



Bachelor's Degree Studies Satisfaction in the City of Ostrava: Current State and Challenges

Mgr. Bc. Jan Vrba, MSc, DBA

Lincoln University College, Jalan Lembah Sireh, Kota Bharu, Kelantan, Malaysia, E-mail
jan.phdscholar@lincoln.edu.my, ORCID 0000-0002-8404-5091

Prof. Dr. Amiya Bhaumik

Lincoln University College, Jalan Lembah Sireh, Kota Bharu, Kelantan, Malaysia, E-mail
amiya@lincoln.edu.my

Dr. Oyyappan Duraipandi

Lincoln University College, Jalan Lembah Sireh, Kota Bharu, Kelantan, Malaysia, E-mail
oyyappan@lincoln.edu.my

Abstract

Bachelor education in the Czech Republic plays a vital role in shaping the nation's workforce and economy; this paper investigates Bachelor's Degree programs, emphasizing their duration, diversity, and impact on national development. Through a literature review, it addresses challenges such as educational quality, employability, and student satisfaction. The study highlights the need for improved funding, career support, and industry partnerships to enhance the Bachelor's Degree Education experience in the Czech Republic. Furthermore, it offers strategic recommendations for policymakers to optimize the accessibility, relevance, and quality of Bachelor's Education, ultimately fostering individual advancement and progress. For clarity purposes, it is necessary to highlight that the results of this research paper are drawn from a preliminary research study that was conducted in 2024 in the City of Ostrava in the Czech Republic.

Keywords: Analysis; Bachelor's Degree; Czech Republic; Ostrava; Education; Satisfaction

JEL classification: I20, I21

1. Introduction

Bachelor education in the Czech Republic is an important foundation for the country's skilled workforce and economy. University Bachelor's Degree programs typically last from 3 to 4 years and provide the students with the essential knowledge, critical thinking abilities, and practical skills in their chosen field(s) of study. According to the Czech Republic Laws, students can study Bachelor's Degree up to 6 years; three years being normal time of study and another additional three years being extended study period in case students are not able to finish their studies within standard period of three years; this however is not valid for Medical Degrees (Czech Republic, 1998).

Popular fields of Bachelor Study in the Czech Republic include engineering, business, Information Technology, natural sciences, humanities, arts, and education. For example, the Czech Technical University in Prague, established in 1707, offers many prestigious programs in the technology and also technical fields; Charles University in Prague, founded in 1348, is very renowned for the arts, humanities, law, medicine, and natural sciences.

Quality Bachelor's Degree Programs and accessible education options for Czech and International Students are essential for developing the human capital, innovations, research capability, and also economic growth the Czech Republic seeks in an increasingly knowledge-based global marketplace. Investment in university Bachelor's education also enriches the society by producing engaged, discerning citizens who strengthen the public discourse and civic life. In these key ways, Bachelor's education in the Czech Republic powerfully impacts both individual opportunities and national progress.

For clarity purposes, once again, it is necessary to highlight that the results of this research paper are drawn from a preliminary research study that was conducted in 2024 in the City of Ostrava in the Czech Republic.

2. Literature Review

The Czech Republic's changes of tertiary education since 1989 up to nowadays include for instance shorter vocational programs in place of long studies as highlighted by Ryška and Zelenka (2011); though these changes have taken place, the returns to Bachelor's and Master's Degree have only slightly changed so far, with only a small reduction indicated for the direct effect on Master's Degree on a overall Salary as pointed out by Raudenská and Mysíková (2020).

However, the quality of education, especially in the Information Technology (IT) area, causes a lot of concerns, as only a half of Bachelor's Graduates can be employed due to inappropriate skills for the enterprise (Doucek, 2007). Basically, the system has also had problems concerning financing and ensuring the growing demand for higher education in general (Simonová, 2003 ; Veröffentlichungsversion, 2003). In response to this problem, the National Education Development Programme has been established, which on the other side however generates certain concerns regarding graduates' employability (Kliková, 2014). Currently there are 58 universities and colleges in the Czech Republic.

Changes in the Bachelor's Degree Studies in the Czech Republic are also necessary to satisfy students' needs and improve overall employability. From this point of view students' Satisfaction with Bachelor's Degrees is a pivotal key point which needs to be examined.

