


Strength-Based Parenting and Academic Motivation in Adolescents Returning to School After COVID-19 School Closure: Exploring the Effect of School Belonging and Strength Use

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Abstract

The present study aimed to examine whether the level of strength-based parenting a student receives during remote learning affects their levels of academic motivation once returning to school. Additionally, the study sought to explore whether school belonging mediated the association between strength-based parenting and academic motivation and whether student strength use moderated this mediating relationship.

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The sample comprised of secondary school students who had recently returned back to campus, following a period of COVID-19 enforced remote learning ($n = 404$; age range: 11 to 18 years; $M = 14.75$, $SD = 1.59$; 50.2% female, and 3% non-/other gendered or declined to answer). Strength-based parenting had a significant predictive effect on student academic motivation with school belonging mediating the association between strength-based parenting and academic motivation. The mediating effect of school belonging on the association between strength-based parenting and academic motivation was moderated by strength use during remote learning. The results of the study are discussed using a positive education lens with implications for improving skills and strategies to foster positive student functioning in times of remote learning and crisis.

Keywords

strength-based parenting, strengths, academic motivation, school belonging, positive education

Introduction

In many parts of the world, the global COVID-19 pandemic has caused major disruptions impacting the day-to-day life of most people, including school students. The pandemic has drastically curtailed the conditions for pre-teens and teens to meet their developmental, academic, and social needs (Loades et al., 2020). Young people in these life stages have been shown to be particularly vulnerable during the Coronavirus crisis (Arslan, 2021; Waters et al., 2021a; Zhou, 2020), with very high levels of stress (Schwartz et al., 2021) arising from the impact of being socially isolated and the pressures of remaining on top of the curriculum while learning from home (Zaccoletti et al., 2020). As this is the first time there has been such widespread remote learning across the globe, little to no research has been conducted to determine the effects of virtual education on academic motivation (Alawamleh et al., 2020). However, it is reasonable to postulate that being removed from school is likely to affect academic motivation, considering studies have shown that physical school attendance is an important predictor of academic motivation and that students prefer in-class learning over virtual learning (Zaccoletti et al., 2020). The aim of the present study is to examine the psycho-social factors that influence pre-teen and teenage students' academic motivation upon school re-entry following COVID-19 remote learning. This study specifically focused on the ways in which strength-based parenting and school belonging (two social factors), together with strength use (one psychological factor), influence academic motivation.

Parents, Academic Motivation, and School Belonging During Enforced Lockdown

Academic motivation is the anticipation of academic success, achieved by setting academic goals and aspirations (Edgar et al., 2019; Gbollie & Keamu, 2017), and focuses on how driven students are to do well in school. Academic motivation is an important factor in a student's educational journey as it is significantly related to a range of important school outcomes, such as academic performance, school attendance, and engagement in learning (Dogan, 2015; Robbins et al., 2004; Vecchione et al., 2014). In their meta-analysis of psychological and study skill factors, Robbins and colleagues (2004) found that achievement motivation and academic self-efficacy were the best predictors of achievement performance (cumulative grade point average) in college. Identified predictors of academic motivation include perceived academic ability, future aspirations, goal pursuit, embracing failure, student engagement, meaningful learning, self-regulation, parenting, and the home environment (Allen et al., 2018; Elias et al., 2011; Fan & Williams, 2010). Of all these variables, parenting, the student's home environment, and their perceived academic ability are likely the most important predictors of academic motivation (Jungert et al., 2020 Stange, 2012; Stinebrickner & Stinebrickner, 2012). During the COVID-19 pandemic, a student's perception of their academic ability may be influenced by the level of support they are getting at home from parents (many of whom became pseudo-teachers) and the degree to which they have stayed connected/felt a sense of belonging to school.

School belonging is commonly defined as "the extent to which students feel personally accepted, respected, included, and supported by others in the school social environment" (Goodenow & Grady, 1993, p. 61). Researchers have also identified a strong and positive relationship between school belonging and academic motivation for over three decades (Arslan, 2021; Ferreira et al., 2011; Goodenow & Grady, 1993). In a recent meta-analytical review of 51 studies by Allen et al. (2018), a significant positive relationship between school belonging and academic motivation was found with a moderate effect size. While there has been ample evidence that school belonging is positively related to academic motivation prior to COVID-19, no studies have evaluated the relationship between these two factors during the experience of school closure. With the unique situation that schools find themselves in during the COVID-19 pandemic, the question arises as to how a sense of school belonging has been impacted for students who cannot physically attend school, and how changes in school belonging may, in turn, impact academic motivation.

