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The Importance of Teacher Support and Equity in Student Engagement and Achievement in Low SES School Contexts

Abstract

Low socioeconomic status (SES) is often seen as a risk factor for lower academic achievement, so this study explains how teacher support and equity are related to higher student engagement and achievement in low SES school contexts. Based on the results, student behavioural engagement is related to their achievement. The results of the multiple regression analysis show that teacher support and equity predict student emotional engagement statistically significantly, while behavioural engagement predicts only equity. No significant teacher support and equity prognostic values were found for student achievements. The study's results encourage further research and the search for answers to the question of what kind of teacher behaviour creates a favourable learning environment for all students in low SES context schools.

Keywords: *engagement, equity, socioeconomic status, Student achievement, teacher support*

Introduction

Low socioeconomic status (SES) is often considered a risk factor for lower academic achievement because students from such environments experience more stress and less cognitive stimulation (Cedeno et al., 2016). Studies show that schools with unfavourable SES are likely to have lower student engagement in learning, lower learning outcomes, and a greater need for teacher support (Kurdi et al., 2018; Xuan et al., 2019). Distance learning during COVID-19 affected the learning of all students, but the negative effect of teaching and learning during this period was particularly reflected in the achievement of students from families with low SES (Hammerstein et al., 2021; Sonnemann & Goss, 2020). The learning loss suffered by these students as a result of the COVID-19 pandemic can be compensated in various ways, and one of the first measures often is the provision of the necessary information technology tools. However, at the level of education policy (OECD, 2020), it is emphasised that while students need to have access to these technical tools, it is also necessary to provide them with learning support to create a supportive school environment.

It is believed that teachers can mitigate the effects of excessive stress and improve student well-being by building supportive relationships with students, thus responding to student needs. Researchers note that student well-being is required for higher student academic achievements because only a student with well-being is ready to engage and learn (Kurdi et al., 2018). Another factor that can affect learning effectiveness is equity. Students with low SES may not find inclusion or acceptance in their home environment. Low SES is a risk factor for higher and more frequent segregation and violence in school (Cedeno et al., 2016). Therefore, equity as one of the variables in a favourable environment may be a significant condition for the learning process that encourages greater student engagement (Brandisauskiene et al., 2021).

It should be noted that equity and teacher support, and warm and care-based teacher–student relationships are important indicators of school effectiveness (Sammons & Bakkum, 2011). However, there is still a lack of research to reveal these variables' significance in student engagement in learning and learning achievement in low SES context schools. Therefore, to look for factors that significantly affect the learning process and play a protective role for better student engagement and higher achievement in low SES context schools, it is important to explain how equity and teacher support relate to higher student engagement and achievement. It would provide insights on ensuring equal opportunities for students in learning, regardless of their SES.

Theoretical Background

Student academic achievement is often cited as an important outcome of student engagement (Lei et al., 2018). Student engagement refers to actively engaging in their learning tasks and activities. Researchers distinguish three domains of student engagement in learning: emotional, cognitive, and behavioural (Fredricks et al., 2004). Emotional engagement reflects students' emotional responses to learning and school in general. Cognitive engagement reflects on the cognitive and self-regulation strategies students use in learning. Behavioural engagement reflects student levels of participation in their learning activities. Research shows that overall engagement and each of the three domains of engagement positively correlate with academic achievement (Lei et al., 2018).

According to the researchers (Kyriakides et al., 2019; Schmidt et al., 2015), low SES students have lower learning engagement and academic achievement compared to high SES students. These results are associated with certain characteristics of low SES students, such as health, food, and mindset (Jensen, 2013). Students from low SES environments are thought to experience many stressors affecting their cognitive processes and behaviour, experiencing less cognitive stimulation than students from high SES environments, which negatively affects the competence and achievement of these students (Cedeno et al., 2016). Thus, low SES is often a risk factor for lower student engagement and lower academic achievement (Kyriakides et al., 2019; Xuan et al., 2019), but the conclusion that these students will necessarily do poorly at school – should not be drawn automatically (Jensen, 2013). The student's learning and outcomes depend highly on how the learning process is organised and the teacher's behaviour. The "context-process-outcomes" model developed by Roeser et al. (1996) indicates that school SES, as a context of student socioeconomic composition, may influence student outcomes through specific process factors. These process factors include three levels – school, classroom and student. In this study, we will analyse two classroom-level factors – equity and teacher support as significant factors in student engagement and achievement in low SES context schools.

