Project Based Learning (PjBL) Model: Elementary School Students' Social Studies Learning Outcomes

Zulrifqa Rofiqa Ali[1], Idawati[2], Suardi[3]
[1, 2, 3] Pendidikan Dasar, Universitas Muhammadiyah Makassar, Indonesia

Article Info	ABSTRACT
	Social studies education not only provides factual knowledge but also equips students with a deep understanding of the social, cultural, and environmental realities in which they live. The project-based learning model has significant potential to enhance student learning activities, which in turn can positively contribute to social studies learning outcomes. Therefore, this study intends to examine the effect of the Project-Based Learning (PjBL) model on student learning outcomes in social studies. The research method used a quasi-experimental method with a nonequivalent control group design. The study population was fifth-grade students from nine elementary schools in Cluster I, Parangloe District, Gowa Regency. The sample was taken from elementary schools Inpres Pakkolompo and elementary schools Inpres Jenemadinging using a random sampling technique, with a total of 41 students. Data was collected through observation and objective tests, then analyzed using descriptive and inferential statistics. The results showed a significant effect of the implementation of the PjBL model on student activity, cooperative character, and learning outcomes. Based on the significance value (sig) obtained of 0.013, which is smaller than the commonly used alpha value (0.05), it was concluded that the implementation of the PjBL model significantly influenced learning outcomes. This study demonstrates the effectiveness of the project-based learning approach in improving student academic achievement. This study recommends the implementation of the PjBL model to increase student engagement and improve student learning outcomes in social studies in elementary schools.

Corresponding Author:

Zulrifqa Rofiqa Ali,
Pendidikan Dasar, Universitas Muhammadiyah Makassar, Indonesia
Email: zulrifqarofiqaali@gmail.com

1. INTRODUCTION

Interactive education promotes learning. Learning develops children mentally and physically (Ugalde et al., 2021; Gkintoni et al., 2024). Schools develop and implement learning activities across subjects; therefore, excellent learning planning is needed to accomplish national education goals (Fathurrohman, 2017; Reimers & Chung, 2019). Elementary school social studies education should have a foundation for its development (Rodríguez & Swalwell, 2023). According to the Philosophical

Foundation of Social Studies Education, it is essential to define the discipline's scope. This foundation determines the topic of study and domain of social studies education from an ontological viewpoint and guides how to develop accurate and valid knowledge from an epistemological perspective (Jay, 2022). The axiological aspect determines social studies education's goals and benefits. This foundation promotes social studies instruction and builds knowledge.

The ideological underpinning is also necessary for answering critical concerns about social studies education's existence (das sein) and objectives (das sollen) (Meling, 2022). This foundation also examines how educational theories affect ethical, moral, political, and behavioral norms in social studies instruction. As a basis, ideology gives a more specific ideological dimension beyond generic philosophy, helping to understand and improve social studies education holistically (Dewi et al., 2018).

Social studies education gives pupils factual knowledge and a profound understanding of their social, cultural, and environmental surroundings (Oluwagbohunmi & Alonge, 2023; Şeker, 2024). Fifth grade is crucial for introducing abstract social studies ideas, including history, geography, and cultural values (Grant et al., 2025). Social studies teaches pupils about a region's history and geography and develops critical, analytical, and problem-solving abilities needed to face difficult challenges in the future (Erol, 2021). However, implementing social studies learning requires overcoming various obstacles to maximize its impact on students' social awareness (Aslamiah et al., 2021).

One issue for teachers is making social studies exciting and relevant for pupils (Omolara & Adebukola, 2015; Sheppard & Levy, 2019). Teaching methods are not keeping up with shifting interests and rapid technological and information advances. Lack of resources, such as current instructional materials and restricted study time, also limits thorough learning (Tarman et al., 2019).

Lack of contextual learning methods makes it hard for students to apply social studies topics to their daily life (Barton & Avery, 2016; Saripudin & Komalasari, 2016). The same happened in an elementary school in Cluster 1, Parangloe District, Gowa Regency. Fifth-grade homeroom instructors reported that students' daily social studies test scores were low, with 60% failing to satisfy the Minimum Completion Criteria, and their low enthusiasm for learning activities suggests various concerns that need additional investigation. First, social studies and other concepts may be unclear. Poor teaching methods or a lack of relevant learning materials might cause this. Students may lack intrinsic desire to learn due to the insignificance of learning materials to their daily life or a lack of diverse learning techniques that accommodate varied learning styles. Therefore, identifying these challenges can help develop better learning strategies, actively engage students, and provide intrinsic motivation to improve learning results.

