



Sociocultural Contexts and Relationships as the Cornerstones of Students' Motivation: Commentary on the Special Issue on the "Other Half of the Story"

Frédéric Guay¹

Accepted: 24 October 2022 / Published online: 9 November 2022

© The Author(s), under exclusive licence to Springer Science+Business Media, LLC, part of Springer Nature 2022

Abstract

This special issue on the development of academic motivation covers many issues that are groundbreaking in the field of motivation and interpersonal relationships. In this commentary, I discuss the following elements: (a) the challenges of integrating central motivational constructs; (b) interpersonal relationships as supports for motivation at school; (c) school or cultural contexts that sustain motivation; (d) new avenues for research. I hope that the articles in this special issue will stimulate new research that would have the potential to advance the field but that would also be useful to research professionals working day to day with children and adolescents.

A central goal of educational systems over the world is to support students' learning in a variety of school subjects. Other goals include developing the core competencies (reading, writing, maths) individuals need to function effectively in society, helping students to discover their core interests and then to pursue a career path that suits them (Guay et al., 2020), to establish positive relationships not only with their peers, but also with their teachers (Hamre & Pianta, 2001), and to nurture students' natural curiosity, even develop a passion (Vallerand et al., 2020). In these important endeavors, motivation is recognized as an important personal resource that fosters students' engagement and curiosity in their schoolwork and consequently achievement and perseverance in different school disciplines (Guay et al., 2008; Pintrich, 2003). For example, a meta-analysis showed that motivation (especially students' expectancies for success) predicts a significant portion of variance in achievement over and above intelligence, and this finding is even more pronounced in reading. This means that out of two equally intelligent students, the one who perceives his/

✉ Frédéric Guay
Frederic.Guay@fse.ulaval.ca

¹ Department of Fundamentals and Practice in Education, Université Laval, Room 942, 2320 Rue Des Bibliothèques, Quebec G1V 0A6, Canada

herself as more competent (e.g., who has stronger motivational beliefs) will have higher achievement scores (Kriegbaum et al., 2018).

This special issue on sociocultural and relationship contexts that motivate student outcomes presents a collection of groundbreaking research ideas that advance our knowledge on how motivation is shaped by the cultural context and how motivation processes are affected by relationships with others. Specifically, these articles provide insights into how relationships with teachers, peers, friends, and parents as well as how the characteristics of the social context in which learning takes place, are fundamental in supporting motivation at school. Moreover, they show the abundance, variety, and complexity of contemporary thinking about motivation. The papers in this special issue cover many relevant topics in educational psychology, but in this commentary, I have decided to discuss some points ranging from intrapersonal (motivation) to interpersonal (relationships) to macrosystem factors. These points are (a) the challenges of integrating central motivational constructs, (b) interpersonal relationships as supports for motivation at school, (c) school or cultural contexts that sustain motivation, and (finally) (d) new research avenues. To illustrate some points, I will include selected empirical examples. However, given space limitations, discussion of these papers is not meant in any way to be comprehensive.

The Challenges of Integrating Central Motivational Constructs

Articles in this special issue as well as the literature in motivation in general are characterized by a high number of motivational concepts. Although this is commendable, we should move on to integrate similar motivational constructs to facilitate the accumulation of knowledge and to build interventions that work. These concepts emanated from a rich theoretical tradition that is concerned with the energy and direction of human behavior. Motivational theories thus attempt to discover the reasons behind a behavior (the energy) deployed toward an activity or a task (the direction; Pintrich, 2003). In this special issue, many motivational concepts are put forward that originate from different frameworks including, but not limited to, achievement goals theory (AGT; Elliot, 2005), self-determination theory (SDT; Ryan & Deci, 2017), self-efficacy theory (SET; Bandura, 1997), expectancy-value theory (EVT; Wigfield et al., 2009), and attribution theory (AT; Graham, 2020). All these theories share some conceptual attributes but differ in how they define motivation and in the relevance of some concepts for understanding student outcomes.

For example, in SDT, motivation types (intrinsic, integrated, identified, introjected, external) are differentiated by their degree of self-determination, which is an important feature because the more the behavior is energized by self-determination, the better the school outcomes. In contrast, in EVT, values or motives (intrinsic, utility, importance) for action are not positioned on a continuum of any sort. Specifically, intrinsic value is expected to be as efficient as utility value or importance in producing outcomes, although some values could be more predictive of behavior than others depending on the nature of the target behavior (perseverance vs. achievement). Both theories have generated a great deal of empirical work over the past several decades but attempts to delineate similarities and differences in concepts are

rare (see Wigfield et al., 2009 for an exception). When taken independently, motivational theories are well articulated and sound. However, when it comes to integrating them in a coherent way, the task becomes more complex because motivational constructs come from different theoretical traditions. Thus, while reading articles in this special issue, someone could ask herself/himself if some concepts are simply jingle-jangle fallacies.

Moreover, there is a tendency in motivational research to generate new concepts to make finer distinctions rather than to discard previous ones. Sometimes nuanced new concepts can be important in explaining contradictory findings, such as why performance goals do not always lead to negative consequences (Van Yperen et al., 2015), but other distinctions seem more dubious, such as the nuances among different ability beliefs (e.g., self-concept vs. self-efficacy; Hughes et al., 2005). Moreover, based on the Occam's razor and falsifiability principles, we must be able to use empirical research to dispute the utility of some motivation constructs, which has rarely been the case. Indeed, most researchers are careful when they retain the null hypothesis. For example, researchers may observe that a motivation concept has a low nonsignificant ($p > 0.05$) correlation with an outcome. When facing such circumstances, researchers might interpret this weak relation as sampling error or that moderators are at play, which is the kind of carefulness that such results deserve. However, when in study after study we observe that a motivational concept is weakly related to various outcomes, why should we still use it to study a phenomenon? Indeed, small effect sizes ($d < 0.20$) could be misleading because they apply to very few individuals and could probably indicate that, for some people, effects are in the opposite direction (but still small).