Teacher support is associated with increased student engagement and higher achievement (Kelly & Zhang, 2016). For low SES students, forming a teacher–student relationship may be a particularly strong factor influencing student learning (Kurdi et al., 2018). According to researchers, the influence of a caring adult like a teacher provides the pillars to reverse the harmful effects of low SES (Cedeno et al., 2016). The research with a sample of 10,784 grade 7th to 9th students in mainland China revealed that school SES could influence students' academic

achievement through their perception of the teacher–student relationship (Xuan et al., 2019). Thus, students' relationships with adults and peers help them learn and develop a sense of belonging in school (Moreira et al., 2018). Teacher support manifests itself through attention to students' needs, helpful feedback, encouragement, etc. In this way, the teacher promotes student intrinsic motivation and self-efficacy and creates a supportive learning environment which is an important protective factor in reducing the student stress experience (Filippello et al., 2019). Students from disadvantaged backgrounds are more prone to 'learned helplessness', so teacher support, which takes the form of encouragement, positive interaction, and the promotion of confidence for learning, plays a particularly important role in their learning process (Kong, 2020). Teachers can significantly impact students' expectations and values: students who have a positive relationship with teachers are more confident in their success in the learning process, which promotes their engagement in learning and academic achievement (Xuan et al., 2019). It has been observed that good teacher–student relationships help identify gaps in student learning earlier (Allensworth, 2020). Thus, relationships are the mechanism by which higher Student achievement in low SES context schools can be achieved.

It should be noted that teacher support is significant for student engagement in learning and their academic achievement and a factor in promoting educational equity (Moreira et al., 2018). Positive teacher–student relationships promote equity and may be particularly protective for youth experiencing victimisation (Coyle et al., 2022), and a lack of teacher support as a promoter of inequality is particularly dangerous for low-achieving students (Grewenig, 2020). According to the research results, when teacher and peer support was high, youth reported that their schools were safer and more equitable. Teacher support was also protective when social support from peers was low (Coyle et al., 2022). Teachers can create the conditions for equity by empowering all students, creating a collaborative atmosphere in the classroom, and inviting them to be active participants in the learning process (Sorkos & Hajisoteriou, 2021). However, teachers tend to have less faith in low SES students' learning acquisition than students from high SES (Sonnemann & Goss, 2020), so they are likely to be less able to encourage these students to learn, thus violating equity in the classroom. Equity is not an automatic element of teacher–student interaction that develops without the teacher's effort. According to Nilsen et al. (2020), only a small number of teachers associate their teaching with justice, so raising teachers' awareness is necessary.

Thus, this research clarifies how teacher support and equity relate to student engagement and achievement in low SES school contexts. The following hypotheses are made:

1) Student engagement positively correlates with their academic achievement.
2) Equity and teacher support will be significant predictors of higher student engagement and achievement.

Research Methodology

Research Sample

The research sample comprised 7th–10th-grade students, involving 152 students: 64 boys (42.1%) and 88 girls (57.9%). 40.8% of participants were low SES students, i.e., from low-income households and received social support (free school meals).

Instrument and Procedures

Four general education schools in municipalities with low socioeconomic status were purposefully selected for the research. The study complied with all research ethics requirements (protocol number: SA-EK-21-03).

The quantitative research was conducted through an online survey in May 2021 in Lithuania. The questionnaire consisted of 4 parts:

1) Teacher support and equity were rated on two subscales from *What is happening in this class?* (Fraser, 1998) questionnaire. The items were scored on a five-point frequency scale with the alternatives from 1 (almost never) to 5 (almost always) to indicate the degree of agreement with each statement. Cronbach's alpha for the Teacher support subscale was obtained at 0.928, and for the Equity subscale – 0.933.
2) Emotional and behavioural engagement were rated using two subscales of *The Student Engagement Scale* (Lam et al., 2014). Each item of the subscales was rated on a 5-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). Cronbach's alpha was 0.900 for the Emotional engagement subscale and 0.820 for the Behavioural engagement subscale.
3) Student achievement was assessed based on the student's annual grades for the subjects; the annual average of these grades was calculated, which is used in the statistical analysis of research data.
4) Socio-demographic variables (gender, grade, SES).

