



# Linking High School Students' Achievement Goal Orientations With Their Competence Beliefs and Their Perception of Teachers' Emotional Support During the COVID-19 Pandemic

Jonathan Smith<sup>1\*</sup>, Marie-France Nadeau<sup>1</sup>, Isabelle Archambault<sup>2</sup>, Fanny-Alexandra Guimond<sup>3</sup>, Jérôme St-Amand<sup>4</sup>, Caroline Fitzpatrick<sup>1</sup> and Mathieu Gagnon<sup>1</sup>

<sup>1</sup> Department of Preschool and Primary Education, University of Sherbrooke, Sherbrooke, QC, Canada, <sup>2</sup> School of Psychoeducation, University of Montreal, Montreal, QC, Canada, <sup>3</sup> School of Psychology, University of Ottawa, Ottawa, ON, Canada, <sup>4</sup> Department of Educational Sciences, University of Quebec at Outaouais, Gatineau, QC, Canada

## OPEN ACCESS

### Edited by:

Guillermo Felipe López Sánchez,  
University of Murcia, Spain

### Reviewed by:

Se Mol,  
Leiden University, Netherlands  
Derling Mendoza,  
Universidad Tecnológica Equinoccial,  
Ecuador

### \*Correspondence:

Jonathan Smith  
jonathan.smith@usherbrooke.ca

### Specialty section:

This article was submitted to  
Educational Psychology,  
a section of the journal  
Frontiers in Education

**Received:** 22 August 2021

**Accepted:** 14 February 2022

**Published:** 09 March 2022

### Citation:

Smith J, Nadeau M-F, Archambault I, Guimond F-A, St-Amand J, Fitzpatrick C and Gagnon M (2022) Linking High School Students' Achievement Goal Orientations With Their Competence Beliefs and Their Perception of Teachers' Emotional Support During the COVID-19 Pandemic. *Front. Educ.* 7:762766. doi: 10.3389/feduc.2022.762766

Due to the COVID-19 pandemic, adolescents have experienced limitations in their everyday activities. Consequently, their mental health has become an area of concern. However, there has been much less of a focus on the factors and mechanisms contributing to how they have approached their various academic activities during the pandemic. The current study fills this gap by investigating associations between adolescents' competence beliefs and perception of teachers' emotional support and their achievement goals (mastery, performance, and work avoidance) at the onset of the second wave of this pandemic in Canada. Participants were 90 Canadian high school adolescents in grades 9 and 10 and they were surveyed in November of 2020. Data were analyzed using multiple regression and mediation analyses. Among the most salient results, competence beliefs were found to predict achievement goals, above and beyond teachers' emotional support, and these beliefs were significantly and positively associated with mastery and performance orientation, and marginally and negatively associated with work avoidance orientation. Results also showed that competence beliefs mediated the association between teachers' emotional support and the mastery goal orientation. These findings are discussed in light of relevant pre-pandemic evidence about the role of competence beliefs and teachers' emotional support on achievement goal orientations.

**Keywords:** COVID-19 pandemic, achievement goal orientations, competence beliefs, teachers' emotional support, high school

## INTRODUCTION

The COVID-19 pandemic is an unprecedented health and social crisis. In an attempt to contain the spread of infection and mitigate its negative effects, countries adopted a wide range of measures. One key strategy that had been used on a global scale was to limit social contacts. Consequently, only essential services were allowed to operate; schools were closed, people were

instructed to stay home, and activities involving social interactions were suspended. As a result of the measures, children and adolescents were directly impacted. Decision makers, researchers, health and educational professionals, as well as parents, became increasingly concerned with the mental health of this subpopulation as they were deprived of activities that are essential to their development. Their concerns were revealed to be well-founded; many recent studies have demonstrated the very high levels of stress, anxiety, depression, and loneliness that children and adolescents have experienced throughout the pandemic (Rogers et al., 2021; Rothe et al., 2021; Tang et al., 2021; Tardif-Grenier et al., 2021). Moreover, their mental health adjustment seemed to be closely linked to their academic functioning including their school attendance during the pandemic (Guimond et al., 2021).