Implementing a curriculum-relevant learning strategy for social studies is one option. Project-based learning was chosen. The project-based learning model was adopted for numerous reasons. This model encourages student participation, creates a dynamic learning environment, and makes learning more relevant to daily life (Kokotsaki, 2016; Guo et al., 2020; Sharma et al., 2020; Zhang & Ma, 2023). Because social studies covers

social, cultural, and historical topics, a project-based approach can help integrate these concepts into real-world contexts.

The project-based learning model can improve student learning and social studies outcomes (Wardah et al., 2022; Alpian et al., 2025). This strategy fosters a compelling learning environment and allows students to apply their knowledge in real-world scenarios by encouraging active participation in IPS-related initiatives. Students interact, think creatively, and acquire analytical abilities to grasp IPS topics through these projects. Students can better understand the topic and apply it to their daily life through these practical experiences. The same research shows that project-based learning improves student learning (Fini et al., 2018; Hairunisa et al., 2019; Ngereja et al., 2020; Nuraini et al., 2023).

Previous research showed that Project-Based Learning (PjBL) improves student participation and learning results in social studies at the junior high level; therefore, researchers wanted to apply it to primary schools. The authors introduced PjBL in primary schools and examined activity and learning outcomes as research variables. Thus, this study seeks to further understand PJBL's efficacy in primary schools, particularly in the categories listed in the title.

2. METHOD

This quantitative study employed the project-based learning model in social studies instruction in Cluster I, Parangloe District, Gowa Regency. An experimental research method was chosen to test the effect of the treatment, with two classes serving as the experimental and control groups in each school. The study design employed a quasi-experimental design with a nonequivalent control group design to determine initial differences between the two groups. The study was conducted in nine elementary schools within Cluster I, Parangloe District, Gowa Regency, with a sample size of 41 fifth-grade students randomly selected from elementary school Inpres Pakkolompo and elementary school Inpres Jenemadinging. The study was conducted in the even semester of the 2023/2024 academic year, using objective tests, observation sheets, and direct observation to watch the implementation of the learning model and student learning activities.
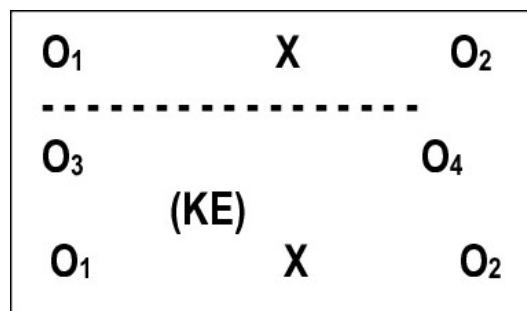

$$
\begin{array}{ccc}
O_1 & X & O_2 \\
\text{-----------------} & & \\
O_3 & & O_4 \\
& (KE) & \\
O_1 & X & O_2
\end{array}
$$

Figure 1. nonequivalent control group design

The collected data were analyzed using two types of analysis: descriptive statistical data analysis and inferential statistics. Descriptive analysis was used to describe

predetermined learning outcomes. The results of the analysis were categorized based on frequency percentages. Inferential statistical analysis was used to test the hypothesis regarding the effect of the project-based learning model on student learning outcomes and character values. A normality test was previously conducted to ensure data distribution, and a homogeneity test to check the homogeneity of data variance in the experimental and control groups. The hypothesis was tested using ANOVA for individual student learning activities and outcomes and MANOVA for overall learning activities, with a significance level of $\alpha = 0.05$.

3. RESULTS AND DISCUSSION

Results

Learning Pretest

The experimental class pretest demonstrated differences in students' knowledge and skills before project-based learning. Some pupils possessed strong understanding and talents, while others did not. The following table shows the experimental class's pre-intervention conditions. Conversely, the control class pretest showed similar results. Initial knowledge and skills varied among control class students. Some possessed excellent understanding and talents, while others lacked them. The control class pretest describes the class's pre-intervention conditions in Table 1.