Data Analysis

Data analysis was performed using IBM SPSS.26 for Windows software package. Statistical data analysis included descriptive statistics, Student t-test, partial correlation, and multiple regression analysis. Cohen's *d* was used to measure the effect size of the difference between the two groups. A statistical significance was set at $p < 0.05$ for all tests. Cronbach's alpha is used for calculating reliability coefficients for survey instruments.

Research Results

The study data analysis was primarily aimed at elucidating how the study variables related to student socio-demographic variables. Student t-test results showed that boys and girls, students in grades 7–8 and 9–10, and students from low and high SES experience similar teacher support and fairness during lessons, with similar emotional engagement in learning. It was also found that the behavioural engagement of students in grades 7–8 and 9–10 did not differ statistically significantly between low and high SES students. However, the study revealed that the behavioural engagement of girls (M = 3.57, SD = 0.60) was higher than that of boys (M = 3.26, SD = 0.58). A statistically significant difference was found (t = -3.122; p <0.01), the effects size (d = -0.52) are medium. A clear difference was found when comparing student learning achievements: the annual grade point average of students from high SES (M = 7.9, SD = 1.50) was significantly higher than that of their peers from a low SES (M = 6.35, SD = 1.46; t = -6.309; p < 0.0001). The resulting Cohen's d = 1,045 allows this difference to be considered large.

Because Student achievement is dependent on SES, a partial correlation when controlling the effect of SES was calculated while looking for the relationship between student engagement, achievement, teacher support, and equity (Table 1). A weak but statistically significant relationship between learning achievement and behavioural engagement, equity, and teacher support was obtained. In addition, it was found that there is a statistically significant moderately strong relationship between teacher support and equity. There is also a moderately strong statistically significant association between emotional engagement and teacher support and equity. The behavioural engagement has a moderately strong relationship with equity and a weak relationship with teacher support.

Table 1. Partial correlation between variables while controlling for the effect of SES

	[1]	[2]	[3]	[4]	[5]
[1] Teacher support	-	.674***	.547***	.384***	.191*
[2] Equity		-	.531***	.467***	.266**
[3] Emotional engagement			-	.666***	.151
[4] Behavioural engagement				-	.377***
[5] Student achievement					-

Notes: * $p < .05$; ** $p < .001$; *** $p < .0001$

Figuring out how teacher support and equity predict student engagement, a multiple regression analysis was performed (Table 2), which showed that student emotional engagement was statistically significantly predicted by teacher support ($\beta = 0.350$) and equity ($\beta = 0.295$). It means that as teacher support and justice increase, student emotional engagement in learning increases. Meanwhile, equity ($\beta = 0.367$) and student gender ($\beta = 0.228$) predict statistically significant student behaviour engagement. As justice increases, so does the inclusion of gender-dependent behaviour.

Table 2. Predictions of student engagement

	Unstandardised Coefficients		Standardised Coefficients β	t	p
	B	SE			
Student emotional engagement ($R^2 = 0.363$; F = 16.642, $p < 0.0001$)					
Constant	1.130	.270		4.191	.0001
Gender	.201	.109	.123	1.836	.068
Grade	-.002	.108	-.001	-.014	.989
SES	-.020	.112	-.012	-.178	.859
Teacher support	.311	.079	.350	3.916	.0001
Equity	.273	.083	.295	3.269	.001
Student behavioural engagement ($R^2 = 0.292$; F = 12.064, $p < 0.0001$)					
Constant	2.012	.214		9.408	.0001
Gender	.280	.087	.228	3.230	.002
Grade	-.095	.085	-.078	-1.110	.269
SES	.024	.089	.019	.266	.791
Teacher support	.091	.063	.137	1.452	.149
Equity	.255	.066	.367	3.853	.0001

Notes. For Gender, 1 signifies "female" and 0 "male"; For Grade 1 signifies "9-10th grade" and 0 "7-8th grade"; For SES status, 1 signifies "High SES" and 0 "Low SES".

Multiple regression analysis calculations (Table 3) showed that student achievement was statistically significantly predicted by behavioural engagement (β = 0.400), SES (β = 0.395), emotional engagement (β = -0.260), grade (β = 0.205) and gender (β = -0.156). All this is explained by 42% of student achievement (R^2 = 0.420; F = 14,901; p <0.0001).