Considering such evidence, it is worth examining how children and adolescents approach learning under these circumstances. In this line, several questions have emerged such as: “*Is the COVID-19 pandemic affecting how children and adolescents approach learning?*” and “*How do children’s and adolescents’ self-perceptions and of teachers’ emotional support contributed to their intentions toward learning during these stressful times?*” In the eventuality where they were not deprived of such a support, we would expect them to easily remain focused on their achievement goals (Li et al., 2019), and especially if they feel competent. Indeed, teachers’ emotional support and competence beliefs are both known to influence intentions in relation to learning (Korpershoek et al., 2020). However, these intentions and the processes underlying them have received little attention in the context of the COVID-19 pandemic. The present study fills this important gap by investigating the achievement goal orientations of a sample of adolescents at the onset of the second wave of this pandemic. More precisely, their goals are examined as a function of both their own competence beliefs and their perception of their teachers’ emotional support.

## Theoretical Framework

Achievement goals are important motivational forces and they represent the reasons why students choose to approach and adapt to academic activities (Chung et al., 2020). In the scientific literature, two principal orientations are identified: a mastery and a performance orientation (Chung et al., 2020). Students who pursue *mastery* goals are portrayed as valuing the process of learning and its outcomes. They indeed seek opportunities to acquire and improve knowledge and develop competence (Lee and Bong, 2019; Chung et al., 2020). Students can also pursue *performance* goals and will therefore show a desire to demonstrate their competence, to attain high-level knowledge and abilities, and/or to outperform others (Lee and Bong, 2019; Chung et al., 2020). Indeed, these two orientations are not mutually exclusive as students may seek to both master and exhibit their knowledge and abilities (Martin and Elliot, 2016). Additionally, there are students who do not endorse either of these two orientations. These students may avoid engaging in academic activities or may choose to invest a minimum amount of effort; these attributes reflect a *work avoidance* orientation (Bouffard et al., 1998; King and McInerney, 2014). These

three orientations (mastery, performance, and work avoidance) are included in a trichotomous conceptualization proposed by Harackiewicz et al. (1997) that is used in the current study.

It is important to note that students generally consider their levels of prior knowledge and abilities when it comes to setting goals (Elliot and Hulleman, 2017). When they show high confidence in their capacities, they indeed pursue more ambitious goals and take more risks (Seaton et al., 2014; Jiang et al., 2018; Lee and Bong, 2019). In contrast, when they doubt their capacities, they tend to hesitate to engage in the tasks and they may even seek to avoid them (Seaton et al., 2014; Jiang et al., 2018; Lee and Bong, 2019). In considering the broader context of the pandemic, it is clear that it has led to a disruption in the course of school activities; in turn, it is very likely that students’ achievement goals, and corresponding competence beliefs, have been negatively impacted. However, it is important to keep in mind that support from teachers benefit achievement goals just as competence beliefs (Wentzel, 2002; Wentzel et al., 2012; Diaconu-Gherasim et al., 2019) and that it usually serves a protective function.

## The Present Study

The COVID-19 pandemic has been going on for nearly 2 years. Given existing theory and evidence, there is a real possibility that many children and adolescents are struggling to pursue goals that favor both their learning and success in school. To the best of our knowledge, an examination of their academic goals has only been addressed in a very limited number of studies (Daniels et al., 2021; Lin, 2021). The present study aspires to fill an important gap in knowledge by investigating high school adolescents’ achievement goal orientations as a function of their own competence beliefs and their perceptions of their teachers’ emotional support. More precisely, two objectives are being pursued:

1. Examining the relationships between competence beliefs and teachers’ emotional support, respectively, and mastery, performance and work avoidance goal orientations;
2. Examining the mediating role of competence beliefs in a potential relationship between teachers’ emotional support and these different goal orientations.

## METHODS

### Design and Sample

The present study is based on a convenience sample of 90 French-Canadian adolescents from two public high schools, both located in Quebec City suburbs. Fifty-one of these adolescents were in 9th grade (43 girls, 8 boys,  $M_{age} = 14.69$ ,  $SD = 0.34$ ) and 39 were in 10th grade (26 girls, 13 boys,  $M_{age} = 15.79$ ,  $SD = 0.26$ ). It is important to note that high school education starts in grade 7 (i.e., secondary 1) in the province of Quebec, Canada and therefore these adolescents were, respectively, in their third and fourth year of high school (secondary 3 and 4) when they participated to this study.

