

Student-Teacher Relationships and Human Flourishing: Preliminary findings from Brazil

ABSTRACT

Background: Education's role in holistic student development, including enhancing their socio-emotional skills and well-being, is widely recognized. Brazil has incorporated these skills into its curriculum, emphasizing a positive school environment. The quality of student-teacher relationships plays a vital role in students' flourishing, but there is limited evidence on these processes in majority-world contexts such as Brazil.

Objective: This study examines the association between student-teacher relationships and human flourishing among Brazilian adolescents.

Methods: Data from 2,760 adolescents enrolled in vocational high schools in Brazil is used. The Diener's Flourishing Scale (2009) and a teacher-student relationship measure were used. Hierarchical regression analysis examined age, gender, and student-teacher relationships as predictors of flourishing.

Results: Boys exhibited slightly higher flourishing than girls. The quality of teacher-student relationships significantly contributed to flourishing, explaining an additional 9% of variance above and beyond the effects of age and gender.

Conclusion: This study underscores the significance of teacher-student relationships for well-being in a majority-world context. Gender differences were noted, with boys reporting higher flourishing. The results suggest the need for further research to refine educational practices that promote student thriving.

Keywords: Flourishing; Well-being; Student-teacher relationship; Adolescence.

1. INTRODUCTION

Education plays a pivotal role in fostering the holistic development of students, and recent debates acknowledge that this entails more than the mere dissemination of curricular content [1, 2]. To transcend this conceptual and procedural reductionism, basic education should focus on cultivating a broader range of cognitive and socio-emotional skills, while also supporting students to care for themselves and others. Ultimately, such an educational approach is better aligned with contemporary societal demands.

Socio-emotional skills can be defined as a set of competencies responsible for understanding and regulating emotions towards oneself and others, making responsible decisions, and taking effective actions in complex situations [3], have gained prominence in Brazilian education, particularly since the publication of the National Common Curricular Base [4], which articulates these skills as explicit elements of the curriculum's core. However, these explicit approaches to promote students' socioemotional competence and well-being are also grounded in contextual assets in students' lives that include a positive school environment where students can develop positive connections that directly contribute to their well-being [5,6]. The quality of relationships in the school environment has been linked to desirable outcomes, such as enhanced well-being [7 - 9], which warrants further

work to examine how specific features of the school environment contribute to student's thriving.

Among school- and classroom-level influences on students' well-being, the quality of teacher-student relationships has been acknowledged as a critical factor contributing to students' functioning within the school context and beyond [10 - 12]. Students benefit from these relationships with teachers, interpreting them as points of support, especially when navigating complex challenges [13]. Thus, teachers' roles in students' lives extend beyond what is called 'banking approaches to education' [14], highlighting that in this interaction, teachers are helping students develop and flourish not only to achieve strict curriculum goals but to take control of **their learning** and to critically engage with the world around them.

1.1 Flourishing

The concept of flourishing encompasses a state of positive functioning across various dimensions of human life, including robust interpersonal relationships, subjective well-being, sustained engagement, the presence of positive emotions, meaningful achievements, a sense of purpose, and self-efficacy [15,16]. It's essential to recognize that when considering flourishing as a multifaceted construct, excelling in only a few of its dimensions does not necessarily guarantee a prosperous life [17]. For instance, an individual might possess outstanding skills and maintain positive connections but still lack in terms of character development. Human flourishing finds its roots in educational processes [6]. Given the myriad interactions that educational environments offer, they are consistently highlighted in the literature as consistent predictors of flourishing throughout the lifespan [3]. This interconnectedness between education and human flourishing underscores the urgency of understanding how specific educational processes can advance individual and societal well-being, including through the study of the quality of the relationship between students and teachers.

1.2 Flourishing and Student-teacher Relationships

The school environment plays a significant role in the daily lives of students who attend it. Consequently, educational institutions bear a critical responsibility in promoting students' well-being [18]. Within these settings, students engage in numerous interactions with their peers and teachers, as previously noted, and these interactions can contribute to guiding a student toward a path of prosperity [19].

The student-teacher relationship thus becomes a cornerstone not only for cognitive development but also for social and emotional growth. Examples of the benefits of a positive student-teacher bond include a reduction in the incidence of depressive symptoms and maladaptive behaviours during adolescence, the promotion of autonomy, the cultivation of character strengths, and the achievement of other desirable outcomes [20 - 22]. While an increasing number of studies emphasize the significance of the connection between student-teacher relationships and flourishing [23, 24], much of this research has been conducted in a limited set of high-income countries, as evident in the review [25]. This underscores the need for further exploration of this relationship within majority-world contexts such as Brazil, which can help illuminate potential commonalities and nuances in these processes.