Table 3. Predictions of student achievement

Predictors	Unstandardised Coefficients B	Std. Error	Standardised Coefficients β	t	p
Constant	2.283	.678		3.368	.001
Gender	.524	.224	.156	2.341	.021
Grade	.684	.214	.205	3.199	.002
SES	1.332	.222	.395	5.993	.0001
Teacher support	.112	.166	.061	.678	.499
Equity	.296	.174	.156	1.699	.091
Emotional engagement	-.535	.195	-.260	-2.745	.007
Behavioural engagement	1.094	.246	.400	4.455	.0001

Notes. For Gender, 1 signifies "female" and 0 "male"; For Grade 1 signifies "9-10th grade" and 0 "7-8th grade" ;For SES status, 1 signifies "High SES" and 0 "Low SES".

It should be noted that behavioural engagement and SES are the most predictive of student achievement: higher learning achievement is higher in SES students with higher behavioural engagement. It is interesting to note that, based on the regression results, students' higher emotional engagement predicts lower learning outcomes.

Discussion

The results of the study allow us to emphasise several important things. First, the result that students from different SES experience teacher support and equity equally and that their engagement does not differ can be described as very positive in the researched low SES context schools. It is likely that teachers care for the equality of students and treat all students equally, encouraging or enabling them to participate in the discussion, as a result of which both low and high SES students feel equally engaged in learning. It should be noted that equity as a variable in teacher behaviour increases both components of student engagement – emotional

and behavioural, so in our view, it is important to study this phenomenon not only as a prerequisite for the whole education system but also as a non-automatic characteristic of teacher behaviour (Nilsen et al., 2020).

Second, the results of the study suggest that both components of student engagement (both behavioural and emotional) and sociodemographic characteristics (SES, grade and gender) predict statistically significantly student achievement but do not predict student's perceived teacher's behaviour (teacher support and equity). One can only consider why such results were obtained. The student-teacher relationship is analysed as an important factor in the normal school environment, but there is no clear answer to how this relationship and teacher's behaviour affected student achievement in the context of the COVID-19 pandemic. Because the study found a significant correlation between teacher support, equity, and student achievement, it can be assumed that teacher support and equity are significant factors in student achievement but do not affect achievement directly, rather through student engagement as an intermediate variable. This model needs to be tested in future research. Another possible interpretation of the results obtained is related to the specifics of the sample. The participating schools aim to create a supportive learning environment for students from different SES, as confirmed by the study's results, which do not show differences in teacher support or engagement in learning between low and high SES groups. It can be considered that the classroom environment in the surveyed schools is "saturated" with teacher support and equity, so students do not lack them. So these variables are not predictors of student achievement, as if the distribution of students by teacher support and equity were wider/higher. The study's results encourage further research, recognising that the relationship between the two participants in the educational process is a complex and multifaceted concept.

Third, attention is also attracted by another study, which states that student behavioural engagement increases and emotional engagement reduces their learning achievement. Studies carried out by other researchers confirm that different components of engagement in learning relate differently to student achievement. Lei et al. (2018) state that the positive correlation between behavioural engagement and academic achievement is more obvious compared to emotional and cognitive engagement. The finding that student emotional engagement reduces their achievement is unexpected, as other researchers often state that positive emotions towards school improve student achievement (Kurdi et al., 2018; Moreira et al., 2018). However, there are opposite results as well. For example, Olivier et al. (2019) found that emotional engagement in the 5th grade was negatively associated with achievement in the 6th grade. Lei et al. (2018) argue that the ambiguous

results of the relationships between student engagement and academic achievement are influenced by the method used to assess student engagement. In our study, students assessed their engagement in learning themselves, and it would be interesting to analyse whether this assessment would coincide with teachers' assessment of student engagement.

Finally, it is noted that the socio-demographic characteristics of students in the surveyed schools also predict student achievement. An important aspect of low SES is confirmed by the insights of other researchers that high SES students consistently outperform low SES students (Kyriakides et al., 2019; Xuan et al., 2019) and that girls are more engaged in learning than boys (Kessels & Houtte, 2021; Lam et al., 2016). Researchers name the reasons for explaining low SES student achievement: from neuronal development (Rosen et al., 2018) to mindset differences (Destin et al., 2019). They are also looking for interventions, such as those aimed at improving executive function (Albert et al., 2020). The solutions are not simple.