In addition, most of us study motivation to provide recommendations to teachers, principals, school districts, or even governments. Many times, school professionals are confused because they have heard about a given motivational concept (self-concept) and wonder if another concept is similar (perceived competence). School professionals, because they need to consider a plethora of motivational components (Murphy & Alexander, 2000) to move students from apathy to engagement, find this task difficult. By putting all our efforts to be more integrative, I suspect that the message will be clearer and school practitioners would be more willing to put energy in developing a positive motivational climate in their schools or classrooms. In this special issue, Skinner proposes similar ideas regarding the contextual elements, but I believe that this should also be applied to motivation concepts (Murphy & Alexander, 2000; Pintrich, 2003). For example, Pintrich (2003) developed a motivational framework helping to integrate diverse research findings as well as to organize and unify future research efforts. Thus, at that time, he had integrated some of the key aspects of motivational theories that he called "motivational generalizations" and he designed principles intended to foster these motivational generalizations in students. This initiative was promising, but unfortunately, few researchers have followed this path, probably because they want to stay as close as possible to the research tradition behind the motivational constructs they study.

A variety of motivational models are presented in this special issue. Common to all these models is that they propose that there are multiple reasons underlying human behavior. Sometimes, authors are more specific about the framework they

use (Starr et al., 2022/*this issue*) or more integrative. For example, Liem & Senko, (2022/*this issue*) tried to integrate various theoretical perspectives in their goal complex model, including AGT, SDT, and EVT. However, they could have integrated other concepts found in this special issue which have not been the subject of much research to date. For example, relevant to the goal complex model is certainly the concept of frustration proposed by Park and Rameriz, (2022/*this issue*). Indeed, students might experience frustration when they pursue mastery or performance goals for specific social reasons. This negative emotion can discourage goal attainment, which could have dramatic effects on learning outcomes. This kind of integration could move the field forward and lead to better recommendations to researchers and school professionals.

Of course, there are always several good reasons to keep studying many motivational constructs, like there are many good reasons to keep old suits, but I believe that there are space limits (like in the wardrobe) that researchers should have in mind. Such a claim is not new (Hattie et al., 2020), but I believe that it is now time to move toward this goal. There is no need to dispute that intentional behaviors have multiple reasons, but could we group them under more integrative constructs? This is a delicate research endeavor because at the end, some construct labeled in a certain way may disappear (e.g., intrinsic motivation could be preferred over intrinsic value or self-concept of ability over perceived competence), but the field will certainly gain in cohesiveness.

Thus, motivational science may be at a crossroad. Given the numerous motivational concepts in the field and that some of them are subtle variations of others, there is definitely a need to develop an integrative framework. However, to champion such a task, we need to avoid building an integrative model where relations among all existing motivational constructs are included, but rather we should develop a common language for including these constructs in one model.

Personality psychology has achieved (although imperfectly) this goal by proposing the Big Five taxonomy of personality characteristics (John et al., 2008). One of the central goals of taxonomies is the definition of overarching components within which many specific characteristics could be grouped in a simplified way. Thus, in motivational science, a taxonomy would offer researchers the opportunity to study specific dimensions, rather than examining the many motives separately. Actually, there is a deep split between those who work on a given theory and those who work on another one. Findings to date show that none of the theories proposed were essentially wrong, although each provides an incomplete picture. As I said before, some theories suggest very similar motivational concepts that are measured with similar indicators. To understand these similarities among concepts requires a taxonomy that goes beyond the traditional idea to study motivational concepts in silos.

Interpersonal Relationships as Supports for Motivation at School

Wentzel (2022/*this issue*) defines a caring relationship as entailing mutual warmth and affection between members of a group or between two persons. This relationship is bidirectional, integrated in self-schemata, and depends on individual

characteristics (age, gender, and ethnicity). There is a strong emphasis in the literature on how the caring relationships students have with various social agents (e.g., their parents, teachers, or their peers) play a fundamental role in their motivation, engagement, and achievement (see Wentzel). The role of caring relationships has been addressed by various theories including attachment theory (Bowlby, 1969) and self-determination theory (Ryan & Deci, 2017). In a seminal paper, Baumeister and Leary (1995) claimed that “Existing evidence supports the hypothesis that the need to belong is a powerful, fundamental, and extremely pervasive motivation” (p. 497). They went further by concluding that “The desire for interpersonal attachment may well be one of the most far-reaching and integrative constructs currently available to understand human nature” (p. 522). In support of this fundamental human need, research has shown that among older adults who live alone, feelings of aloneness and abandonment are associated with an increased risk of mortality (O’Súilleabháin et al., 2019). In this section, I cover the following aspects: caring relationships with teachers; caring relationships with parents; peers and friends; and collective effects of parents, teachers, and peers. As we shall see, articles in this special issue indicate how each source plays a fundamental role in motivation and achievement, but as pointed out by Skinner, their collective effects need to be better understood.

Caring Relationships with Teachers

Students need to experience positive relationships in their lives, especially at school where they spend a substantial proportion of their waking hours. Unfortunately, a significant percentage of students report experiencing conflictual relationships with their teachers, which could have long-lasting negative effects on their academic outcomes (Hamre & Pianta, 2001). In particular, research has shown that boys and black children are less likely to have relationships with teachers that are characterized as close (Wood et al., 2020). Moreover, black children are also more likely to experience conflict with teachers in comparison to their white peers (Hughes et al., 2005). In order to prevent these relationship conflicts with minority students, Gray et al., (2022/this issue) suggest to set classroom conditions for communalism. Communalism is not only working in teams or cooperatively, but also to create activities in the classroom that benefit the entire community. Thus, teaching communalism could foster underrepresented students’ agency.