Table 1. Student Learning Outcomes Pretest

Score	Category	Experimental Class		Control Class	
		Frequency	Percentage (%)	Frequency	Percentage (%)
0 – 39	Very Low	0	0	0	0
40 – 59	Low	0	0	0	0
60 – 74	Currently	2	11,1	1	4,4
75 – 90	Tall	14	77,8	21	91.3
91 – 100	Very high	2	11,1	1	4,3
Total		18	100	23	100

The pretest findings for the experimental and control classes demonstrated differences in students' understanding before the intervention or therapy. All students in both groups had some understanding or knowledge before the intervention, according to the score range of 0-39. Pupils in the 40-59 scoring range had adequate prior knowledge. The score range of 60-74 suggests that two experimental students and one control student had moderate understanding or knowledge before the intervention. Both groups had numerous students with knowledge scores of 75–90 before the intervention.

The score range of 91-100 suggests that two experimental students and one control student had strong understanding or knowledge. This analysis shows the initial conditions of students in both groups before intervention and treatment. Thus, pretest data can be used to compare students' understanding and knowledge following intervention or treatment.

Post-test of Experimental and Control Classes

Students' posttest scores in the experimental class using project-based learning (PjBL) and the control class without the intervention were interestingly different. Project-based learning improved subject comprehension and application in the experimental class. The experimental class consistently outperformed the pretest, suggesting that project-based learning improved student comprehension and competence.

The control class, which did not get project-based learning, improved differently on the posttest. The control class did not outperform the experimental class, but some pupils improved. This shows how project-based learning helps the two groups understand and apply the subject matter differently. Table 2 shows student posttest learning outcomes analysis results.

Table 2. Posttest Learning Outcomes

Score	Category	Experimental Class		Control Class	
		Frequency	Percentage (%)	Frequency	Percentage (%)
0 – 39	Very Low	0	0	0	0
40 – 59	Low	0	0	0	0
60 – 74	Currently	0	0	0	0
75 – 90	Tall	14	77,8	17	73,5
91 – 100	Very high	4	22,2	6	26,5
Total		18	100	23	100

Hypothesis Testing

This study primarily focused on how the project-based learning model influences the learning outcomes of fifth-grade students in Cluster I in Parangloe District, Gowa Regency. The primary objective was to gain a deeper understanding of how this learning model influences student learning outcomes at a more specific level. The test results are presented as follows in Table 3.

Table 3. Coefficient Test

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Correlations		
		B	Std. Error	Beta	t	Sig.	Zero-order	Partial	Part
1	(Constant)	6.679	14.841		.450	.659			
	PjBl	1.075	.179	.832	5.998	.000	.832	.832	.832

a. Dependent Variable: HB K EKs

Each one-point increase in the project-based learning model adoption increased student learning outcomes by 1.075 points, according to the regression coefficient. Every 1% increase in project-based learning implementation improved student learning outcomes by 1.075 points. For instance, 1% project-based learning implementation would theoretically boost student learning outcomes by 1.075 points.

Table 4. ANOVA Analysis Results

ANOVAa

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	534.689	1	534.689	35.974	.000b
	Residual	237.811	16	14.863		
	Total	772.500	17			

a. Dependent Variable: HB K EKs

b. Predictors: (Constant), PjBl

The alpha significance was 0.000, which is lower than 0.050 (or 0.05), showing that the project-based learning approach affects student learning outcomes. With an alpha value of 0.000, the project-based learning model may influence student learning results. Results show that project-based learning has a considerable impact on student learning.

Table 5. ANOVA

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.832a	.692	.673	3.85528	.692	35.974	1	16	.000

a. Predictors: (Constant), PjBl

The coefficient of determination of 0.673 shows that the Project Based Learning learning model contributes 67.3% to the variation or variability of student learning outcomes.

Discussion

Regression analysis and relevant learning theories support the finding that the project-based learning approach improved fifth-grade students' learning outcomes in Cluster I in Parangloe District, Gowa Regency. The regression results show that each time the project-based learning model was adopted, student learning outcomes increased point-wise. These findings support John Hattie's findings that demanding learning models that encourage student participation boost student learning (Dewi et al., 2013; Knudsen, 2017; Mandouit & Hattie, 2023).