Participants completed an online questionnaire which allowed to document their achievement goal orientations, as well as their

competence beliefs and their perception of the emotional support provided by their teachers. The data collection took place at the onset of the second wave of the COVID-19 pandemic (in Quebec), in November 2020. It must be highlighted that during the winter of the previous school year (in March 2020), all Quebec schools were closed and, as a consequence, the vast majority of students experienced online education for nearly 4 months. At the time of the survey, in November, students were back at school in-person since September. However, in order to avoid any bias, we did not refer specifically to the pandemic in the survey.

## Measures

### Mastery Goal Orientation

Participants rated their mastery goal orientation by answering a three-item validated subscale (Bouffard et al., 1998). The items were: “*I want to learn as much as possible at school*”; “*It’s important for me to understand what we’re learning at school*”; and “*Understanding as much as possible is the most important thing for me at school*.” Participants rated each item on a scale ranging from 1 (strongly disagree) to 6 (strongly agree) by circling the number that corresponded to their level of agreement. Responses were averaged to generate an overall score that reflected the extent of mastery orientation during the pandemic ( $M = 4.89$ ,  $SD = 0.81$ , Skewness =  $-0.70$ , Kurtosis =  $0.34$ , Cronbach’s alpha =  $0.78$ ).

### Performance Goal Orientation

Participants rated their performance goal orientation by responding to a four-item subscale (Bouffard et al., 1998). The items were: “*My main goal in school is to get good grades*”; “*It’s important to me to be one of the best in my class*”; “*It’s important to me to be better than other students*”; and “*My main goal in school is to be the best*.” Responses were averaged to generate an overall score that reflected the extent to which the participant held a performance orientation during the pandemic ( $M = 3.35$ ,  $SD = 1.20$ , Skewness =  $0.54$ , Kurtosis =  $-0.70$ , Cronbach’s alpha =  $0.87$ ).

### Work Avoidance Goal Orientation

Participants rated their avoidance goal orientation by answering a three-item subscale (Bouffard et al., 1998). The items were: “*In class, I work as little as possible*”; “*I always try to do as little work as possible at school*”; and “*In class, I only do what is required*.” Responses were averaged to create an overall performance orientation score during the pandemic ( $M = 1.97$ ,  $SD = 0.91$ , Skewness =  $0.91$ , Kurtosis =  $-0.48$ , Cronbach’s alpha =  $0.77$ ).

### Competence Beliefs

Participants rated their self-perceptions of school competence by answering a four-item subscale (Ntamakiliro et al., 2000). The items were: “*I am proud of my grades at school*”; “*I’m as good as others at school*”; “*I am not very good at school*”; and “*I’m not as good as others at school*.” The last two items were reverse-coded and responses across all items were averaged to generate an overall scorer that reflected participants’ competence beliefs during the pandemic ( $M = 4.66$ ,  $SD = 0.92$ , Skewness =  $-0.71$ , Kurtosis =  $0.21$ , Cronbach’s alpha =  $0.87$ ).

### Teachers’ Emotional Support

Participants rated the emotional support provided by their teachers by answering a three-item subscale (Janosz et al., 2004). Items include: “*My teachers think I am good at school*”; “*Usually, my teachers are interested in my progress*”; and “*My teachers make me feel like I’m good*.” Responses were averaged to generate an overall score that reflected participants’ perception of being emotionally supported by their teachers during the pandemic ( $M = 4.53$ ,  $SD = 0.82$ , Skewness =  $-0.95$ , Kurtosis =  $1.37$ , Cronbach’s alpha =  $0.82$ ).

## Plan of Analyses

First, preliminary analyses were conducted. A MANOVA was run to ensure that there were no gender nor grade-level differences on each of the study variables. Then, Pearson correlations were performed among all study variables. As main analyses, three multiple regressions were carried out to investigate the unique effect of competence beliefs and teachers’ emotional support on the mastery, performance, and work avoidance goal orientations. Then, mediation analyses were conducted to determine if competence beliefs could mediate the relationships between teachers’ emotional support and the three separate goal orientations. All analyses were conducted using the Statistical Package for the Social Sciences (SPSS) software, version 26. Mediation analyses were examined with the PROCESS macro developed by Hayes (2013).