Caring relationships between students and an adult depend on the representations that individual students and adults hold of this relation. From the teachers’ side, this relationship is at the cornerstone of teachers’ choice to enter in this profession. For teachers, having a rewarding relationship with students is a source of fulfillment and wellness that reduce their intentions to quit their job. On the other hand, experiencing conflictual relationships is perceived as a stressful experience that often fuels their perceptions that they will not be able to attain the learning goals that they want to achieve with their students (Spilt et al., 2011). As evidenced by Park & Rameriz, (2022/this issue), such experiences could lead to frustration, a negative emotion that has harmful consequences for teachers, but also for students. Not surprisingly, teaching has been ranked as one of the most stressful professions, and the emotional labor

involved in teaching is considered the primary explanation for such findings (Johnson et al. 2005).

From the students' side, it has been found that the quality of the teacher–student relationship (TSR) is an important factor in their school engagement, well-being, and academic success (Roorda et al., 2011). Teacher–student relationships characterized by conflict and mistrust have deleterious effects on children's learning (e.g., Hamre & Pianta, 2001). Given the consequences (positive or negative) that TSR quality has for students' motivation, but also for teachers' wellness, it is peculiar that this relational dimension is not always underscored in educational programs, and not so much in professional development programs for teachers or in baccalaureates for pre-service teachers (see Robinson, 2022/*this issue*).

Wentzel (2022/*this issue*) asks an important question about the nature of this relationship: Is this relationship simply a phenomenon in the eyes of teachers and students, or must it also be reflected in objective and observable actions? Research typically shows that when a student completes a self-report scale about the quality of relationship with a teacher and when a teacher also completes a scale about the same relation, the sense of mutuality or reciprocity is relatively low which could indicate the following possibilities: (a) teachers and students do not understand items of a TSR questionnaire the same way, (2) teachers and students use a cognitive filter that is based on personality dimensions (e.g., neuroticism) to build a representation of the relationship that is distorted from reality, (3) when answering a TSR scale, a student and a teacher could refer to different interpersonal situations which could affect the correspondence between both perspectives. Concerning this last point, many interpersonal situations between a student and a teacher might occur over a long period. Teachers might more easily infer a general relationship self-schema across these situations, whereas for students, this task might be more difficult because of their limited cognitive capacities. To resolve this lack of correspondence, it might be useful to use both perspectives to predict students and teachers' outcomes. In that way, we might discover interesting differences between both sources (teachers and students; see Ratelle et al., 2018 for a similar rationale). Indeed, each informant (student or teacher) could perceive different behaviors at different moments. Instead of choosing between teachers and adolescents' perceptions, research on TSRs would benefit most from adopting a multi-informant approach, considering the unique contribution of the perceptions of each student and teacher on academic outcomes. The methodological benefits associated with the addition of informants (as well as observations) seem to be profitable in terms of improved prediction and enriched understanding.

Another interesting question put forward in this special issue is how teachers could develop these caring relationships with their students. Building and maintaining these critical classroom relationships, however, is not easy. Drawing on prominent motivation theories in educational psychology, Robinson (2022/*this issue*) presents a framework for understanding how teachers' relational motivation contributes to the quality of their TSRs. In particular, Robinson focuses on how teachers' motivational beliefs about TSRs may lead them to engage in relationship-building behaviors with students and, thus, cultivate positive relationships with their students. To build positive TSRs, teachers must believe that it is their role to do so, value the

quality of this relationship, and perceive themselves as self-efficacious in doing this task. However, along this road, some external circumstances may impede these factors. Specifically, building positive relationships with students can be challenging with the time pressure faced by teachers. Indeed, building TSR needs time and such time could be rare when teachers face difficulties such as students with externalizing behaviors or with severe learning difficulties. Similarly, there are also costs associated with engaging in TSR, especially if teachers are solely evaluated on their students' performance and not on the affective dimensions that they develop with them.

During the COVID-19 pandemic, these external factors were more important with months of online classes. Moreover, when students reintegrated into their classrooms there was a lot of stress associated with the management of COVID-19 positive cases, but also with all the sanitary recommendations from governmental authorities (wearing masks, physical distancing). Consequently, teachers during the pandemic were not necessarily in the mindset to prioritize the establishment of positive relationships with students. In line with this hypothesis, Falardeau et al. (2022) have shown that school belonging was lower for a cohort of students that were taught during the pandemic years compared to a cohort of students taught before the pandemic.

Transactional relationships (dyadic interactions, Wentzel, 2022/*this issue*) between students and teachers are also important to better understand how these relationships develop over the course of a school year and how such transactions or interactions affects motivation and achievement. It is well known in the field of development that students who evidence externalizing or disruptive behaviors could elicit more controlling behaviors from their teachers (e.g., punitive ones) which subsequently increase the probability that this student will misbehave in the future. Thus, the teacher and the student influence each other in a transactional way. There are also very good reasons to believe that children's motivation could affect how teachers will respond to them. Specifically, it is relatively clear from the literature cited above that most researchers endorse the point of view that relationships with teachers "predict" motivation. However, it is also possible that relationships with teachers are reinforced by the fact that students are motivated. Indeed, adolescents and young adults are not passive recipients of the social context. They are active agents in the social context, evoking responses from others. These responses may elicit behaviors from others that in turn modify the students' representations of relatedness with significant others (Pianta, 1999). For example, students may enjoy college educational activities and consider them to be important, which subsequently affects their behaviors (e.g., seeking support from teachers; studying more at home). In turn, their own behaviors elicit behaviors from teachers (giving positive feedback), thereby subsequently leading to representations of better relationship with the teacher. Indeed, as I argued earlier, representations of relationships are hypothesized to be updated and modified because of interactions with significant others. As pointed out by Wentzel, such transactional effects have rarely been tested in the motivation field, but we need this kind of study to better understand cumulative effects over the years on students' achievement and motivation.

In sum, authors in this special issue have outlined a rich tradition of research on caring relationships between students and teachers regardless of how these

relationships are operationalized (support, attachment, relatedness). However, there is still a tendency for most of us to rely on self-report measures to assess these relationships thereby leading to potential distortions in the eyes of teachers and students. Observational systems such as the one proposed by Pianta et al. (2012) appear promising to circumvent these problems. More systems like this should be developed to measure relationship components central to motivational theories.