Conclusions

In summary, the study results show that the first hypothesis was only partially confirmed: student achievement was statistically significantly related only to behavioural engagement. The second hypothesis was only partially validated: teacher support and equity predict student emotional engagement statistically significantly, while behavioural engagement is predicted only by equity. No significant prognostic value for teacher support and equity for student achievement has been identified. The study's results encourage further research and the search for answers to the question of what kind of teacher behaviour creates a favourable learning environment for all students in low SES context schools.

References

Albert, W. D., Hanson, J. L., Skinner, A. T., Dodge, K. A., Steinberg, L., Deater-Deckard, K., Bornstein, M. H., & Lansford, J. E. (2020). Individual differences in executive function partially explain the socioeconomic gradient in middle-school academic achievement. *Developmental Science, 23*(5), e12937. DOI: 10.1111/desc.12937

Allensworth, E., & Schwartz, N. (2020). *School practices to address student learning loss*. https://annenberg.brown.edu/recovery/brief1

Brandisauskiene, A., Buksnyte-Marmiene, L., Cesnaviciene, J., Daugirdiene, A., Kemeryte-Ivanauskiene, E., & Nedzinskaite-Maciuniene, R. (2021). Sustainable School Environment as a Landscape for Secondary School Students' Engagement in Learning. *Sustainability, 13*(21), 11714. DOI: 10.3390/su132111714

Cedeño, L. F., Martínez-Arias, R., & Bueno, J. A. (2016). Implications of Socioeconomic Status on Academic Competence: A Perspective for Teachers. *International Education Studies, 9*(4), 257–267. DOI: 10.5539/ies.v9n4p257

Coyle, S., Weinreb, K. S., Davila, G., & Cuellar, M. (2022). Relationships matter: The protective role of teacher and peer support in understanding school climate for victimized youth. *Child & Youth Care Forum, 51*(1), 181–203. DOI: 10.1007/s10566-021-09620-6

Destin, M., Hanselman, P., Buontempo, J., Tipton, E., & Yeager, D. S. (2019). Do Student Mindsets Differ by Socioeconomic Status and Explain Disparities in Academic Achievement in the United States? *AERA Open*. DOI: 10.1177/2332858419857706

Filippello, P., Buzzai, C., Costa, S., & Sorrenti, L. (2019). School refusal and absenteeism: Perception of teacher behaviors, psychological basic needs, and academic achievement. *Frontiers in Psychology, 10*, Article 1471. DOI: 10.3389/fpsyg.2019.01471

Fredricks, J. A., Blumenfeld, P. C., & Paris, A. H. (2004). School Engagement: Potential of the Concept, State of the Evidence. *Review of Educational Research, 74*(1), 59–109. DOI: 10.3102/00346543074001059

Hammerstein, S., König, C., Dreisörner, T., & Frey, A. (2021). Effects of COVID-19-Related School Closures on Student Achievement – A Systematic Review. *Frontiers in Psychology, 12*. DOI: 10.3389/fpsyg.2021.746289

Jensen, E. (2013). *Engaging students with poverty in mind*: *practical strategies for raising achievement*. Association for Supervision and Curriculum Development.

Kelly, S., & Zhang, Y. (2016). Teacher Support and Engagement in Math and Science: Evidence from the High School Longitudinal Study. *The High School Journal*, 141–165. DOI: 10.1353/hsj.2016.0005

Kessels, U., & Houtte, M. V. (2021). Side effects of academic engagement? How boys' and girls' well-being is related to their engagement and motivational regulation. *Gender and Education*. DOI: 10.1080/09540253.2021.2011840

Kong, K. (2020). Academic Resilience of Pupils from Low Socioeconomic Backgrounds. *The Journal of Behavioral Science, 15*(2), 70–89. https://so06.tci-thaijo.org/index.php/IJBS/article/view/239864

Kurdi, V., Archambault, I., Brière, F. N., & Turgeon, L. (2018). Need-supportive teaching practices and student-perceived need fulfillment in low socioeconomic status elemen-

tary schools: The moderating effect of anxiety and academic achievement. *Learning and Individual Differences, 65*, 218–229. DOI: 10.1016/j.lindif.2018.06.002