The underpinnings of school belonging are shaped by students' general feelings about school as well as three key relationships, namely, student-teacher relationships, peer relationships, and the role of parents in a student's school journey (Allen et al., 2018; Allen & Kern, 2017; Arslan & Duru, 2017). Remote learning removes the physical interactions between students with their teachers and friends, thus disrupting two of the three core relationships that influence school belonging (Alshahrani et al., 2017; Bhamani et al., 2020; Dyer et al., 2018), and leaving parents to carry a heavier

role in helping students feel connected to their school. In pre-pandemic times, a student's home life, particularly their parent, has been found to have a major influence on academic motivation and school belonging (Allen et al., 2018; Fan & Williams, 2010; Gonzalez-DeHass et al., 2005; Wang & Sheikh-Khalil, 2014). During remote learning, parents have had to play a bigger "school-based" role in their children's lives (Garbe et al., 2020); for example, assisting in purchasing and setting up the technology and learning spaces needed to allow the student to keep learning (Kim, 2020), stepping into the role as a 'pseudo-teacher' to assist their children in the learning process (Garbe et al., 2020), and acting as "social facilitator" to encourage their children to stay in touch with school friends. The role a parent plays in supporting their child to attend online classes, be motivated in their learning tasks and stay in touch with school friends is likely to have heightened significance on the degree to which the child feels a sense of belonging to school during remote learning. The evidence suggest that school belonging may help to explain the association between strength-based parenting (SBP) and student academic motivation and mediate the association between these variables during remote learning.

SBP is a style of parenting that seeks to "identify and cultivate positive states, positive processes and positive qualities" in children and teens (Waters, 2015, p. 690). Specifically, strength-oriented parents acknowledge the things that their child is able to do well and encourage their child to use and develop their strengths (Waters & Sun, 2016). Research on SBP has identified two overarching findings: (1) SBP is a *protective factor* that is inversely related to anxiety, depression, stress, and negative emotions; and (2) SBP is an *enhancing factor* that is positively related to life satisfaction, self-confidence, subjective wellbeing, positive emotions, and academic grades (Arslan et al., 2022; Jach et al., 2018; Loton & Waters, 2018; Sağkal & Özdemir, 2019; Waters, 2015; Waters, Loton, & Jach, 2019).

While there is no research to date on the link between SBP with school belonging and academic motivation, there is research showing that SBP is a significant predictor of academic grades and student engagement (Waters, Loton, & Jach, 2019). Both are known predictors of academic motivation (Ghilay & Ghilay, 2015), and the latter (i.e., engagement), is significantly related to school belonging (Janosz et al., 2008; Wang & Eccles, 2012). In addition to the role that SBP may play on school belonging and academic motivation through its effect on grades and engagement, it could also be that SBP influences school belonging and academic motivation by acting as a buffer to stress. Past research has shown that SBP is inversely related to stress and anxiety in young people (Loton & Waters, 2018; Waters, 2015) and serves to heighten mental toughness in teenagers (Sagkal & Ozdemir, 2019). According to Abdollahi et al. (2020), lockdown stress may lead to a reduced sense of school belonging due to a decreased commitment or motivation for learning and a negative perception of one's own abilities to succeed or to cope with the academic situation. As such, if SBP serves to reduce stress in students, this parenting style may assist the student in staying tuned into their academic studies and feeling connected to school.

Strength Use and Academic Motivation During COVID-19

Previous research has suggested that psychological factors (e.g., strength use) may also influence the levels of academic motivation a student experiences during COVID-19. Strength use is defined as the extent to which individuals “use their strengths in a variety of settings” (Govindji & Linley, 2007, p. 146). A strength is considered to be any virtuous capacity, characteristic, or process that is persistently experienced as energizing and authentic by the individual (Govindji & Linley, 2007; Sheldon & King, 2001). Using one’s strengths is significantly related to a host of wellbeing indicators in pre-teens, teens and early adult/college students, including subjective wellbeing, self-esteem, self-efficacy, life satisfaction, happiness, mental toughness, school engagement, and academic grades (Allan & Duffy, 2014; Douglass & Duffy, 2015; Jach et al., 2018; Proctor et al., 2011; Sağkal & Özdemir, 2019; Suldo et al., 2014; Sumargi & Giovanni, 2021; Waters 2015b; Waters et al., 2019). Strength-based approaches enable students to focus and apply their best qualities to learning, thereby increasing the likelihood of academic success (Lopez & Louis, 2009). In times of remote learning, it may be even more necessary for students to use their strengths in order to stay academically motivated, given that many of the external factors that help students stay connected to their learning have been altered or removed (e.g., attending school campus, study groups) (Dhawan, 2020).