Caring Relationships with Parents

Parents are important socializing agents that can have long-lasting influence on their children. Thus, an important feature of our school system is to help parents become involved in children's academic lives. However, research findings are inconsistent with parental involvement, where school-based involvement is positive, but home-based involvement has produced mixed findings (see Pomerantz et al., 2007). Thus, how parents become involved in their children's schooling is probably more crucial than the time they spend with them. Indeed, Pomerantz et al. (2007) in their seminal literature review concluded the following:

Findings on the quality of parents' involvement indicate that although getting parents involved in children's schooling is an important first step for enhancing children's achievement, how parents become involved is also important. Parents' involvement may be particularly beneficial for children when it is autonomy supportive, process focused, characterized by positive affect, or accompanied by positive beliefs. (p. 388)

In line with this, Starr et al., (2022/this issue) conducted a systematic review of the STEM socialization processes of caregivers that shape Black and Latinx adolescents' motivation beliefs in STEM. Their literature review indicates that children's motivation beliefs are higher when parents put in place co-activity, show that STEM is important, and expect that their children will succeed even if parents do not have a great deal of knowledge in STEM. In contrast, as put forward by Liem & Senko, (2022/this issue), parental involvement could have negative consequences for child development. For example, according to their literature review, parents' own fear of failure can lead them to display concerns about children's mistakes, which, in turn, can lead children to feel shame over mistakes and ultimately create a fertile ground for children to develop performance avoidance goals.

In a recent meta-analysis that incorporated over 144 studies and more than 79,000 students, Bureau et al. (2022) have found that parental autonomy support is less related to the psychological needs of autonomy, relatedness, and competence than teacher autonomy support. They conclude that autonomy support has a very different effect on student motivation depending on its source, which could be explained by the different expectations teachers and parents have regarding the autonomy support they provide. Teachers enact autonomy support to directly improve students' academic experience and learning, while parents provide autonomy support to help children to act volitionally overall and not necessarily in the school context. This non-specific parental influence may determine the degree of need satisfaction

students begin their schooling with but ultimately loses part of its influence as students grow older. These findings are in line with Pomerantz et al.'s (2007) conclusions that the positive role of parents' involvement at home is less consistent. Parents' home-based involvement in intellectual enrichment activities suggests enhanced achievement among children, but home-based involvement directly linked to schoolwork does not always appear to have such benefits. This is troublesome because this is the most frequent form of involvement for most parents. These findings are relatively general and do not take into account different school subjects. It is possible that when we study specific school subjects, the role of parents could be more important. This is exactly what Starr et al. have shown in their review regarding parental involvement in STEM among underrepresented students.

In sum, parents play an important role in their children's lives; whether this role produces important benefits for their children's learning and achievement over and above teachers' effects is still under research scrutiny. However, as for teachers (see Robinson, 2022/*this issue*), it will be key to determine how to support parents' involvement so that it can optimize children's adjustment. For example, Guay & Chanal, (2008) showed that fathers and mothers who acted autonomously in their parental role and perceived themselves as competent were perceived by their children as providing more autonomy supportive behaviors. Thus, parents' motivational resources seem to be affected by different internal and external circumstances (marital conflict; characteristics of their children such as ADHD; etc.). However, in contrast to their children, parents have a greater capacity to act upon their own environment and internal characteristics in order to direct their motivational resources toward their parenting role. In doing so, they will be more prone to use autonomy support which may help their children to succeed at school.

Peers and Friends

Relationships are not only between students and their parents and teachers, but also among school's peers, classmates, and friends, where all of them could potentially foster or hamper each others' motivation to learn. Indeed, research on peer relationships reveals that the quality of children's relationships with their classmates is associated with school achievement (Wentzel et al., 2021). Articles in this special issue also address the important role of peers that are embedded in a mesosystem with whom students spend a portion of their daily lives (Skinner et al., 2022/*this issue*).

For example, Graham et al., (2022/*this issue*) studied peer effects via belongingness in school along with the proportion of the same race/ethnic peers in their school, classrooms, or courses. They define belongingness as how much students feel like they are part of the school culture, fit in, and are accepted and respected by others. The results of their research program are highly relevant for researchers as well as policymakers. Indeed, in a social context where schools are more and more diverse in terms of the ethnic and racial backgrounds of students and given the increase in migratory flow that has occurred in recent years, we definitely need evidence-based research on this social issue. From their research program, Graham et al. conclude that students felt more as if they belonged to their

school when there were more same race/ethnic peers in their school, classrooms, or course. Same race/ethnicity peers and friends are thus an important source of identity affirmation and a safe haven for navigating experiences with discrimination and other forms of marginalization. Moreover, it appears that segregation in academic classes over time did not have a negative effect on school belonging for students whose racial/ethnic group was more than 20% of the school population. Thus, diversity in classrooms and in schools provides opportunities that can promote stronger feelings of belonging by minimizing the salience of racial/ethnic group size. However, as pointed out by Gray, communalism (see definition above) could also be used to foster belongingness among minority students.

Another type of marginalization is the one faced by students with learning difficulties. In several Western countries, students with learning difficulties are increasingly integrated into regular classrooms, sparking debate in the research community (Krämer et al., 2021). Some argue that mainstreaming is beneficial for academic success, particularly because mainstream classrooms allow students with learning disabilities to be around more successful peers who can serve as role models. Conversely, other researchers have suggested that the regular classroom is not the best setting for students with learning difficulties because the strategies offered to these students are not adapted to their needs, because too much content is covered, or because the pace of learning is too fast. In order to shed scientific light on this debate, Krämer et al. (2021) conducted a meta-analysis. The results of this meta-analysis emphasize that the inclusion of special-needs students in a regular classroom is more favorable to their academic success than a special education or special needs classroom.