Kyriakides, L., Charalambous, E., Creemers, B. P. M., & Dimosthenous, A. (2019). Improving quality and equity in schools in socially disadvantaged areas. *Educational research, 61*(3), 274–301. DOI: 10.1080/00131881.2019.1642121

Lam, S. F., Jimerson, S., Shin, H., Cefai, C., Veiga, F. H., Hatzichristou, C., Polychroni, F., Kikas, E., Wong, B. P. H., Stanculescu, E., Basnett, J., Duck, R., Farrell, P., Liu, Y., Nelson, B., Yang, H. F., & Zollneritsch, J. (2016). Cultural universality and specificity of student engagement in school: The results of an international study from 12 countries. *British Journal of Educational Psychology, 86*(1), 137–153. DOI: 10.1111/bjep.12079

Lei, H., Cui, Y., & Zhou, W. (2018). Relationships between student engagement and academic achievement: A meta-analysis. *Social Behavior and Personality: an international journal, 46*, 517–528. DOI: 10.2224/sbp.7054

Moreira, P. A. S., Dias, A., Matias, C., Castro, J., Gaspar, T., & Oliveira, J. (2018). School effects on students' engagement with school: Academic performance moderates the effect of school support for learning on students' engagement. *Learning and Individual Differences, 67*, 67–77. DOI: 10.1016/j.lindif.2018.07.007

Nilsen, T., Scherer, R., Gustafsson, J. E., Teig, N., & Kaarstein, H. (2020). Teachers' Role in Enhancing Equity—A Multilevel Structural Equation Modelling with Mediated Moderation. In T. S. Frønes, A. Pettersen, J. Radišić, & N. Buchholtz (Eds.), *Equity, Equality and Diversity in the Nordic Model of Education* (pp. 173–196). Springer. DOI: 10.1007/978-3-030-61648-9_7

OECD, (2020). *Lessons for Education from COVID-19: A Policy Maker's Handbook for More Resilient Systems*. OECD Publishing. DOI: 10.1787/0a530888-en

Olivier, E., Archambault, I., De Clercq, M., & Galand, B. (2019). Student Self-Efficacy, Classroom Engagement, and Academic Achievement: Comparing Three Theoretical Frameworks. *Journal of Youth and Adolescence, 48*, 326–340. DOI: 10.1007/s10964-018-0952-0

Roeser, R. W., Midgley, C., & Urdan, T. C. (1996). Perceptions of the school psychological environment and early adolescents' psychological and behavioral functioning in school: The mediating role of goals and belonging. *Journal of Educational Psychology, 88*(3), 408–422. DOI: 10.1037/0022-0663.88.3.408

Rosen, M. L., Sheridan, M. A., Sambrook, K. A., Meltzoff, A. N., & McLaughlin, K. A. (2018). Socioeconomic disparities in academic achievement: A multi-modal investigation of neural mechanisms in children and adolescents. *NeuroImage, 173*, 298–310. DOI: 10.1016/j.neuroimage.2018.02.043

Sammons, P., & Bakkum, L. (2011). Effective schools, equity and teacher efficacy: A review of the literature. *Profesorado, revista de curriculum y formacion del profesorado, 15*(3), 9–26. https://revistaseug.ugr.es/index.php/profesorado/article/view/20405

Schmidt, W. H., Burroughs, N. A., Zoido, P., & Houang, R. T. (2015). The role of schooling in perpetuating educational inequality: An international perspective. *Educational Researcher, 44*(7), 371–386. DOI: 10.3102/0013189X15603982

Sonnemann, J., & Goss, P. (2020). *COVID catch-up: Helping disadvantaged students close the equity gap*. http://www.grattan.edu.au

Sorkos, G., & Hajisoteriou, C. (2020). Sustainable intercultural and inclusive education: Teachers' efforts on promoting a combining paradigm. *Pedagogy, Culture & Society*, *29*(4), 517–536. DOI: 10.1080/14681366.2020.1765193

Xuan, X., Xue, Y., Zhang, C., Luo, Y., Jiang, W., Qi, M., & Wang, Y. (2019). Relationship among school socioeconomic status, teacher-student relationship, and middle school students' academic achievement in China: Using the multilevel mediation model. *PLoS ONE, 14*(3), Article e0213783. DOI: 10.1371/journal.pone.0213783

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