To better understand the connection between student-teacher relationships and well-being, it is critical to consider the perspectives of each of the actors engaged in these interactions [26]. While the study of the linkages between student-teacher relationships and student well-being advances, gender differences have been observed. A study conducted in Iceland showed that classroom-level interactions during lessons found that boys reported significantly less well-being than girls [27]. Another study found that girls indicated that girls reported a better relationship with their teacher, in addition to a more positive appraisal of

the school environment overall in comparison to boys [28]. Further research is needed to examine gender differences in students' perceptions of their student-teacher relationships and their association with well-being.

1.3 The Present Study

Considering the challenge of understanding how specific aspects of the educational context would be associated with the student's functioning, the Federal Institute of Paraná (IFPR) established a partnership with the *InteragirLab* at the Federal University of Paraná (*Interagir-UFPR*) to conduct a school climate assessment based on the perspectives of students from each of its 25 campuses. The broader assessment goal of the project was to examine school climate features and student-level indicators, such as their well-being. The Instituto Federal do Paraná (IFPR) is a public federal institution that provides undergraduate, graduate, and professional education programs spanning various fields of knowledge. The present study aimed to examine the association between human flourishing and student-teacher relationships. It was hypothesized that the quality of student-teacher relationships would be associated with students' flourishing [23, 24]. Moreover, gender differences are examined to establish the potential groundwork for further studies on this association [27, 28].

2. METHODOLOGY

The study is based on the IFPR School Climate project, conducted in 2019, which received approval from the ethics review board of the IFPR (Protocol CAEE 02575618.2.3004.8156). Following a planning meeting with representatives from several campuses of the IFPR, the study questionnaire was adapted to include items related to specific concerns of the IFPR's team. More detailed information about the questionnaire's structure and descriptive results can be found in the full report of the study [29].

2.1 Participants

Out of the total 19,285 students enrolled at the IFPR in 2019, 5,144 completed the survey, including students enrolled in high school, undergraduate, and graduate-level programs. The current study is focused on 2,760 participants aged 14 to 20 years ($M_{\text{age}} = 16.6$ years; $SD = 1.35$; 58.7% girls) enrolled in high school vocational programs in twenty-five campuses of the IFPR in Southern Brazil. This is an ethnically/racially diverse sample, including participants who self-identified as White (64,7%), mixed-ethnicity (27,4%), black (5,5%), Asian (1,9%), and Indigenous (0,4%).

2.2 Measures

The Diener's Flourishing Scale [30] was used as an indicator of student's self-reported well-being. The measure includes eight items (e.g., I lead a purposeful and meaningful life; I am a good person and live a good life) examining self-perceptions of well-being in areas such as character, purpose, and competence. Participants rated each of these items on a 5-point Likert scale, ranging from 1 = "Totally disagree" to 5 = "Completely agree". Items were combined into a single flourishing score that showed adequate reliability ($\alpha = .89$).

The quality of student-teacher relationships was assessed using items sourced from the Delaware School Climate Survey [31], which also showed adequate reliability ($\alpha = .80$). This scale included five items that evaluate the student's perception of their relationship with

teachers in general (e.g., "Teachers treat students with respect, regardless of skin colour"; "Teachers listen to students when they have problems"). Responses to these items were rated on a 4-point Likert scale (1 = "Strongly disagree", 4 = "Strongly agree").

2.3 Analysis Plan

For the current study, data analysis was conducted through JASP v.0.17.2.1 [32]. The process involved data filtering from the chosen campuses and adolescents enrolled in high schools including vocational training (14 to 20 years old). Next, gender differences in perceptions of flourishing and the student-teacher relationship were investigated using independent t-tests. Last, a hierarchical regression analysis was conducted to assess the influence of student-teacher relationships on flourishing, considering age, gender, and their potential interaction as covariates.

3. RESULTS AND DISCUSSION

Initially, The study conducted a univariate test to examine gender differences in the means of students' flourishing and student-teacher relationships. The independent samples t-test revealed a significant difference in flourishing ($t(2734) = -5.67, p < .001$) between girls ($M = 3.75, SD = .83$) and boys ($M = 3.93, SD = .78$). The effect size, as measured by Cohen's d , was -0.22 . This value indicates a small effect, meaning that while there is a statistically significant difference, the practical significance may not be very substantial.