In addition to the link between strengths use and academic motivation during COVID-19, strengths use may also play a role by moderating the effect of school belonging on academic motivation. We suggest that students who feel they belong to school *and* use their strengths will have higher academic motivation, in other words that strengths use may moderate the relationship between school belonging and academic motivation. A theoretical underpinning suggests there is a cognitive component to school belonging which relies on student perceptions, attributions, and beliefs (Fredricks et al., 2004). This means that if students are using their strengths, they are more likely to focus on the positive attributions/connections they have with schools and this would, in turn, heighten their levels of academic motivation. Thus, this study seeks to empirically examine if strengths use moderates the mediating effect of school belonging in the relationship between SBP and academic motivation upon returning to school following a period of remote learning.

The Purpose of the Present Study

In the midst of the changes and challenges to study patterns and learning, students are still expected to meet certain academic standards in order to progress successfully. The purpose of this study is to examine whether the level of SBP a student receives during remote learning affects their level of academic motivation once returning to school. Additionally, the study seeks to explore whether school belonging mediates the association between strength-based parenting and academic motivation, and whether student strength use moderates the mediating effect of school belonging on the

association between strength-based parenting and academic motivation during the pandemic and upon school re-entry following remote learning during COVID-19. To this end, it is hypothesized that strength-based parenting will be positively associated with school belonging and academic motivation, and school belonging will mediate the link of strength-based parenting with academic motivation. Further, it is hypothesized that strength use will positively moderate the mediating effect of school belonging on the association between strength-based parenting and academic motivation among adolescents.

Method

Participants

The present study utilized a cross-sectional design that is a type of observational research in which data is collected from different people at the same time (Daniels, 2011). After receiving ethics approval from the Human Ethics Research Committee at Monash University, data were collected from 404 students at a large independent school in New South Wales, Australia. As the focus was on the pre-teen and teen years, students were recruited from Grades 7 to 12 and ranged in age from 11 to 18 ($M = 14.75$, $SD = 1.59$; 50.2% female, 46.8% male, and 3% non-/other gendered or declined to answer). The majority of the sample (93.1%) listed English as their primary language.

Measures

Strength-Based Parenting. Students rated the degree to which their parents helped them to use their strengths during lockdown using the seven-item scale developed by Jach et al. (2018). Sample items include “My parents gave me opportunities to use my strengths” and “My parents showed me how to use my strengths in different ways.” Answers were given on a five-point scale from “Never” to “Always.” The internal reliability of the scale was .85 with the present sample. Exploratory factor analysis was also performed to examine the factor structure of the measure with sample of this study. The results reported that the scale had a unidimensional structure with strong factor loadings (λ range = .66–.85).

School Belonging. Students rated the degree to which they felt a sense of school belonging during lockdown using the modified, nine-item Psychological Sense of School Membership scale (originally developed by Goodenow & Grady, 1993, and later modified by Wagle et al., 2018). Sample items include, “Do you feel like you are a real part of your school?” and “Is there a teacher or some other adult at school that you can talk to if you have a problem?” Items were answered along a six-point response scale in a yes/no format (1 ¼ no, never, 2 ¼ no, almost never, 3 ¼ yes, sometimes, 4 ¼ yes, often, 5 ¼ yes, very often, and 6 ¼ yes, always). The internal reliability of the scale was .93 with the present sample. The results of this study also

indicated that the scale had a unidimensional structure with strong factor loadings with this study sample (λ range = .66–.83).