## RESULTS

### Preliminary Analyses

As mentioned, a MANOVA allowed to determine if there were gender and grade-level differences on study variables. As shown in **Table 1**, no significant differences emerged. That said, a marginal gender difference was noted on the work avoidance orientation and a marginal grade-level difference was noted on the mastery orientation. Indeed, it seemed that male students were slightly more likely than female students to adopt a work avoidance orientation and that students in 9th grade were slightly more likely than students in 10th grade to adopt a mastery orientation.

Then, Pearson correlation analysis offered an overview of the relationships between the two independent (competence beliefs and teachers’ emotional support) and the three dependent (mastery, performance and work avoidance goal orientations) variables. As shown in **Table 2**, competence beliefs are, respectively, moderately and modestly positively associated (according to Muijs, 2011) with the mastery and performance orientations and moderately and negatively associated with the work avoidance orientation. Teachers’ emotional support is modestly and negatively associated with the work avoidance orientation and modestly and positively associated with the mastery orientation (this last correlation is marginal). There is also a strong and positive relationship between competence beliefs and teachers’ emotional support.

**TABLE 1** | Gender and grade-level differences on mastery, performance and work avoidance orientations.

Variable	M (SD)				F (effect size)	
	Gender		Grade-level		Gender	Grade-level
	M (n = 21)	F (n = 69)	9th graders (n = 51)	10th graders (n = 39)		
Competence beliefs	4.60 (0.84)	4.67 (0.95)	4.58 (0.95)	4.75 (0.87)	0.12 (0.00)	0.73 (0.01)
Teachers' emotional support	4.56 (1.00)	4.52 (0.77)	4.43 (0.78)	4.66 (0.86)	0.03 (0.00)	1.71 (0.02)
Mastery orientation	4.89 (0.93)	4.88 (0.77)	5.03 (0.81)	4.70 (0.78)	0.00 (0.00)	3.70 <sup>†</sup> (0.04)
Performance orientation	3.45 (1.07)	3.32 (1.24)	3.24 (1.16)	3.50 (1.24)	0.19 (0.00)	1.04 (0.01)
Work avoidance orientation	2.29 (0.99)	1.87 (0.87)	1.94 (0.95)	2.00 (0.87)	3.45 <sup>†</sup> (0.04)	0.09 (0.00)

$N = 90$ .<sup>†</sup> $p < 0.10$ . \* $p < 0.05$ . \*\* $p < 0.01$ . \*\*\* $p < 0.001$ .

**TABLE 2** | Correlations for mastery, performance and work avoidance orientations.

Variable	1	2	3	4	5
1. Competence beliefs	–	0.54***	0.35***	0.28**	–0.31**
2. Teachers' emotional support		–	0.18 <sup>†</sup>	0.01	–0.26*
3. Mastery orientation			–	0.24*	–0.42***
4. Performance orientation				–	–0.02
5. Work avoidance orientation					–

$N = 90$ .<sup>†</sup> $p < 0.10$ . \* $p < 0.05$ . \*\* $p < 0.01$ . \*\*\* $p < 0.001$ .

**TABLE 3** | Results of competence beliefs and teachers' emotional support as predictors of mastery, performance and work avoidance orientations.

Predictors	Mastery orientation	Performance orientation	Work avoidance orientation
	B(SE)	B(SE)	B(SE)
Competence beliefs	0.31** (0.11)	0.50** (0.16)	–0.24 <sup>†</sup> (0.12)
Teachers' emotional support	–0.01 (0.12)	–0.29 (0.18)	–0.15 (0.13)

Standardized  $\beta$  are shown.

<sup>†</sup> $p < 0.10$ . \* $p < 0.05$ . \*\* $p < 0.01$ . \*\*\* $p < 0.001$ .

## Main Analyses

The regression analyses allowed to determine the respective contributions of adolescents' competence beliefs and perception of their teachers' emotional support on their mastery, performance, and work avoidance goal orientations during

the pandemic. As shown in **Table 3**, when including both competence beliefs and teachers' emotional support in the model, the latter was not found to be a significant predictor of any of the orientations. In fact, students' competence beliefs appeared to be a significant predictor of both mastery and performance goal orientations. Also, competence beliefs tended to predict a weaker work avoidance orientation.