However, this finding must be contrasted with the "Big-Fish-Little-Pond-Effect" (Marsh et al., 2020). This effect relies on a social comparison mechanism between students in a class or school. Thus, for two students with exactly the same level of academic ability, the one integrated into a class with a higher level of peer achievement will develop a more negative self-perception than the one who attends a class with a lower level of peer achievement. For students with learning disabilities who are integrated into a regular classroom, this means that they will develop a more negative self-image than if they attend a special education class. This finding is of concern, especially considering that students' perception of competence has an important effect on their academic success and perseverance (Guay et al., 2003). How then can we reconcile these results: on the one hand, inclusion is beneficial for the success of students with learning difficulties, but on the other hand, it undermines their self-perceptions of competence? Future studies should study this important research question.

Liem & Senko, (2022/this issue) try to integrate social and achievement goals into a goal complex model. In this model, an achievement goal could be a performance or mastery one that could be pursued for social/interpersonal motives. For example, some students might want to be the best among their classmates because they know that some of their friends greatly value mathematical achievement. In that case, the performance goal is derived from the social goal. Hence, the achievement goals (whether mastery or performance goals) that students pursue are oriented by the social reason behind them. Peers can thus influence

students' academic goals, in directions either complementary or antithetical to those espoused by adults, depending on the peers' values and attitudes toward academic achievement and education more generally.

Collective Effects of Parents, Teachers, and Peers

Whereas most studies have shown that parents, peers, and teachers individually predict variance in students' educational outcomes including motivation beliefs, they did not test whether all these relationships matter (cf., Kilday & Ryan, 2022/this issue). We therefore do not know whether these relationships have incremental effects on students' outcomes or whether one relationship suffices to foster motivational resources and achievement. This question can be tested in light of different models (see Skinner et al., 2022/this issue). According to the *coactive model*, academic motivation reflects the addition of support from all significant or close relationships. Consequently, academic motivation improves with each additional supportive relationship. Alternatively, this model could reveal that students do not need support from many sources. Relational support could be redundant such that additional sources do not improve academic motivation or that the effect of some sources is specific to some outcomes. Moreover, according to the *contingent operation model*, a supportive relationship from one source could buffer against the adverse consequences associated with lack of support from other sources, or different sources can work together to produce better outcomes.

Finally, the *sequential operation model* could reveal that the impact of one source is transmitted through its effects on other sources. For example, caring relationships with parents could have an effect on children's motivation because such relationships offer children the possibility to establish positive relationships with their teachers. Such sequential operations are relatively provocative because it means that children come to school with their own internal working models, leading them to show behavior that sets the path toward caring positive behaviors from the teacher. In addition, this sequence could mean that because some children have established trustworthy relationships with their parents, they came to perceive their relationships with teachers as positive, even if objectively these relations are not (a cognitive bias). We allude to this possibility above, but such a sequence has important implications for recommendations that could be made to teachers. That is, even if a teacher sets a positive relational climate with students that have experienced problematic relationships at home, such a positive relational climate might have limited effect on students' motivation because of their own internal working model of relationships. Hence, teachers would have to intentionally help students rework these internal models.

My colleagues and I (Guay et al., 2013) have conducted research in which we were interested in how collective effects of mother, father, and teachers' autonomy support translate into higher autonomous and controlled motivation and perceived competence in literacy. To do so, we measured the degree to which high school students perceived autonomy support from their father, mother, and teachers; and we used latent class analysis to test the additive effects of all sources. We obtained

three latent classes: group 1 (17% of the sample) included students who perceived low autonomy support from their mother, father, and teacher; group 2 (7%) included students who perceived low autonomy support by their father, but moderate autonomy support by their mother and teacher; and group 3 (76%) included students who perceived all sources as autonomy supportive. The results suggest that more is not necessarily better: Students in group 2, who perceived low autonomy support by fathers, did not differ in their reported autonomous and controlled regulations and perceived competence from students in group 3, who perceived all sources as moderately autonomy supportive. Thus, mothers or teachers could buffer the effect of a father who might be less autonomy supportive.

To summarize, scientific evidence informs us that uncaring relationships with parents, peers, and teachers place students at greater risk of developing motivational deficits, perhaps because such relationships leave unfulfilled the fundamental need for belonging (Baumeister & Leary, 1995). However, we need to better understand the interplay between many sources of support. Kilday & Ryan, (2022/*this issue*) offer a glimpse as to how this plays out when taking into account teachers and peers in research on motivation. In conducting similar types of studies, we will better understand how relationships in one context could buffer uncaring relationships in another context. Specifically, although school professionals could try to establish positive relationships with parents to work in the best interests of children, not all parents will be receptive to such efforts. Lack of responsiveness from parents could be due to various factors, but after all, school professionals might have a limited control over them. Thus, research must study specific factors within school that might buffer children from the adverse effects of an uncaring parental environment. In that way, we may build schools that provide an affective foundation for the optimal development of children's intellectual capacity, no matter what their family context is like, as well as their potential to be agentic and to have a fulfilling life.

Cultural and School Contexts That Sustain Motivation

Skinner et al., (2022/*this issue*) propose to study the characteristics of the macrosystem (e.g., economic, social, educational, legal, and political systems) to better understand what is happening at the meso- or at the microsystem levels. Specifically, the larger societal cultural context could play a role in explaining why some underrepresented students are demotivated at school. These authors argue that theories of motivation can incorporate some societal structures that could foster exclusion and discrimination toward some underrepresented groups but offering privileges to others. For example, governmental funding disparities support some educational institutions but not others, leading to segregated schools and school buildings that have deteriorated. These disparities could affect the school personnel and the service they provide to students.