Strengths Use. Students rated the degree to which they used their strengths during the remote learning period using an adapted three-item version of the Strengths Use Scale (Govindji & Linley, 2007). Sample items include “During remote learning and lockdown I had lots of different ways to use my strengths” and “During remote learning and lockdown I achieved what I wanted by using my strengths.” Answers were given on a five-point scale from 1 “Not at all” to 5 “A lot.” The internal reliability of the scale was $\alpha = .85$ with the present sample. The results of this study reported that the scale had a unidimensional structure with strong factor loadings with this study sample (λ range = .82–.91).

Academic Motivation. To assess academic motivation, the OECD (2017) scale was used. This scale consists of five items (e.g., “I want top grades in most of my courses”, “I want to be one of the best students in my class”). Answers were rated on a four-point Likert scale from 1 “Strongly Disagree” to 4 “Strongly Agree.” The internal reliability of the scale was .85 with the present sample. The results of this study also revealed that the scale had a unidimensional structure with strong factor loadings with this study sample (λ range = .62–.85).

Procedure

All measures were collected once students had returned to campus following lockdown. When completing the survey, students were asked to consider two different time points. Students were instructed to ‘Think back to your time in lockdown and remote learning during COVID-19’ to rate SBP, school belonging, and strength use. Students also rated their current degree of academic motivation being back on school campus.

Prior to conducting the survey, parents were sent information packages explaining the nature of the research, resources available to students feeling distress, security and anonymity of the data collected, and the opt-out process. It was made clear to parents, teachers, and students that participation was voluntary and students could opt out at any time.

For students who elected to participate in this study, the school distributed the survey via an email link on the Qualtrics platform distributed by the teachers during the students’ mentor time. The first screen of the form provided information on the survey and reminded students that they could opt out or stop at any time. If distressed, several resources were made available, including teachers at the school, parents, and helplines. Teachers were present during the entire duration of the survey to provide clarification on instructions and/or support for students feeling distressed.

The data collected from the survey was anonymized and shared with the participating school administrators, and this was clearly stated to all participants of the study, including teachers, parents, and students. No personally identifiable information was

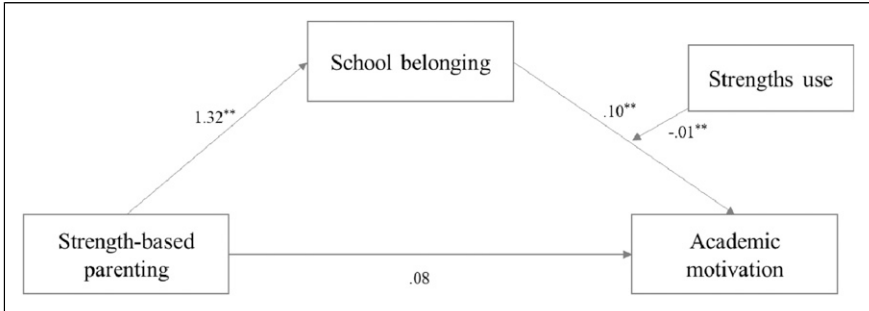


Figure 1. Moderated mediation model indicating the associations between the study variables.

made available in the dataset provided to the school. The original data source from the survey will be stored in a secure, password-protected file at Monash University for five years.

Data Analyses

Descriptive statistics and correlations were examined prior to testing the moderated mediation model. Before running the analyses, missing values ($\geq 10\%$) were also excluded listwise from the data (Schafer & Graham, 2002). Skewness and kurtosis values were checked to investigate the assumptions of normality based on their decision rules (skewness and kurtosis scores $< |2|$; Kline, 2015; Tabachnick & Fidell, 2013). A Pearson correlation analysis was conducted to examine associations between strength-based parenting, school belonging, strength use, and academic motivation, with traditional effect sizes: $.10-.29$ = small, $.30-.49$ = moderate, and $\geq .50$ = large (Cohen, 1988). After performing these preliminary analyses, a moderated mediation model was conducted to test whether strength use moderated the mediating effect of youth school belonging on the relationship between strength-based parenting and academic motivation after returning to school during the pandemic. The PROCESS macro version 3.5 (Model 14; Hayes, 2018) was used to examine the moderating impact of strength use in this association. In addition, the bootstrap approach with 10,000 resamples to estimate the 95% confidence intervals was employed to examine the significance of standardized indirect effects (Preacher et al., 2007; Preacher & Hayes, 2008). Findings from the model were also assessed utilizing the squared-multiple correlations (R^2), with traditional effect size standards: $.00-.009$ = negligible, $.01-.05$ = small, $.06-.13$ = medium, $\geq .14$ = large (Cohen, 1988). All data analyses were performed using SPSS version 25. Figure 1

Table 1. Descriptive Statistics and Intercorrelations.

