plays an important role in motivating students towards their goals. When feedback focuses on performance, it encourages external motivation, (e.g., the drive for success and avoid failure), which is not easily controlled by students. In contrast, when feedback focuses on effort and progress, it can give students valuable information about their learning that is within their control (e.g., are their goals on track? What can be changed?). The focus on the process, rather than an end goal, fosters a deeper level of motivation.

7.6 Making Learning Meaningful

Another driver of academic motivation is how valuable a topic is to a student. As educational priorities have become increasingly influenced by standardised testing, the relevance of the material to the student for their current or future interests is not always clear. It is not surprising to observe high rates of student disengagement in schools. For many students, the drive for high achievement comes from parents, teachers and the school system. This can cause anxiety and stress, or detachment and disinterest, as behaviour is motivated by external factors, rather than a belief that what is being taught is valuable and relevant.

Many periphery subjects, such as physical education, health, home economics, arts, and more, teach skills that apply well beyond the confounds of school life. While maths might teach how to multiply fractions and find the area under a curve, at a deeper level it also teaches concepts of logic, reasoning and problem-solving. English and literature classes can provide lessons such as how to overcome adversity and manage moral dilemmas. These deeper lessons are often the reason that educators became interested in teaching to begin with, providing purpose and reason to learning.

It is important to help students to understand the value of what they are learning in relation to both their short and long-term goals. Teachers should know their students. What are their hopes and dreams? Are there ways to connect the lessons to those dreams? This not only taps into a deeper sense of meaning for the students, but also helps them see the value of delayed gratification—studying now might not be fun, but it will provide greater reward in the future.

It is also helpful to relate the information being taught to students' real world life and experiences. What do students care about? Are there ways to connect lessons to their everyday experiences? Knowing the answers to these questions can take lessons beyond the walls of the classroom. Not only does this assist memory and retention, but it also fosters student engagement. In the future, most students will not remember details of a book or how to calculate a particular formula, but they will remember their learning experience, how a particular teacher made them feel and how they may have been challenged to think beyond the task itself, to the greater lessons of life.

Finally, the teacher's attitude matters. Passion is contagious! If a teacher demonstrates that what is being taught is important and valuable, it can motivate

students. Unfortunately, the system can create challenges. As pressures increase around academic outcomes, teachers are held accountable for the scores and marks that students achieve. Timetable constraints and diminishing resources might mean that teachers are allocated to subject areas that they have no interest or prior training in. These factors can undermine the teacher's sense of autonomy. Schools need to support teachers to develop a passion for teaching in their subject area and whenever possible; teachers should be allocated to subject areas that they are care about.

7.7 Self-Regulation

A final characteristic that relates to a student's academic motivation and their sense of belonging is their ability to regulate or control their own thoughts, emotions and behaviours in relation to their academic skills. Self-regulation relates to a range of positive outcomes, including better academic performance, good social relationships, healthier behaviours, and better physical and mental health (Eisenberg, Duckworth, Spinrad, & Valiente, 2014). Greater self-control even correlates with longer life (Kern & Friedman, 2008).

Many tasks, such as sitting through a lesson, listening to a teacher, working through a problem, reading and taking notes requires extended periods of focused attention. Students are expected to behave in a particular manner (e.g., sit quietly, reframe from talking, not texting friends during class). These behaviours require self-regulation.

Internally, two processes are at work: longer term goals (e.g., to pass the class) and immediate impulses (e.g., to check social media to see what I have missed in the past two minutes). Self-regulation involves taking control of those impulses, for the sake of a longer term goal—"resisting the hourly temptations", so to speak (Duckworth & Gross, 2014, p. 319).

Self-regulatory capacities develop across childhood and adolescence, through a combination of natural and taught mechanisms. It is influenced by genetics, the early environment, and socialisation throughout the early years. By the time that students are in secondary school, clear differences in regulatory ability are apparent, with boys generally maturing at a slower and longer rate than girls (James, 2007).

Unfortunately, our modern lifestyles and behaviours do little to support self-regulation in ourselves, let alone our young people. Our environments are busy, providing constant stimulation. Young people increasingly talk of FOMO—a fear of missing out. What will happen on social media in the two minutes since they last checked? Even those with the strongest self-will can become depleted with constant stimulation.

Experiences and stresses outside of the classroom also add to regulatory problems. Disadvantage, trauma and living in unsafe environments add considerable load, which leaves little energy to regulate attention and emotion. For students with traumatic backgrounds, even at a neurological level, the development of brain structures that are critical for regulation can be delayed (Brunzell, Stokes, & Waters, 2015). Their physiological systems are functioning at a high level of stress.

Various strategies can help increase self-regulation (Duckworth, Gendler, & Gross, 2014). First, as the environment itself impacts regulatory ability, students can be taught how to select situations that will help them focus their attention. For instance, studying in the library might be more conducive than being at home. A student might be encouraged to spend more time with *better-controlled* friends, than those who are more impulsive.

Second, the environment itself can be adjusted. The teacher has the most control over the classroom. Maintaining a consistent order and structure, establishing clear rules and enforcing those rules, and running classes in a predictable manner are helpful ways to regulate the environment. Mobile phones could be turned off and placed out of reach. Computers could be programmed to block sites, or monitored for time spent on email and social media.

Third, a growing amount of research suggests that mindfulness and simple meditative exercises can be useful in shifting and controlling attention. Verbal scripts can teach the young person to take hold of their attention and focus it in specific ways, through exercises ranging from 2 to 10 min and beyond. Breathing, which is often included in such exercises, helps calm and focus the person at a physiological level.

Fourth, self-regulation can be built over time through a series of small goals. Teachers, parents and school psychologists can help students create a study plan that harnesses the use of rewards and checklists. This can encourage students to celebrate their small successes and reward themselves for effective study behaviour. A reward may entail watching a movie or spending five minutes on social media. Such rewards may taper off over time as regulatory skills increase. These small gains can help build confidence with future study habits.

Finally, lapses in control and self-regulation happen. A key skill for students to learn is when to recognise attention has slipped or behaviours are out of control, early on. Students might create a plan with specific strategies to take when lapses occur. For example, if they check their social media feed and then realise that hours have suddenly passed, they could plan to turn it off and refocus attention.

7.8 Academic Motivation Revisited

Academic performance is often the core business of schools. It is more likely that students who are motivated in their studies and feel excited about learning will be connected to their school. While some students are naturally more oriented towards academics than others, all students can benefit from a focus on academic motivation. Schools that focus on characteristics such as motivation and self-regulation, mindsets around ability and aspirations, and strategies such as goal setting, embracing failure, and making learning meaningful are able to build a strong sense of efficacy in their students, and potentially help them to feel more connected to their school.