Reardon et al. (2022), in their work on school segregation, present a clear example of how the macrosystem can affect a student's achievement. As pointed out by the authors, in 1954, the U.S. Supreme Court ruled that state mandated racial school segregation was unconstitutional. That is, segregated schools provide unequal

opportunities for learning that increase the achievement gap between underrepresented students and those who are not. While there was a decline in racial school segregation following this court judgment, U.S. schools today have become even more highly racially and economically segregated. The political discourse nowadays seems to have turned away from the goal of providing high-quality schooling to all students within a system that is highly segregated. Using standardized test scores from grades 3 to 8 in the 2008–2009 through 2015–2016 school years from nearly all public schools in the USA, researchers examined the association between school segregation patterns and racial achievement gaps for underrepresented students. Their results indicate a very strong link between racial school segregation and academic achievement gaps. More segregated school systems produce larger achievement gaps between underrepresented students and white students than in less segregated schools. They explain their findings by the fact that segregated schools are poorer. Their findings imply that high-poverty schools provide, on average, lower educational opportunity than low-poverty schools. Racial segregation matters, therefore, because it concentrates underrepresented students in high-poverty schools, not because of the racial composition of their schools, per se. However, there is a strong covariation between the representation status and poverty. In other words, a disproportionate number of underrepresented students attend high-poverty schools. Thus, as Graham et al., (2022/*this issue*) pointed out, we need to be careful about how the politics that we pursue will affect the day-to-day educational experiences of underrepresented students. Providing more money and other resources to segregated schools is a good first step, but it will not resolve the achievement gap because money does not offer the possibility to fulfill belongingness or attachment toward school.

In sum, I believe that we need to pursue more research examining the ways that educational policies impede or foster motivation and achievement at school through different intervening mechanisms—including the capacity of teachers to establish caring relationships with their students. Working at the macro-level could produce more sustainable changes in the day-to-day lives of children than attempting to make local changes within such large structural inequalities.

Opening New Avenues for Research

I propose here several ideas for new avenues of research that came to mind while I was reading the articles from this special issue. These ideas are certainly not comprehensive, and I certainly do not claim to cover all the central issues that merit our attention as motivational researchers. Thus, more ingenious ideas could be found in other research, including the articles of this special issue.

First, I believe that we need to test more intervention programs that target motivation. Recently, we have conducted a systematic review of the literature on reading motivation (Pelletier et al., 2022), and we were struck by the fact that very few intervention programs exist (except CORI; Guthrie et al., 2007). Although we did not perform similar reviews for other school subjects, I suspect that the portrait will be the same. Because our role is to help future generations of teachers and students,

as researchers we need to pursue such initiatives to build a comprehensive picture of evidenced-based practices in the motivation field. To achieve this endeavor, we should test our motivation interventions with state-of-the-art methodological designs involving pretest and posttest measurement and when possible random assignment of subjects. In the recent years, the Institute of Educational Sciences in the USA through What Works Clearinghouse has provided methodological guidelines for research seeking to test educational interventions; I believe that motivation researchers should follow these recommendations. However, there is a cost to this type of research as it consumes time and monetary resources, but I believe that it is this type of initiative that could make school a better place for all children, including those who struggle or suffer from discrimination.

As I said above, there is a tendency when we study how caring relationships with others affect students' motivational states to rely on self-reported measures. Sometimes, we use self-report scales completed by teachers, sometimes those completed by students, and less often scales completed by both actors. To have a better idea of what is going on when we use self-report scales, I suggest developing observation systems (e.g., Pianta et al., 2012). These systems could assess how frequently teachers demonstrate certain behaviors or practices during classroom hours, and then use these scores to see how they predict students' motivation. My colleagues and I have developed such a system (Guay et al., 2020) to evaluate the effectiveness of a professional development program that we built for teachers to help them to motivate their students. This observation system assesses five pedagogical practices favorable to motivation, namely, autonomy support, structure, involvement, authentic activities, and collaboration. Some of these practices assess elements of a caring relationship (i.e., involvement). We have been able to show that this observation system is able to detect changes in the five pedagogical practices following an intervention. Such an initiative is interesting, but certainly incomplete because of the limited number of indicators assessing central elements of TSR. I thus encourage researchers to pursue such initiatives.

Although already acknowledged by some authors in this special issue (Skinner et al., 2022/*this issue* and Wentzel, 2022/*this issue*), I believe that we should also have a better idea on how the collective effects of various sources of caring relationships (fathers, mothers, friends, peers, teachers) work to produce higher or lower levels of motivated behavior. Testing rigorously the sequential operation model appears important to address the possibility that it is a person's own perceptions (or cognitive filter) that led to the appreciation that a relationship is a caring one or not. Indeed, as I noted earlier, if children come to school with an internal working model (that is more or less based on actual behaviors shown by others) that leads them to believe that their peers and teachers act positively or negatively toward them, then this would lead to different types of interventions, notably to help children to develop more accurate perceptions of others, especially if they are negative.

I began my comments with the recommendation that we develop a common language to describe motivational principles behind human behavior and consequently design methodological tools to assess these principles. This recommendation echoes those made by Pintrich (2003), but I admit that this task will be a difficult one, probably because as researchers we are too attached to our research traditions and

theories. However, there are some consistent findings across theories; for example, few researchers would recommend setting goals for children by using rewards, competition, guilt, shame, punishment, humiliation, and so on. Yet, different theories provide different explanations for the negative consequences of these practices (e.g., SDT vs. attribution theory vs. goal theory). However, in cases where such consistency is evident, we need to develop more overarching and common theoretical accounts that provide universal construct definitions that reflect the same determinants and produce the same consequences. After all, most motivation constructs stem from an organismic metatheory (Ryan & Deci, 2017) or a relational developmental system metatheory (Overton, 2015) where the organism "... is seen as inherently active, self-creating (autopoietic), self-organizing, self-regulating (agentic), adaptive, and nonlinear/complex" (Lerner, 2016, p. 243). To study and integrate different levels of organization in human behavior, ranging from biology/physiology to culture and history, as a means to understand motivation development, we need an integrative framework to capture the complexity behind the ontogeny of human development where the transaction between the individual and the context is at the cornerstone (Lerner, 2016). Put differently, less is more: with less motivational constructs, we can understand the complexity of human behavior in a deeper way.