	Descriptive Statistics				Intercorrelations (<i>r</i>)			
	Mean	SD	Skew	Kurt.	1.	2.	3.	4.
1. Strength-based parenting	8.93	3.15	.28	-.47	—	.26	.39	.39
2. Academic motivation	16.74	3.12	-1.13	1.47	—	—	.45	.27
3. School belonging	36.81	10.56	-.31	-.35	—	—	—	.41
4. Strength use	8.27	3.14	.26	-.51	—	—	—	—

Note. All correlations are significant at the .001 level (2-tailed).

Results

Descriptive Statistics and Intercorrelations

Skewness scores ranged between -1.13 and $.28$, and kurtosis values were between $-.51$ and 1.47 . These results indicated that the variables of the study had relatively normal distributions (skewness and kurtosis scores $< |2|$), as shown in Table 1. Additionally, the results of the correlation analysis showed that strength-based parenting had significant and small-to-moderate correlations with school belonging ($r = .39, p < .001$), strength use ($r = .39, p < .001$), and academic motivation ($r = .26, p < .001$). Academic motivation was significantly and moderately correlated with school belonging ($r = .45, p < .001$) and had a small correlation with strength use ($r = .27, p < .001$) in young people. There was a moderate correlation between strength use and school belonging ($r = .41, p < .001$), as seen in Table 1.

Moderated Mediation Analyses

An analysis was conducted to examine whether school belonging mediated the association between strength-based parenting and academic motivation, and whether student strength use moderated the mediating effect of school belonging in this relationship. The moderated mediation analysis showed that strength-based parenting had a direct and significant predictive effect on school belonging ($b = 1.32, p < .001$) but did not significantly predict academic motivation ($b = .08, p = .087$). Strength-based parenting had a significant and indirect association with the academic motivation of students through school belonging. School belonging had a significant predictive effect on academic motivation ($b = .10, p < .001$). School belonging fully mediated the association between strength-based parenting and academic motivation in young people. Strength-based parenting accounted for 15% of the variance in school belonging, and strength-based parenting and school belonging together explained 24% of the variance in academic motivation. Further analyses showed that the interaction effect of school belonging \times strength use was significant ($b = -.01, p < .001$), as shown in Table 2.

Table 2. Unstandardized Coefficients for the Moderated Mediation Model.

Antecedent	Consequent					
	M (School Belonging)			Y (Academic Motivation)		
	Coeff.	SE	<i>p</i>	Coeff.	SE	<i>p</i>
X (Strength-based parenting)	1.32	.15	<.001	.08	.05	.087
M (School belonging)	—	—	—	.10	.02	<.001
W (Strength use)	—	—	—	.10	.05	.052
M×W	—	—	—	-.01	.01	<.001
Constant	-11.79	1.48	<.001	6.92	.57	<.001
	R ² = .15 F = 71.07; <i>p</i> < .001			R ² = .24; R ² change = .02 F = 29.82; <i>p</i> < .001		
Conditional indirect effects of strength-based parenting on academic motivation						
Strength use	Coeff.	BootSE	BootLLCI	BootULCI		
M - 1SD (-3.14)	.19	.04	.12	.28		
M (.00)	.14	.03	.09	.20		
M + 1SD (3.14)	.08	.03	.03	.14		
Index of moderated mediation						
Strength use	-.02	.01	-.03	-.01		

Note. Level of confidence for all confidence intervals in output: 95%; Number of bootstrap samples for percentile bootstrap confidence intervals: 10,000.

Considering [Cohen's \(1988\)](#) recommendations, the interaction's effect size may be interpreted as small. However, [Evans \(1985\)](#) has highlighted that evaluating the power of a moderating effect is difficult, as even a 1% contribution to variance can be interpreted as significant. Furthermore, [Champoux and Peters \(1987\)](#) have emphasized that R^2 is not enough to evaluate the interaction's effect size, and they have recommended examining slope coefficients to interpret the interaction effect. Therefore, we utilized the simple slope to interpret the interaction effect. The simple slope effect also revealed that the indirect effect of strength-based parenting on student academic motivation through school belonging was observed when strength use was low, moderate, and high, as shown in [Figure 2](#). The simple slope for high (+1 *SD*), moderate, and low (-1 *SD*) levels of strength use were ($b = .15, p < .001$), ($b = .10, p < .001$), and ($b = .06, p < .05$), respectively.