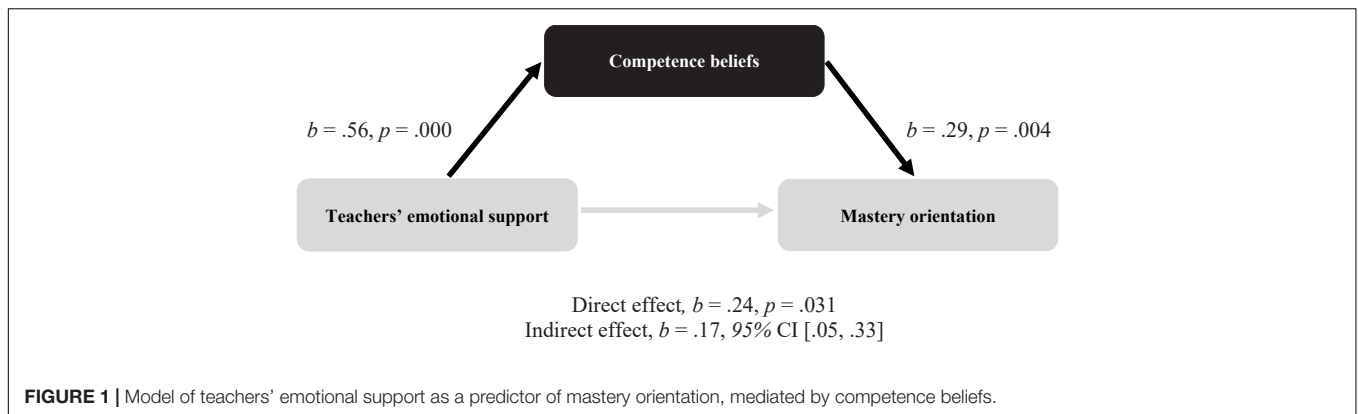
The mediation analyses allowed to explore if adolescents' perception of being emotionally supported by their teachers could, at least, be linked to goal orientations through competence beliefs. Results showed that competence beliefs was only a significant mediator of the association between teachers' emotional support and a mastery orientation (see **Table 4**). Further, a closer look at the correlation between teachers' emotional support and competence beliefs and between competence beliefs and mastery orientation revealed positive associations (see **Figure 1**). However, when taking into account

**TABLE 4** | Results of teachers' emotional support as a predictor of mastery orientation, mediated by competence beliefs.

Effect	B (SE)	T-value
Total effect	0.24* (0.11)	2.19
Direct effect	0.07 (0.12)	0.61
Indirect effect	0.17 (0.07)	

$R^2 = 0.14$ ,  $F = 6.95$ ,  $p = 0.002$ .

<sup>†</sup> $p < 0.10$ . \* $p < 0.05$ . \*\* $p < 0.01$ . \*\*\* $p < 0.001$ .



the potential mediating role of competence beliefs, teachers' emotional support was not found to be a significant predictor of both performance and work avoidance orientations.

## DISCUSSION

This study investigated adolescents' achievement goal orientations (i.e., mastery, performance, and work avoidance) during the COVID-19 pandemic as a function of both their own competence beliefs and their perception of their teachers' emotional support. The results are interpreted in light of pre-pandemic evidence on the topic.

Unsurprisingly, there were significant bivariate associations between competence beliefs and each of the three orientations. Indeed, competence beliefs were found to be moderately positively associated with the mastery orientation and moderately negatively associated with the work avoidance orientation and, also, modestly and positively associated with the performance orientation. This coincides with the observation that students tend to make a self-assessment of their competence when it comes to set goals for themselves (Elliot and Hulleman, 2017). It seems indeed to be equally true during this pandemic. As for the emotional support provided by teachers, it is less strongly associated with these orientations. In fact, teachers' emotional support appeared to be modestly and negatively associated with the adoption of a work avoidance goal orientation and modestly and positively associated with the adoption of a mastery orientation, this last association being marginal. Yet, these results corroborate the observation that students' perception of their relationship with their teachers, notably the emotional support provided by them, can determine how they approach learning opportunities (Wentzel, 2002; Wentzel et al., 2012; Diaconu-Gherasim et al., 2019).