Finally, there is a need to study how rules, political decision at the macrosystem level, affect children's motivation at school. We have seen above the impact of such policies, but we need to pursue more research along this road. For example, in the province of Quebec (Canada) where I live, some scholars have proposed an increase in the mandatory age of schooling. Instead of 16, some researchers propose that this age should be now raised to 18 years. The rationale behind this proposition is that it seems that raising the minimum age of compulsory schooling has positive effects not only on the level of education achieved and the income of the individuals affected, but also on society as a whole via, for example, an increase in civic participation, improved health, lower crime, and better long-term cognitive abilities, in addition to intergenerational effects. However, keeping struggling students in school until 18 years old, without any changes to current educational systems, could have an adverse effect on their academic self-concept and motivation. Thus, as economic researchers do, motivational researchers also need to study the impact of these types of laws on students' motivation.

In conclusion, this special issue on sociocultural and relationship contexts that motivate student outcomes presents a collection of groundbreaking research ideas that advance our knowledge on how motivation is shaped by the cultural context and how motivation processes are affected by relationships with others. I sincerely hope that the publication of this special issue will stimulate new research that will advance our understanding of motivation at school and the other half of the story.

References

Bandura, A. (1997). *Self-efficacy: The exercise of control*. W.H. Freeman & Co.

- Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin*, 117(3), 497–529. <https://doi.org/10.1037/0033-2909.117.3.497>
- Bowlby, J. (1969). *Attachment and loss: Vol. 1. Attachment*. Basic Books.
- Bureau, J. S., Howard, J. L., Chong, J. X., & Guay, F. (2022). Pathways to student motivation: A meta-analysis of antecedents of autonomous and controlled motivations. *Review of Educational Research*, 92(1), 46–72. <https://doi.org/10.3102/00346543211042426>
- Elliot, A. J. (2005). A conceptual history of the achievement goal construct. In A. J. Elliot & C. S. Dweck (Eds.), *Hand-book of competence and motivation* (pp. 52–72). Guilford Press.
- Falardeau, É., Guay, F., Bradet, R., Boulet, J. (2022). La motivation scolaire d'élèves québécois du 2e cycle du secondaire en temps de pandémie. *Revue Canadienne d'Éducation*, 45(3), 787–834. <https://doi.org/10.53967/cje-rce.v45i3.5219>
- Graham, S. (2020). An attributional theory of motivation. *Contemporary Educational Psychology*, 61, 1–11.
- Graham, S., Kogachi, K., & Morales-Chicas, J. (2022). Do I fit in?: Race/ethnicity and feelings of belonging in school. *Educational Psychology Review*.
- Gray, D. L., Ali, J. N., McElveen, T. L., & Sealy, M. (2022). The cultural significance of "We-Ness": How communalism positions educators and researchers to design motivationally supportive learning environments for black students. *Educational Psychology Review*.
- Guay, F., & Chanal, J. (2008). Meet the parents: Mothers and fathers' contextual and psychological resources associated to adolescents' perceptions of parental autonomy support. *Self-Processes, Learning, and Enabling Human Potential: Dynamic New Approaches*, 3, 45–169.
- Guay, F., Gilbert, W., Falardeau, É., Bradet, R., & Boulet, J. (2020). Fostering the use of pedagogical practices among teachers to support elementary students' motivation to write. *Contemporary Educational Psychology*, 63, 101922.
- Guay, F., Marsh, H. W., & Boivin, M. (2003). Academic self-concept and academic achievement: Developmental perspectives on their causal ordering. *Journal of Educational Psychology*, 95(1), 124. <https://doi.org/10.1037/0022-0663.95.1.124>
- Guay, F., Ratelle, C. F., & Chanal, J. (2008). Optimal learning in optimal contexts: The role of self-determination in education. *Canadian Psychology/psychologie Canadienne*, 49(3), 233. <https://doi.org/10.1037/a0012758>
- Guay, F., Ratelle, C., Larose, S., Vallerand, R. J., & Vitaro, F. (2013). The number of autonomy-supportive relationships: Are more relationships better for motivation, perceived competence, and achievement? *Contemporary Educational Psychology*, 38(4), 375–382. <https://doi.org/10.1016/j.cedpsych.2013.07.005>
- Guthrie, J. T., McRae, A., & Klauda, S. L. (2007). Contributions of concept-oriented reading instruction to knowledge about interventions for motivations in reading. *Educational Psychologist*, 42(4), 237–250. <https://doi.org/10.1080/00461520701621087>
- Hamre, B. K., & Pianta, R. C. (2001). Early teacher-child relationships and the trajectory of children's school outcomes through eighth grade. *Child Development*, 72(2), 625–638.
- Hattie, J., Hodis, F. A., & Kang, S. H. (2020). Theories of motivation: Integration and ways forward. *Contemporary Educational Psychology*, 61, 101865. <https://doi.org/10.1016/j.cedpsych.2020.101865>
- Hughes, J. N., Gleason, K. A., & Zhang, D. (2005). Relationship influences on teachers' perceptions of academic competence in academically at-risk minority and majority first grade students. *Journal of School Psychology*, 43(4), 303–320.
- John, O. P., Naumann, L. P., & Soto, C. J. (2008). Paradigm shift to the integrative Big Five trait taxonomy: History, measurement, and conceptual issues. In O. P. John, R. W. Robins, & L. A. Pervin (Eds.), *Handbook of personality: Theory and research* (pp. 114–158). The Guilford Press.
- Kilday, J. & Ryan, A. (2022). The intersection of the peer ecology, and teacher practices for student motivation in the classroom. *Educational Psychology Review*.
- Krämer, S., Möller, J., & Zimmermann, F. (2021). Inclusive education of students with general learning difficulties: A meta-analysis. *Review of Educational Research*, 91(3), 432–478. <https://doi.org/10.3102/00346543211998072>
- Kriegbaum, K., Becker, N., & Spinath, B. (2018). The relative importance of intelligence and motivation as predictors of school achievement: A meta-analysis. *Educational Research Review*, 25, 120–148.
- Lerner, R. M. (2016). Complexity embraced and complexity reduced: A tale of two approaches to human development. *Human Development*, 59(4), 242–249. <https://doi.org/10.1159/000452113>