The project-based learning model had a substantial impact on student learning, as the alpha significance value was lower than the typical alpha value. Project-based learning implementation is highly likely to affect student learning results. According to Namira et al. (2024), the project-based learning model affected learning outcomes, with the experimental group having a higher average learning score than the control group. Musdalifah et al. (2023) found that Project-Based Learning (PjBL) improves learning outcomes by improving students' critical thinking.

The coefficient of determination shows that the Project-Based Learning (PjBL) paradigm affects student learning outcomes. This learning strategy significantly improves fifth-grade students' learning outcomes in Cluster I, Parangloe District, Gowa Regency. Thus, our data demonstrate that the Project-Based Learning (PjBL) paradigm can promote student learning, the main purpose of education. According to Dewi et al. (2019), the PjBL learning model improves student learning. Additionally, Putri et al., 2019, the PjBL model promotes scientific learning. Ramadhan (2021) observed that 78% of PjBL models improved student learning.

Subiki et al. (2023) found that the project-based learning model and STEAM approach improved secondary school students' ability to adapt to the material. The project-based learning methodology also improved numeracy and creative thinking, according to Widana and Septiari (2021).

These findings support motivational theory, which states that meaningful and relevant learning motivates pupils (Priniski et al., 2018; Tsai et al., 2020). Project-based learning presents challenges and encourages student participation. Wijnia et al. (2024) found that project-based learning boosts student motivation and performance. This supports motivational theory, which states that pupils are more motivated to learn when they are engaged in meaningful learning. The project-based learning methodology challenges students and lets them participate in their learning.

4. CONCLUSION

The findings of this study indicate that the PjBL learning model significantly influences learning outcomes, as the obtained alpha significance is smaller than the standard alpha value, confirming a significant effect of the Project Based Learning model on student performance. Based on the significance value (sig) obtained of 0.013, which is smaller than the commonly used alpha value (0.05), it was concluded that the implementation of the PjBL model significantly influenced learning outcomes. This study demonstrates the effectiveness of the project-based learning approach in improving student academic achievement. This study recommends the implementation of the PjBL model to increase student engagement and improve student learning outcomes in social studies in elementary schools.

REFERENCES

Alpian, Y., Anggraeni, S. W., Rohayati, N., & Warsih, W. (2025). The Activity of Students in Problem-Based Learning and Project-Based Learning Models to Improve Social Studies Learning Outcomes in Elementary Schools. *Jurnal Ilmiah Sekolah Dasar*, *9*(1). https://doi.org/10.23887/jisd.v9i1.91909

Aslamiah, A., Abbas, E. W., & Mutiani, M. (2021). 21st-Century skills and social studies education. *The Innovation of Social Studies Journal*, *2*(2), 82-92. https://doi.org/10.20527/iis.v2i2.3066

Barton, K. C., & Avery, P. G. (2016). Research on social studies education: Diverse students, settings, and methods. *Handbook of research on teaching*, *5*(1), 985-1038. https://www.torrossa.com/en/resources/an/5328173#page=998

Dewi, E. H. P., Akbari, S., & Nugroho, A. A. (2019). Peningkatan aktivitas dan hasil belajar biologi melalui model problem based learning (PBL) pada materi pencemaran lingkungan siswa kelas X SMA Negeri 1 Jatisrono. *Journal of Biology Learning*, *1*(1). https://doi.org/10.32585/.v1i1.251

Dewi, N. K. N. A., Garminah, N. N., & Pudjawan, K. (2013). Pengaruh Model Pembelajaran Berbasis Proyek (Project Based Learning) terhadap Hasil Belajar IPA Siswa Kelas IV SDN 8 Banyuning. *Mimbar PGSD Undiksha*, *1*(1), 1–10. https://doi.org/10.23887/jjpgsd.v1i1.674

Erol, H. (2021). Reflections on the 21st Century Skills into the Curriculum of Social Studies Course. *International Journal of Education and Literacy Studies*, *9*(2), 90-102. https://eric.ed.gov/?id=EJ1303712

Fathurrohman, M. (2017). *Belajar dan pembelajaran modern: konsep dasar, inovasi dan teori pembelajaran*. Garudhawaca.