Similarly, we conducted a t-test to assess whether there were differences in how boys and girls perceived the quality of their relationships with their teachers. Girls reported an average student-teacher relationship score of 3.05 (S.D. = .53), while boys reported an average score of 3.09 (S.D. = .53), but in this case the difference was not statistically significant ($t(2734) = -1.86, p = .06, d = -.07$). Next, we proceeded to examine the association between the quality of student-teacher relations and human flourishing, with the summary of the variables presented on Table 1.

Table 1. Means, Standard Deviations, Reliability, and Correlations

	1	2	3	4
1. Age	–			
2. Gender	.12*	–		
3. Student-Teacher Relationship	-.15*	.04	(.84)	
4. Flourishing	.01	.11*	.30*	(.87)
Mean	16.6	.41	3.07	3.83
SD	1.35	.49	.53	.82

Note. $N = 2,736$. For gender: girls were coded as 0 and boys were coded as 1. Cronbach's alphas are displayed on the diagonal.

* $p < .001$.

A hierarchical regression analysis was conducted to explore the influence of student age, gender, and the quality of student-teacher relations on human flourishing, as summarized in Table 2. After standardizing all predictors and computing interaction terms, age and gender were included as predictors, but only gender yielded significant results, with boys exhibiting slightly higher levels of flourishing in comparison to girls. In the subsequent model, the quality of student-teacher relations was introduced as an additional predictor. While gender

continued to be a significant factor, the quality of student-teacher relations accounted for an additional 9% of the variance in flourishing, in a substantial contribution to the model. In the third and final model, interaction terms were incorporated to assess the combined impact of age and student-teacher relations, as well as gender and student-teacher relations. However, these interaction terms did not enhance the overall model significantly, suggesting that the effects of age and gender on human flourishing were not moderated by the quality of student-teacher relations.

Table 2. Summary of hierarchical regression analysis for variables predicting flourishing (n = 2,736).

	Model 1		Model 2		Model 3	
	<i>b</i>	S.E.	<i>b</i>	S.E.	<i>B</i>	S.E.
<i>Intercept</i>	.01	.02	.01	.02	.01	.02
Age	-.01	.02	.04*	.02	.04*	.02
Gender	.11**	.02	.09**	.02	.09**	.02
Student-Teacher Relationships (STR)			.30**	.02	.30**	.02
STR x Age					-.03	.02
STR x Gender					-.03	.02
R ²	.01		.10		.10	

Note. The *b* values can be interpreted in standard deviation differences of each effect wherein *b* values < 0.1 are considered small effects, between .1 and .3, are moderate, and > .03 are large [33].

* $p < .05$; ** $p < 0.01$.

4. CONCLUSION

This preliminary study provides valuable insights into the association between student-teacher relationships and human flourishing in a large sample of Brazilian adolescents. The findings indicate a statistically significant difference in flourishing between boys and girls, with boys exhibiting slightly higher levels of flourishing. This result aligns with previous research highlighting gender differences in well-being [24], but the small magnitude of the effects suggests the need for further investigation of gender differences in this association. Additionally, the study explores the quality of student-teacher relationships and their association with human flourishing. There are no gender differences in the perception of student-teacher relationships, implying that both boys and girls, on average, experience similar levels of interaction quality with their teachers. This finding contrasts with previous research on the issue [25].

The hierarchical regression analysis reveals that the quality of student-teacher relationships significantly contributes to students' flourishing, accounting for an additional 9% of the variance beyond age and gender. This result underscores the vital role teachers play in students' well-being, supporting previous research emphasizing the importance of positive student-teacher relationships for various positive outcomes, including flourishing [18-22].

The study's context-specific findings align with the existing literature, providing evidence from a majority-world context about these processes.

This study carries several notable strengths. Firstly, it was conducted in Brazil, a middle-income country, adding cultural diversity to the existing body of research on student-teacher relationships and flourishing. In addition, while these preliminary analyses provide promising insights, the large and diverse sample size may warrant a nuanced understanding of the predictors of human flourishing. Despite its strengths, this study has certain limitations that should be acknowledged. The data were collected from a specific group of high school students enrolled in vocational training, which may limit the generalizability of the findings to other age groups or educational contexts. Secondly, the study relied on **self-reports** from students, which can be subject to response bias and may not capture the full complexity of student-teacher relationships or human flourishing. Future research might consider combining responses from multiple participants, including teachers' perspectives to provide a more comprehensive understanding of this relationship. In addition, the nature of the measure focused on the overall quality of the student-teacher relationship in the school may not have captured specific processes, and further work may include other aspects of the student-teacher relationship, potentially using a multilevel approach that can help to disentangle school- and classroom-level effects. Finally, given the cross-sectional nature of the data, no causal inferences can be made from these results.