Discussion

The present study aimed to investigate the relationship between two social factors (strength-based parenting and school belonging) and one psychological factor (strength use) on academic motivation in pre-teens and teens during the COVID-19 pandemic. More specifically, the results explored whether school belonging mediated the

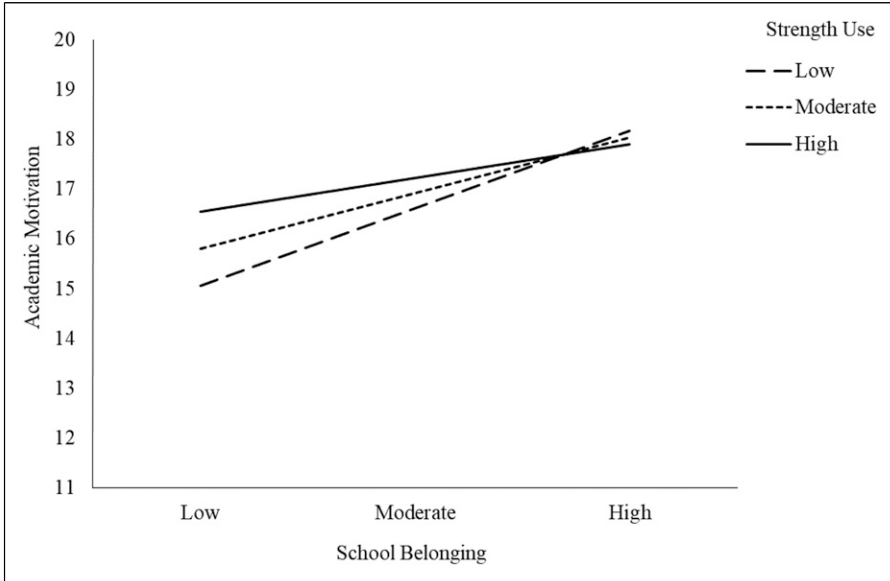


Figure 2. Moderating effect of strength use on the link between school belonging and academic motivation.

association between strength-based parenting and academic motivation, and whether student strength use moderated the mediating effect of school belonging on the association between strength-based parenting and academic motivation upon school re-entry following remote learning.

Academic motivation is a unique asset in promoting student academic functioning because of its predictive power on a variety of school outcomes including academic performance (Robbins et al., 2004), yet it is likely to be negatively influenced during remote learning where learning is disrupted and additional obstacles need to be overcome in order for a student to stay on track. Despite the best efforts of schools and teachers, the sudden and seismic nature of disruption means that the usual support structures which influence motivation are absent (e.g., being on school grounds, face-to-face contact with teachers, school-based routines). Understanding the predictors of academic motivation during the pandemic is important for developing strategies to promote student academic functioning and achievement.

Findings from the present study firstly indicated that strength-based parenting had a significant positive relationship with student academic motivation. Consistent with these outcomes, previous research has reported that strength-based parenting influences several student school outcomes, such as academic motivation and engagement (Waters et al., 2019), as well as other outcomes that are likely to buffer the negative impact of COVID-19 on stress levels of pre-teens and teens (Loton, & Waters, 2018), such as mental toughness (Sağkal, 2019) and persistence (Jach et al., 2018). Strength-based

parenting may create a warm and caring bond, which has been found to positively influence student academic functioning and motivation in past research (Chirkov & Ryan, 2001; Waters et al., 2018). Additionally, through encouraging students to use their strengths, SBP may play a role by the parent showing the child how to use their own strengths to organize an effective learning environment, set up study routines, reach out to teachers and choose extracurricular activities that can be done during lockdown (Zaccoletti et al., 2020), thus promoting academic motivation during the pandemic.