- Liem, G., & Senko, C. (2022). Goal complexes: A new approach to studying the coordination, consequences, and social contexts of pursuing multiple goals. *Educational Psychology Review*,
- Marsh, H. W., Parker, P. D., Guo, J., Pekrun, R., & Basarkod, G. (2020). Psychological comparison processes and self-concept in relation to five distinct frame-of-reference effects: Pan-human cross-cultural generalizability over 68 countries. *European Journal of Personality*, 34(2), 180–202. <https://doi.org/10.1002/per.2232>
- Murphy, P. K., & Alexander, P. A. (2000). A motivated exploration of motivation terminology. *Contemporary Educational Psychology*, 25(1), 3–53. <https://doi.org/10.1006/ceps.1999.1019>
- O’Súilleabháin, P. S., Gallagher, S., & Steptoe, A. (2019). Loneliness, living alone, and all-cause mortality: The role of emotional and social loneliness in the elderly during 19 years of follow-up. *Psychosomatic Medicine*, 81(6), 521. <https://doi.org/10.1097/PSY.0000000000000710>
- Overton, W. F. (2015). Taking conceptual analyses seriously. *Research in Human Development*, 12(3–4), 163–171. <https://doi.org/10.1080/15427609.2015.1069158>
- Park, D., & Rameriz, G. (2022). Frustration in the classroom: Causes and strategies to help teachers cope productively. *Educational Psychology Review*.
- Pelletier, D., Gilbert, W., Guay, F., & Falardeau, É. (2022). Teachers, parents and peers support in reading predicting changes in reading motivation among fourth to sixth graders: A systematic literature review. *Reading Psychology*, 43(5–6), 317–356.
- Pianta, R. C. (1999). Enhancing relationships between children and teachers. *American Psychological Association*. <https://doi.org/10.1037/10314-000>
- Pianta, R. C., Hamre, B. K., & Allen, J. P., et al. (2012). Teacher-student relationships and engagement: Conceptualizing, measuring, and improving the capacity of classroom interactions. In S. L. Christenson (Ed.), *Handbook of Research on Student Engagement* (pp. 365–386). Springer.
- Pintrich, P. R. (2003). A motivational science perspective on the role of student motivation in learning and teaching contexts. *Journal of Educational Psychology*, 95(4), 667. <https://doi.org/10.1037/0022-0663.95.4.667>
- Pomerantz, E. M., Moorman, E. A., & Litwack, S. D. (2007). The how, whom, and why of parents’ involvement in children’s academic lives: More is not always better. *Review of Educational Research*, 77(3), 373–410. <https://doi.org/10.3102/003465430305567>
- Ratelle, C. F., Morin, A. J., Guay, F., & Duchesne, S. (2018). Sources of evaluation of parental behaviors as predictors of achievement outcomes. *Motivation and Emotion*, 42(4), 513–526. <https://doi.org/10.1007/s11031-018-9692-4>
- Reardon, S.F., Weathers, E.S., Fahle, E.M., Jang, H., & Kalogrides, D. (2022). Isseparate still unequal? In *New Evidence on School Segregation and Racial Academic Achievement Gaps*.(CEPA Working Paper No.19-06). Retrieved from Stanford Center for Education Policy Analysis:<http://cepa.stanford.edu/wp19-06>
- Robinson, C. (2022). A framework for motivating teacher-student relationships. *Educational Psychology Review*,
- Roorda, D. L., Koomen, H. M., Spilt, J. L., & Oort, F. J. (2011). The influence of affective teacher–student relationships on students’ school engagement and achievement: A meta-analytic approach. *Review of Educational Research*, 81(4), 493–529. <https://doi.org/10.3102/0034654311421793>
- Ryan, R. M., & Deci, E. L. (2017). *Self-determination theory: Basic psychological needs in motivation, development, and wellness*. Guilford Publications.
- Skinner, E., Kindermann, T., Vollet, J. W., & Rickert, N. P. (2022). The role of complex social ecologies in the development of academic motivation, *Educational Psychology Review*,
- Spilt, J. L., Koomen, H. M., & Thijs, J. T. (2011). Teacher wellbeing: The importance of teacher–student relationships. *Educational Psychology Review*, 23(4), 457–477. <https://doi.org/10.1007/s10648-011-9170-y>
- Starr, C., Tulagan, N., & Simpkins, S. (2022). Black and Latinx adolescents’ STEM motivational beliefs: A systematic review of the literature on parent stem support, *Educational Psychology Review*,
- Vallerand R. J., Chichekian, T., & Paquette, V. (2020). Passion in education: Theory, research, and applications. In G.Arief D. Liem & D. McInerney (Eds.), *Promoting motivation and learning in context: Sociocultural perspectives on educational interventions* (pp.115–141). Information Age Publishing.
- Van Yperen, N. W., Blaga, M., & Postmes, T. (2015). A meta-analysis of the impact of situationally induced achievement goals on task performance. *Human Performance*, 28(2), 165–182. <https://doi.org/10.1080/08959285.2015.1006772>

- Wentzel, K. R. (2022). Does anybody care? Conceptualization and measurement within the contexts of teacher-student and peer relationships. *Educational Psychology Review*,
- Wentzel, K. R., Jablansky, S., & Scalise, N. R. (2021). Peer social acceptance and academic achievement: A meta-analytic study. *Journal of Educational Psychology*, 113(1), 157–180. <https://doi.org/10.1037/edu0000468>
- Wigfield, A., Tonks, S., & Klauda, S. L. (2009). Expectancy-value theory. In K. R. Wentzel & A. Wigfield (Eds.), *Handbook of motivation at school* (pp. 69–90). Routledge.
- Wood, J. L., Essien, I., & Blevins, D. (2020). Black males in kindergarten: The effect of social skills on close and conflictual relationships with teachers. *Journal of African American Males in Education (JAAME)*, 8(2), 30–50.

Publisher's Note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

Springer Nature or its licensor (e.g. a society or other partner) holds exclusive rights to this article under a publishing agreement with the author(s) or other rightsholder(s); author self-archiving of the accepted manuscript version of this article is solely governed by the terms of such publishing agreement and applicable law.