This study contributes valuable insights into the association between student-teacher relationships and human flourishing among Brazilian adolescents. The results highlight the importance of positive student-teacher relationships in enhancing students' well-being, with a particular emphasis on the unique gender dynamics in this context. By acknowledging and further investigating these relationships, educational institutions can create environments that promote the holistic development and flourishing of all students, in a way that is aligned with the broader goals of contemporary education. Further work in this area is crucial for refining educational practices that contribute to students' thriving.

ETHICAL APPROVAL

This research was reviewed and approved by the Institutional Review Board (IRB) at the Federal Institute of Parana (IFPR).

REFERENCES

1. Bernard ME. It's time we teach social-emotional competence as well as we teach academic competence. *Reading & Writing Quarterly*. 2006;22(2):103-19. <https://www.mybib.com/pt/ferramentas/gerador-referencias-https://doi.org/10.1080/10573560500242184>
2. Beard KS, Vakil JB, Chao T, Hilty CD. Time for change: Understanding teacher social-emotional learning supports for anti-racism and student well-being during COVID-19, and beyond. *Education and Urban Society*. 2023; 55(7):825-43. <https://doi.org/10.1177/00131245211062527>
3. Casel. *Safe and Sound: An Educational Leader's Guide to Evidence-Based Social and Emotional Learning (SEL) Programs*. **Chicago. 2003. 1-60.**
4. Brasil. Ministério da Educação. *Base Nacional Comum Curricular*. Brasília, 2018.
5. Aldridge JM, Mcchesney K. The relationships between school climate and adolescent mental health and wellbeing: a systematic literature review. *International Journal of Educational Research*. 2018; v. 88: 121-145. <https://doi.org/10.1016/j.ijer.2018.01.012>

6. VanderWeele TJ. On the promotion of human flourishing. **Proceedings of the National Academy of Sciences**. 2017;114(31): 8148-8156. <https://doi.org/10.1073/pnas.1702996114>
7. Prati G, Cicognani E, Albanesi C. The Impact of Sense of Community in the School, Social Skills, and Exposure to Aggression and Victimization on Students' Well-Being. **Social Indicators Research**. 2017; 140(2): 637-651. <https://doi.org/10.1007/s11205-017-1808-9>
8. Graham A, Powell MA, Truscott J. Facilitating student well-being: relationships do matter. *Educational Research*. 2016 Oct 1;58(4):366-83. <https://doi.org/10.1080/00131881.2016.1228841>
9. Shephard D, Falk D, Mendenhall M. "My teachers make me feel alive": the contribution of student-teacher relationships to student well-being in accelerated education programmes in South Sudan and Uganda. *Compare: A Journal of Comparative and International Education*. 2023 Jan 31:1-9. <https://doi.org/10.1080/03057925.2023.2170168>
10. Lei H, Cui Y, Chiu MM. Affective teacher—student relationships and students' externalizing behavior problems: A meta-analysis. **Frontiers in psychology**. 2016; 30(7):1311. <https://doi.org/10.3389/fpsyg.2016.01311>
11. Magro SW, Hobbs KA, Li PH, Swenson P, Riegelman A, Rios JA et al. Meta-Analytic Associations Between the Student-Teacher Relationship Scale and Students' Social Competence with Peers. **School Psychology Review**. 2023; 27:1-27. <https://doi.org/10.1080/2372966x.2023.2258767>
12. Ten Bokkel IM, Roorda DL, Maes M, Verschueren K, Colpin H. The role of affective teacher—student relationships in bullying and peer victimization: A multilevel meta-analysis. **School psychology review**. 2023; 52(2):110-29. <https://doi.org/10.1080/2372966x.2022.2029218>
13. Myers SS, Pianta RC. Developmental Commentary: individual and contextual influences on student-teacher relationships and children's early problem behaviors. **Journal Of Clinical Child & Adolescent Psychology**. 2008; 37(3): 600-608. <https://doi.org/10.1080/15374410802148160>
14. Freire P. *Pedagogia da autonomia: saberes necessários à prática educativa*. 15th ed. São Paulo: Paz e Terra; 2000.
15. Diener E, Wirtz D, Tov W, Kim-Prieto C, Choi D, Oishi, S et al. New Well-being Measures: short scales to assess flourishing and positive and negative feelings. **Social Indicators Research**. 2009; 97(2): 143-156. <https://doi.org/10.1007/s11205-009-9493-y>
16. Van Zyl LE, Stander MW. Flourishing Interventions 2.0: a practical guide to student development. **Positive Psychological Intervention Design and Protocols For Multi-Cultural Contexts**. 2019; 435-448. https://doi.org/10.1007/978-3-030-20020-6_20
17. Brown DJ, Arnold R, Fletcher D, Standage M. Human Thriving. **European Psychologist**. 2017; 22(3): 167-179. <https://doi.org/10.1027/1016-9040/a000294>
18. Faria MCCS. Florescimento dos Jovens na Escola. **Revista de Estudos e Investigação em Psicologia y Educación**. 2017; 19–24. Português. <https://doi.org/10.17979/reipe.2017.0.05.2178>
19. Bowers EP, Geldhop GJ, Johnson SK, Lerner JV, Lerner RM. Special Issue Introduction: thriving across the adolescent years. **Journal Of Youth and Adolescence**. 2014; 43(6): 859-868. <https://doi.org/10.1007/s10964-014-0117-8>
20. Wang M, Brinkworth M, Eccles J. Moderating effects of teacher—student relationship in adolescent trajectories of emotional and behavioral adjustment. **Developmental Psychology**. 2013, 49(4): 690-705. <https://doi.org/10.1037/a0027916>
21. Thomas KJ, da Cunha J, Santo JB. Changes in Character Virtues are Driven by Classroom Relationships: A Longitudinal Study of Elementary School Children.