Fini, E. H., Awadallah, F., Parast, M. M., & Abu-Lebdeh, T. (2018). The impact of project-based learning on improving student learning outcomes of sustainability concepts in transportation engineering courses. *European Journal of Engineering Education*, *43*(3), 473-488. https://doi.org/10.1080/03043797.2017.1393045

Gkintoni, E., Vantaraki, F., Skoulidi, C., Anastassopoulos, P., & Vantarakis, A. (2024). Promoting physical and mental health among children and adolescents via gamification—A conceptual systematic review. *Behavioral Sciences*, *14*(2), 102. https://doi.org/10.3390/bs14020102

Grant, S. G., VanSledright, B. A., & Halvorsen, A. L. (2025). *Elementary social studies: Constructing a powerful approach to teaching and learning*. Routledge.

Guo, P., Saab, N., Post, L. S., & Admiraal, W. (2020). A review of project-based learning in higher education: Student outcomes and measures. *International journal of educational research*, *102*, 101586. https://doi.org/10.1016/j.ijer.2020.101586

Hairunisa, H., Hakim, A. R., & Nurjumiati, N. (2019). Studi Pengaruh Model Pembelajaran Berbasis Proyek (Project Based Learning) Terhadap Kreativitas Mahasiswa Program Studi PGSD Pada Mata Kuliah Konsep Dasar IPA. *Jurnal Pendidikan Mipa*, *9*(2), 93-96. https://ejournal.tsb.ac.id/index.php/jpm/article/view/190

Jay, L. (2022). The disciplinary and critical divide in social studies teacher education research: A review of the literature from 2009–2019. *Theory & Research in Social Education*, *50*(3), 339-374. https://doi.org/10.1080/00933104.2022.2077156

Knudsen, H. (2017). John Hattie: I'm a statistician, I'm not a theoretician. *Nordic Journal of Studies in Educational Policy*, *3*(3), 253-261. https://doi.org/10.1080/20020317.2017.1415048

Kokotsaki, D., Menzies, V., & Wiggins, A. (2016). Project-based learning: A review of the literature. *Improving schools*, *19*(3), 267-277. https://doi.org/10.1177/1365480216659733

Mandouit, L., & Hattie, J. (2023). Revisiting "The Power of Feedback" from the perspective of the learner. *Learning and Instruction*, *84*, 101718. https://doi.org/10.1016/j.learninstruc.2022.101718

Meling, Å. (2022). Political-ideological normativity in Norwegian primary and lower secondary social studies education: An analysis of current learning objectives. *Social Sciences and Education Research Review*, *9*(1), 33-44.

Musdalifah, M., Widowati, A., Suyanta, S., Nurohman, S., & Rejeki, S. (2023). Implementation of Interactive Science Ebook Innovation Based on Project-Based Learning (PjBL) to Enhance Students Critical Thinking Skills. *Jurnal Penelitian Pendidikan IPA*, *9*(9), 7462-7467. https://jppipa.unram.ac.id/index.php/jppipa/article/view/4155

Namira, H., Zuhdi, M., & Wahyudi, W. (2024). The Influence of the Project Based Learning (PjBL) Model on Student Learning Outcomes. *AMPLITUDO: Journal of Science and Technology Innovation*, *3*(1), 50-54.

Ngereja, B., Hussein, B., & Andersen, B. (2020). Does project-based learning (PBL) promote student learning? a performance evaluation. *Education Sciences*, *10*(11), 330. https://doi.org/10.3390/educsci10110330

Nuraini, N., Asri, I. H., & Fajri, N. (2023). Development of Project Based Learning with STEAM Approach Model Integrated Science Literacy in Improving Student Learning Outcomes. *Jurnal Penelitian Pendidikan IPA*, *9*(4), 1632-1640.

Oluwagbohunmi, M. F., & Alonge, R. A. (2023). 21st century skills and its applicability to social studies. *Asian Journal of Education and Social Studies*, *41*(3), 37-43. http://digitallibrary.msforpublish.com/id/eprint/377/

Omolara, S. R., & Adebukola, O. R. (2015). Teachers' attitudes: a great influence on teaching and learning of Social Studies. *JL Pol'y & Globalization*, *42*, 131.