Further analyses revealed competence beliefs to be a stronger predictor of the three goal orientations than teachers' emotional support is, at least during this pandemic. Indeed, when considering these two dimensions together, teachers' emotional support was not associated with these goals. It could be that there is an overlap between these two perceptions that underlie a competence assessment. In comparison, competence beliefs were found to be significantly associated to a mastery orientation

as well as a performance orientation. In addition, positive competence beliefs, to a certain extent, seem to be negatively associated with a work avoidance orientation. As already mentioned, these findings are congruent with existing evidence. Indeed, it is well known that when adolescents display confidence in their academic abilities, they tend to seek opportunities to develop their knowledge and skills and to gain recognition for them (Seaton et al., 2014; Jiang et al., 2018). Accordingly, they are much less at risk for adopting learning avoidance strategies (Law et al., 2012; Jiang et al., 2018). Thus, it seems that during this pandemic these beliefs played their usual role and helped students preserve positive intentions toward learning.

Now, it was worth wondering if teachers' emotional support could, at least, be associated with one or several of these goal orientations, through competence beliefs. Results of mediation analyses suggested that teachers' emotional support was associated to a mastery orientation approach to learning when competence beliefs were considered as a mediator. This observation is in line, notably, with Wentzel's (2002, 2012) pre-pandemic research findings suggesting that, when teachers take interest in their students' learning endeavors and hold positives expectations for them, two underlying dimensions behind the construct of teachers' emotional support, their students tend to pursue ambitious goals and, for example, seek to develop their knowledge and competence. These mediation analyses did not reveal competence beliefs to play a similar mediating role between teachers' emotional support and a performance or a work avoidance orientation and this may be due to the previously mentioned potential overlap. So, ultimately, teachers' emotional support appeared to have a limited effect on goal orientations. That said, in the achievement goals literature, this particular support is described to have effects on how students approach and adapt to learning. Thus, it is worth investigating further its effect alongside self-perceptions.

## STRENGTHS, LIMITATIONS AND CONCLUSION

The current findings should be considered with caution. First, the results may not be directly explained by the pandemic. Second, our sample was very small and was not representative of the entire

student population. Thus, our findings cannot be generalized. In addition, we cannot claim causality in our results since they are correlational in nature. Regardless of these limitations, this study has merit, such that it includes an estimation of the association of both competence beliefs and perception of teachers' emotional support with several achievement goal orientations. It appears that these relationships have been extensively discussed from a theoretical point of view but have not been systematically (and conjunctly) tested, at least not in the context of the ongoing pandemic. Therefore, the emerging results improve our understanding of the relationships between how students feel competent and supported in line with how they approach learning during these particular times.

Our results identify adolescents' own competence beliefs as an adequate predictor of their goal orientations. Further, the extent of these beliefs was shown to be a better predictor of goal orientations than the level of perceived emotional support by teachers. Indeed, teachers' emotional support ultimately appeared to have a limited effect. This result is somewhat surprising as both of these dimensions have been previously related with achievement goal orientations (Schunk and Mullen, 2012). As highlighted in Wentzel's (2002, 2012) work, students who consider their teachers to be caring and supportive are much more likely to value the learning process and, notably, to set ambitious goals for themselves. We would have expected to observe such a relationship in a period of uncertainty like the COVID-19 pandemic, while teachers were likely to constitute a source of support and comfort (Curby et al., 2013) and even a source of inspiration. Perhaps the measure that has been used did not allow to fully capture the scope of this support even if it is in line with the reference construct. Nonetheless, it is promising that a resource that resides within adolescents (beliefs about one's own competence) plays an important role in how they approach learning in such unique and challenging circumstances.