- School Mental Health**14. 2002; 266-277. <https://doi.org/10.1007/s12310-022-09511-8>
22. Valle JE, Williams LCA. Engajamento Escolar: revisão de literatura abrangendo relação professor-aluno e bullying. **Psicologia: Teoria e Pesquisa**.2021; 37.. Português <https://doi.org/10.1590/0102.3772e37310>
 23. Chamizo-Nieto MT, Arrivillaga C, Rey L., Extremera N. The Role of Emotional Intelligence, the Teacher-Student Relationship, and Flourishing on Academic Performance in Adolescents: A Moderated Mediation Study. **Frontiers in Psychology**. 2021; 12. <https://doi.org/10.3389/fpsyg.2021.695067>
 24. Whitaker RC, Dearth-Wesley T, Herman AN, Benz TL, Saint-Hilaire SA, Strup DD. The Association Between Teacher Connection and Flourishing Among Early Adolescents in 25 Countries. **Journal of Early Adolescence**. 2023. <https://doi.org/10.1177/02724316231190828>
 25. Dias-Viana, J. L., & Noronha, A. P. P. (2022). Bem-Estar Subjetivo de Estudantes: Variáveis Escolares Associadas e Medidas de Avaliação. *Estudos E Pesquisas Em Psicologia*, 22(2), 729–751. Portuguese <https://doi.org/10.12957/epp.2022.68648>
 26. Whitehead J, Schonert-Reichl K A, Oberle E, Boyd L. What do Teachers do to Show They Care? Learning From the Voices of Early Adolescents. **Journal of Early Adolescence**. 2023; 43(1): 3-28.<https://doi.org/10.1177/07435584221076055>
 27. Kristjánsson Á L, Einarsdóttir J. Gender differences in the association between student-teacher relationships and student well-being during school lessons. **Educational Psychology**. 2018; 38(7): 853-871.<https://doi.org/10.1080/01443410.2018.1469469>
 28. Korpershoek H, Harms T, de Boer H, van Kuijk M, Doolaard S. Gender differences in the motivational profiles of students in mathematics, physics, and language courses. **Educational Research and Evaluation**. 2016; 22(3-4): 214-242.<https://doi.org/10.1080/13803611.2016.1243216>
 29. Instituto Federal do Paraná, Universidade Federal do Paraná (2019). Clima escolar no IFPR: dados gerais. Retrieved from https://ifpr.edu.br/wp-content/uploads/2020/12/CLIMA-ESCOLAR-NO-IFPR_2019_DADOS-GERAIS.pdf
 30. Diener E, Wirtz D, Tov W, Kim-Prieto C, Choi D, Oishi S, et al. New Well-being Measures: short scales to assess flourishing and positive and negative feelings. **Social Indicators Research**. 2009; 97(2): 143-156.<https://doi.org/10.1007/s11205-009-9493-y>
 31. Bear GG, Holst B, Lisboa C, Chen D, Yang C, Chen FF. A Brazilian Portuguese survey of school climate: evidence of validity and reliability. **International Journal Of School & Educational Psychology**. 2015; 4(3): 165-178.<https://doi.org/10.1080/21683603.2015.1094430>
 32. Jasp Team (2023). JASP (Version 0.17.3)[Computer software].
 33. Cohen J. *Statistical Power Analysis for the Behavioral Sciences* (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum Associates, Publishers. 1988.