Priniski, S. J., Hecht, C. A., & Harackiewicz, J. M. (2018). Making learning personally meaningful: A new framework for relevance research. *The Journal of Experimental Education*, *86*(1), 11-29. https://doi.org/10.1080/00220973.2017.1380589

Putri, G. A. M. D., Rati, N. W., & Mahadewi, L. P. P. (2019). Pengaruh model pembelajaran berbasis proyek terhadap hasil belajar IPA. *Journal of Education Technology*, *3*(2), 65-72. https://doi.org/10.23887/jet.v3i2.21705

Ramadhan, I. (2021). Penggunaan Metode Problem Based Learning dalam meningkatkan keaktifan belajar siswa pada kelas XI IPS 1. *Cetta: Jurnal Ilmu Pendidikan*, *4*(3), 358-369. https://doi.org/10.37329/cetta.v4i3.1352

Reimers, F. M., & Chung, C. K. (Eds.). (2019). *Teaching and learning for the twenty-first century: Educational goals, policies, and curricula from six nations*. Harvard education press.

Rodríguez, N. N., & Swalwell, K. (2023). *Social studies for a better world: An anti-oppressive approach for elementary educators*. Routledge.

Saripudin, D., & Komalasari, K. (2016). Culture-based contextual social studies learning for development of social and cultural values of junior high school students. *The Social Sciences*, *11*(23), 5726-5731.

Şeker, M. (2024). A study on how environmental issues are discussed in social studies textbooks. *Environment, Development and Sustainability*, *26*(8). https://doi.org/10.1007/s10668-023-03532-2

Sharma, A., Dutt, H., Sai, C. N. V., & Naik, S. M. (2020). Impact of project based learning methodology in engineering. *Procedia Computer Science*, *172*, 922-926. https://doi.org/10.1016/j.procs.2020.05.133

Sheppard, M., & Levy, S. A. (2019). Emotions and teacher decision-making: An analysis of social studies teachers' perspectives. *Teaching and teacher education*, *77*, 193-203. https://doi.org/10.1016/j.tate.2018.09.010

Subiki, S., Elika, E. T. P., & Anggraeni, F. K. A. (2023). The Effect of the Project-Based Learning Model with the STEAM Approach on Learning Outcomes of High School Students the Subject of Material Elasticity. *Jurnal Penelitian Pendidikan IPA*, *9*(2), 745-751. https://jppipa.unram.ac.id/index.php/jppipa/article/view/2926

Tarman, B., Kilinc, E., & Aydin, H. (2019). Barriers to the effective use of technology integration in social studies education. *Contemporary Issues in Technology and Teacher Education*, *19*(4), 736-753.

Tsai, M. C., Shen, P. D., Chen, W. Y., Hsu, L. C., & Tsai, C. W. (2020). Exploring the effects of web-mediated activity-based learning and meaningful learning on improving students' learning effects, learning engagement, and academic

motivation. *Universal Access in the Information Society*, *19*(4), 783-798. https://doi.org/10.1007/s10209-019-00690-x

Ugalde, L., Santiago-Garabieta, M., Villarejo-Carballido, B., & Puigvert, L. (2021). Impact of interactive learning environments on learning and cognitive development of children with special educational needs: A literature review. *Frontiers in psychology*, *12*, 674033. https://doi.org/10.3389/fpsyg.2021.674033

Wardah, I., Septaria, K., Mahbubah, K., & Mubarok, H. (2022). The effect of project based learning (PjBL) model on students' science literacy in social studies subjects. *Jurnal Penelitian Dan Pengkajian Ilmu Pendidikan: E-Saintika*, *6*(2), 108-119.

Widana, I. W., & Septiari, K. L. (2021). Kemampuan berpikir kreatif dan hasil belajar matematika siswa menggunakan model pembelajaran Project-Based Learning berbasis pendekatan STEM. *Jurnal Elemen*, *7*(1), 209-220.

Wijnia, L., Noordzij, G., Arends, L. R., Rikers, R. M., & Loyens, S. M. (2024). The effects of problem-based, project-based, and case-based learning on students' motivation: A meta-analysis. *Educational Psychology Review*, *36*(1), 29. https://doi.org/10.1007/s10648-024-09864-3

Zhang, L., & Ma, Y. (2023). A study of the impact of project-based learning on student learning effects: a meta-analysis study. *Frontiers in Psychology*, *14*(July), 1–14. https://doi.org/10.3389/fpsyg.2023.1202728