Strength-based parenting also had an indirect effect on academic motivation through its relationship with school belonging. More specifically, young people with high levels of SBP reported a greater sense of belonging at school despite being off campus. The link between SBP and school belonging has not been studied before, but related research from Quinlan et al. (2015) found that when students use their strengths, they become more pro-social. Applying this to the current situation of remote learning, the positive relationship found in this study between SBP and school belonging may be partly explained through the mechanism where parental encouragement of student strength use prompts the students to be more pro-social and reach out to their school friends and peers during lockdown, thus helping them feel connected to school. Additionally, given the findings in past research that engagement is significantly linked to school belonging (Wang & Eccles, 2012) and that between SBP is positively associated with student engagement (Waters et al., 2018), it could be that SBP was positively related to school belonging in the current sample through the impact it has on engagement. The benefits of SBP take on extra meaning during the COVID-19 pandemic given that families are undoubtedly experiencing much greater strain (Hiraoka & Tomoda, 2020; Janssen et al., 2020), are spending large amounts of enforced time together (Evans et al., 2020), are seeking to help their children cope with the distress of living through a pandemic (Waters et al., 2021), and have also taken on an additional role of academic support (e.g., assisting with home-based learning) (Garbe et al., 2020). Under these conditions, SBP can act as a “psychological anchor” that helps students feel connected to school and stay academically motivated (Waters et al., 2021).

The finding that school belonging significantly predicted academic motivation and fully mediated the effect of strength-based parenting on student academic motivation suggests that it is important for schools to find ways to help students still feel a part of school life, despite being in remote settings. Empirical evidence prior to the pandemic was consistent with the current findings, indicating that school belonging contributed to students participating in school activities and achieving academic goals and aspirations, which in turn improve students’ academic motivation (Allen et al., 2018; Gillen-O’Neel & Fuligni, 2013; Goodenow & Grady, 1993; Green et al., 2012). The question for school leaders and teachers is how to retain a sense of school belonging when students are not on campus, are in a hybrid learning model, or are cycling through multiple rounds of on-campus/off-campus learning. Recent research by Allen et al. (unpublished manuscript), examined the perspectives of 367 Australian secondary school students in

remote learning, on campus or both. The following practices were rated as important contributors to school belonging for both on-campus and remote learning: teachers knowing students by their name, teachers treating students fairly, teachers modeling respectful behaviors, and teachers being approachable to ask for help. These insights into student perspectives about what fosters a sense of school belonging during different modes of learning can provide the foundations for strategies that can be adopted by teachers as COVID-19 continues.

Finally, the mediating effect of school belonging on the association between strength-based parenting and academic motivation was moderated by strength use during remote learning. Studies indicated that strength use is positively associated with adolescent wellbeing indicators (e.g., hope, life satisfaction) during mainstream times (Marques et al., 2011; Proctor et al., 2011). Strengths are also an important mechanism that helps young people to cope with the adversities and use better solutions to overcome obstacles (Southwick et al., 2016). For example, Shoshani et al. (2016) reported that strengths had a moderating effect in the association of political violence with posttraumatic stress for young people exposed to lengthy periods of war and political conflict. Rashid and McGrath (2020) advocate for strengths use during COVID-19 and have emphasized that “using our strengths can enhance our immunity to stressors by building protective and pragmatic habits and actions” (p. 116). Adding to this, previous evidence has reported that strengths use is associated with an increased sense of control and self-efficacy in adolescents (Loton & Waters, 2018), which may be an important resource to deal with the ‘uncertainty distress’ (Freeston et al., 2020). These results align with Waters et al. (2021b) who found that strength use in secondary school students was positively associated with stress-related growth during COVID-19. Given that the cognitive component to school belonging relies on student perceptions and beliefs (Fredricks et al., 2004), it could be argued that strengths use helps students *see* more of their positive experiences during remote learning (e.g., more free time, sleeping in) and, thus, have positive attributions towards their school and school works. This suggests that teaching young people to identify and use their strengths can be beneficial in improving their positive academic functioning (e.g., academic motivation) during the pandemic and in future adverse circumstances.

Limitations and Future Research

The results of this study must be considered within its limitations. First, the sample was obtained from only one school which was an independent grammar school in Australia (predominantly English speaking). This may limit the generalizability of the findings for students who attend schools from other sectors such as public/Government schools or other faith-based schools and for students in non-WEIRD¹ contexts. Further research using a diverse range of samples can explore whether the relationships between SBP, school belonging, strengths use and academic motivation differ or stay the same.