## REFERENCES

- Bouffard, T., Vezeau, C., Romano, G., Chouinard, R., Bordeleau, L., and Filion, C. (1998). Elaboration et validation d'un instrument pour évaluer les buts des élèves en contexte scolaire. *Rev. Can. Sci. Comportement* 30, 203–206. doi: 10.1037/h0087063
- Chung, Y., Bong, M., and Kim, S.-I. (2020). Performing under challenge: the differing effects of ability and normative performance goals. *J. Educ. Psychol.* 112, 823–840. doi: 10.1037/edu0000393
- Curby, T. W., Brock, L. L., and Hamre, B. K. (2013). Teachers' emotional support consistency predicts children's achievement gains and social skills. *Early Educ. Dev.* 24, 292–309. doi: 10.1080/10409289.2012.665760
- Daniels, L. M., Goegan, L. D., and Parker, P. C. (2021). The impact of COVID-19 triggered changes to instruction and assessment on university students' self-reported motivation, engagement and perceptions. *Soc. Psychol. Educ.* 24, 299–318. doi: 10.1007/s11218-021-09612-3
- Diaconu-Gherasim, L. R., Măirean, C., and Brumariu, L. E. (2019). Quality of teachers' and peers' behaviors and achievement goals: the mediating role of self-efficacy. *Learn. Individ. Differ.* 73, 147–156. doi: 10.1016/j.lindif.2019.06.001
- Elliot, A. J., and Hulleman, C. S. (2017). "Achievement goals," in *Handbook of Competence and Motivation: Theory and Application*, 2nd Edn, eds A. J. Elliot, C. S. Dweck, and D. S. Yeager (New York, NY: Guilford Press), 43–60.
- Guimond, F.-A., Smith, J., Vitoroulis, I., Aucoin, P., St. John, E., Gardam, O., et al. (2021). The role of online schooling, screen-based activities, and parent coping

## DATA AVAILABILITY STATEMENT

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

## ETHICS STATEMENT

The studies involving human participants were reviewed and approved by Comité d'Éthique de la Recherche (CÉR) Éducation et Sciences Sociales. Written informed consent to participate in this study was provided by the participants' legal guardian/next of kin.

## AUTHOR CONTRIBUTIONS

JS: conceptualization, data curation, formal analysis, investigation, methodology, project administration, resources, software, supervision, validation, visualization, writing-original draft preparation, writing-review and editing. M-FN: conceptualization, validation, visualization, writing-original draft preparation, writing-review and editing. IA: conceptualization, formal analysis, investigation, methodology, validation, visualization, writing-original draft preparation, writing-review and editing. F-AG: investigation, methodology, validation, visualization, writing-original draft preparation, writing-review and editing. JS-A: validation, writing-review and editing. CF: validation, writing-review and editing. MG: project administration, supervision to participate in this study was provided by the participants' legal guardian/next of kin. All authors contributed to the article and approved the submitted version.

- in Canadian children's COVID-19-related trauma and anxiety symptoms. *Psychiatry Int.* 2, 180–190. doi: 10.3390/psychiatryint2020014
- Harackiewicz, J. M., Barron, K. E., Carter, S. M., Lehto, A. T., and Elliot, A. J. (1997). Predictors and consequences of achievement goals in the college classroom: maintaining interest and making the grade. *J. Pers. Soc. Psychol.* 73:1284. doi: 10.1037/0022-3514.73.6.1284
- Hayes, A. F. (2013). *Introduction to Mediation, Moderation, and Conditional Process Analysis: A Regression-Based Approach*. New York, NY: Guilford Press.
- Janosz, M., Bowen, F., Chouinard, R., Desbiens, N., and Bouthillier, C. (2004). *Questionnaire Sur l'Environnement Socioéducatif (QES)*. Ottawa, ON: Université de Montréal.
- Jiang, Y., Rosenzweig, E. Q., and Gaspard, H. (2018). An expectancy-value-cost approach in predicting adolescent students' academic motivation and achievement. *Contemp. Educ. Psychol.* 54, 139–152. doi: 10.1016/j.cedpsych.2018.06.005
- King, R. B., and McInerney, D. M. (2014). The work avoidance goal construct: examining its structure, antecedents, and consequences. *Contemp. Educ. Psychol.* 39, 42–58. doi: 10.1016/j.cedpsych.2013.12.002
- Korpershoek, H., Canrinus, E. T., Fokkens-Bruinsma, M., and de Boer, H. (2020). The relationships between school belonging and students' motivational, social-emotional, behavioural, and academic outcomes in secondary education: a meta-analytic review. *Res. Pap. Educ.* 35, 641–680. doi: 10.1080/02671522.2019.1615116
- Law, W., Elliot, A. J., and Murayama, K. (2012). Perceived competence moderates the relation between performance-approach and

- performance-avoidance goals. *J. Educ. Psychol.* 104, 806–819. doi: 10.1037/a0027179
- Lee, M., and Bong, M. (2019). Relevance of goal theories to language research. *System* 86:102122. doi: 10.1016/j.system.2019.102122
- Li, C., Ivarsson, A., Lam, L. T., and Sun, J. (2019). Basic psychological needs satisfaction and frustration, stress, and sports injury among university athletes: a four-wave prospective survey. *Front. Psychol.* 10:665. doi: 10.3389/fpsyg.2019.00665
- Lin, T.-J. (2021). Exploring the differences in Taiwanese university students' online learning task value, goal orientation, and self-efficacy before and after the COVID-19 outbreak. *Asia Pac. Educ. Res.* 30, 191–203. doi: 10.1007/s40299-021-00553-1
- Martin, A. J., and Elliot, A. J. (2016). The role of personal best (PB) and dichotomous achievement goals in students' academic motivation and engagement: a longitudinal investigation. *Educ. Psychol.* 36, 1285–1302. doi: 10.1080/01443410.2015.1093606
- Muijs, D. (2011). *Doing Quantitative Research in Education with SPSS*, 2nd Edn. London: Sage.
- Ntamakiliro, L., Monnard, I., and Gurtner, J. L. (2000). Mesure de la motivation scolaire des adolescents : construction et validation de trois échelles comportementales. *L'Orientat. Scolaire Prof.* 29, 673–693. doi: 10.4000/osp.5788
- Rogers, A. A., Ha, T., and Ockey, S. (2021). Adolescents' perceived socio-emotional impact of COVID-19 and implications for mental health: results from a US-based mixed-methods study. *J. Adolesc. Health* 68, 43–52. doi: 10.1016/j.jadohealth.2020.09.039
- Rothe, J., Buse, J., Uhlmann, A., Bluschke, A., and Roessner, V. (2021). Changes in emotions and worries during the Covid-19 pandemic: an online-survey with children and adults with and without mental health conditions. *Child Adolesc. Psychiatry Ment. Health* 15:11. doi: 10.1186/s13034-021-00363-9
- Schunk, D. H., and Mullen, C. A. (2012). "Self-efficacy as an engaged learner," in *Handbook of Research on Student Engagement*, eds S. L. Christenson, A. L. Reschly, and C. Wylie (Boston, MA: Springer), 219–235. doi: 10.1007/978-1-4614-2018-7
- Seaton, M., Parker, P., Marsh, H. W., Craven, R. G., and Yeung, A. S. (2014). The reciprocal relations between self-concept, motivation and achievement: juxtaposing academic self-concept and achievement goal orientations for mathematics success. *Educ. Psychol.* 34, 49–72. doi: 10.1080/01443410.2013.825232
- Tang, S., Xiang, M., Cheung, T., and Xiang, Y.-T. (2021). Mental health and its correlates among children and adolescents during COVID-19 school closure: the importance of parent-child discussion. *J. Affect. Disord.* 279, 353–360. doi: 10.1016/j.jad.2020.10.016
- Tardif-Grenier, K., Archambault, I., Dupéré, V., Marks, A. K., and Olivier, E. (2021). Canadian adolescents' internalized symptoms in pandemic times: association with sociodemographic characteristics, confinement habits, and support. *Psychiatr. Q.* 92, 1309–1325. doi: 10.1007/s11126-021-09895-x
- Wentzel, K. R. (2002). Are effective teachers like good parents? Teaching styles and student adjustment in early adolescence. *Child Dev.* 73, 287–301. doi: 10.1111/1467-8624.00406
- Wentzel, K. R., Baker, S. A., and Russell, S. L. (2012). Young adolescents' perceptions of teachers' and peers' goals as predictors of social and academic goal pursuit. *Appl. Psychol.* 61, 605–633. doi: 10.1111/j.1464-0597.2012.00508.x
- Conflict of Interest:** The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.
- Publisher's Note:** All claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated organizations, or those of the publisher, the editors and the reviewers. Any product that may be evaluated in this article, or claim that may be made by its manufacturer, is not guaranteed or endorsed by the publisher.

Copyright © 2022 Smith, Nadeau, Archambault, Guimond, St-Amand, Fitzpatrick and Gagnon. This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY). The use, distribution or reproduction in other forums is permitted, provided the original author(s) and the copyright owner(s) are credited and that the original publication in this journal is cited, in accordance with accepted academic practice. No use, distribution or reproduction is permitted which does not comply with these terms.