Second, three of the study variables relied on retrospective recall (SBP, school belonging and strength use) and one used real-time collection (academic motivation).

Under ideal circumstances, student ratings of these variables would have been collected whilst the students were in remote learning; however, because schools moved to remote learning so suddenly, the researchers were unable to gain ethics approval in time to test students during lockdown. However, previous research has shown that retrospective recall is a valid data collection method that produces results which are significantly correlated to earlier diary entry data (Eysteinsdottir et al., 2011). Moreover, in Thigpen's (2019) research using a retrospective-prospective design, prospective answers had a strong correlation with current and retrospective answers, suggesting that retrospective measures are a valid way to accurately determine past experiences. Having said this, recall bias may have impacted some students either in under- or overrating these variables from that time period. However, the short time lapse between remote learning and data collection (less than three months) suggests that the salience and recency of the event would allow for relatively accurate memory retrieval by students to remember and rate their ways of coping during remote learning (Menon, 1993).

Thirdly, all measures collected were self-reports, which may have led to response bias. For example, some students might have had a pattern of systematically responding more positively or negatively to all items regardless of the construct being tested. If this is the case, then the variance would be lower, and the current results are an under-report of the magnitude of the relationships. Self-report methods can also be compromised by social desirability and acquiescence (Knowles & Nathan, 1997). Future researchers could overcome this limitation by also surveying parents and thus including multiple sources of data about SBP and how their child is coping. Teachers could also be included to assess the levels of school belonging and stress-related growth they see in their students, thus creating a triangulation of data sources (Allen & Kern, 2017; Podsakoff et al., 2003).

Finally, the study used a cross-sectional design at the only one-time point. Further, using listwise deletion may bring bias in the analyses. At the time of writing this paper (June 2021), the pandemic is expected to go on for some time longer. As such, the lasting effects of the pandemic on academic motivation may change over time. The role that the duration of this crisis plays on student outcomes is currently unknown, and future research will gain new insight by using longitudinal designs with additional statistical approaches.

Implications and Conclusion

Findings from the current study provide some potential contributions to positive psychology literature and practice. The results indicate that strength-based parenting has significant impacts on student school belonging and academic motivation. Moreover, the findings highlight that strength-based parenting is associated with increased school belonging, which in turn is linked to higher academic motivation among adolescents. Given these results, school-based mental health providers could design strength-based parenting interventions as part of a wider psycho-education program for

parents. Schools could also be more aware of the additional needs to foster school belonging for students where the school is aware of low parental involvement, parental neglect or abuse in the student's home life.

The findings of this study also point to the importance of sense of belonging for academic motivation in students during times of crisis. Research has found that many of the strategies that foster school belonging at school are still effective for students in online learning environments (Allen et al., 2021). Students suggest that teachers being approachable to ask for help, teachers knowing them by name, and teachers explaining the purpose of their lessons helped build their sense of belonging online and in the classroom. Parent involvement is important for school belonging, and schools have an important role to play in facilitating parents to become actively involved in their children's school. One question that teachers and school leaders could ask is whether their parents feel welcomed and informed. Last, students desire and appreciate it when teachers and school leaders facilitate social interactions with peers (Allen et al., 2021). Schools can set up virtual "homework groups" where students get together online after school hours to ensure a regular study schedule. Virtual 'study-buddies' could also be instituted with pairs of peers checking in on each other at regular times during the week to help students feel connected to school and stay on track with their academic motivation.

Finally, the results highlight the moderating effect of student strength use on the association between school belonging and academic motivation. There are several school-based strengths programs (see Fox Eades, 2008; Proctor et al., 2011) that could be adapted for pandemic times and run virtually with students to help them develop an understanding of how to use their own strengths, which in turn contributes to academic outcomes. Overall, the findings have important implications for schools across the world who are currently having to teach students remotely (either fully or using hybrid models), and suggest that resources can be given to both parents and students on how to use their strengths, stay connected to school and maintain their academic motivation during lockdown.

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Ethical Approval

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964

Helsinki declaration and its later amendments or comparable ethical standards. The study was also approved by the Human Ethics Research Committee at Monash University.

Informed Consent

Informed Consent was obtained from all participants included in the study.

Data Availability

The datasets generated during and/or analyzed during the current study are available from the corresponding author on reasonable request.

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Note

1. WEIRD: Western, educated, industrialized, rich and democratic.

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