While Bachelor's Degree Students' Satisfaction in the World is a widely explored topic in academic journals (see Elom et al., 2023, and Xu & Li, 2023), the data regarding Czech Republic are generally missing or incomplete; furthermore, independent research data and reports regarding students' satisfaction in the City of Ostrava (Czech Republic) are not available for general public and therefore students themselves can not make a fully informed decision on their Bachelor's Degree Selection.

Moreover, most scholarly works focusing on Students' Satisfaction are either Bachelor's Degree or Master's Degree Theses which are written by students themselves, and therefore, such scholarly works may not be deemed fully independent and may lack outside experts' views. Such theses are also focused only on certain aspects only (e.g., satisfaction with lecturers) and do not cover a larger range of aspects (for example, see Hoffmannová, 2022).

Due to this state of matter, it is important to focus on Students' Satisfaction in Public Universities in the Czech Republic, especially in the City of Ostrava since it is the third largest City in the Czech Republic.

3. Methodology

Both quantitative and qualitative research methods were used to conduct this study. For qualitative research, a literature review was conducted, and a research question was devised accordingly. For quantitative analysis, a questionnaire survey was conducted within the students of Ostrava University (OSU) and Ostrava Technical University (VSB-TUO).

A random sampling was conducted, of which 29 respondents answered all questions, which consisted of 7 dichotomous scale questions, 7 multiple choice general questions, 32 Likert scale questions, and 1 open-ended question.

Statistical analysis of sample proportion to analyze satisfaction with aspects of studies among students was used, as well as correlation between different student traits and satisfaction levels of study attributes was determined. The statistical tools were all analyzed and calculated through MS-Excel. Some of the textual data had to be quantified for providing accurate results. The main research question formulated is:

- *Research Question:* Are the students' satisfied with overall bachelor degree study aspects in Public Universities in the City of Ostrava?
- *Null Hypothesis H0:* There is no relationship between certain student traits and satisfaction with overall bachelor degree study aspects in the Public Universities in the City of Ostrava.
- *Hypothesis H1:* There is a significant relationship between certain student traits and satisfaction with overall bachelor degree study aspects in Public Universities in the City of Ostrava – see the figure no.1.

To test the null hypothesis, one sample t-test for Pearson's correlation has been conducted because the variables are closely related, and there is a linear relationship between them.

The independent variables are income of students, their residences, the majors they study, the gender, nationality, age group, and language and university department. The dependent variables are all those asked in likert scale questions. The correlation would be derived between dependent and independent variables.

4. Results Presentation

Sample Proportion Technique

One of the methods to test data relationship is the simple proportion technique, according to which, if the percentages of positive or affirmative responses add up to more than 50%, considering neutral responses as 0, the respondent is understood to be “satisfied” with the respective trait.

Similarly, any percentage below 50% would be considered “dissatisfaction” for the respondents. (Binu, Mayya and Dhar, 2014)

The following results have been deduced by applying sample proportion techniques:

- Considering the Likert scale responses for Lectureship quality, majority of students are seen to be satisfied (on a proportion of total 58.62% from 100% of responses)
- Considering the Likert scale responses for Professors availability, majority of students are seen to be satisfied (on a proportion of total 86.21% from 100% of responses)
- Considering the Likert scale responses for Extracurricular activities, majority of students are seen to be satisfied (on a proportion of total 72.41% from 100% of responses)
- Considering the Likert scale responses for Diversity/inclusion efforts, majority of students are seen to be satisfied (on a proportion of total 86.21% from 100% of responses)
- Considering the Likert scale responses for Study abroad opportunities, majority of students are seen to be satisfied (on a proportion of total 68.97% from 100% of responses)
- Considering the Likert scale responses for Housing, majority of students are seen to be dissatisfied (on a proportion of total 44.83 % from 100% of responses) and 20.69% of respondents have a neutral opinion.
- Considering the Likert scale responses for Finances, majority of students are seen to be satisfied (on a proportion of total 44.83% from 100% of responses) and 41.38% of respondents have neutral opinion.
- Considering the Likert scale responses for Sports Fitness facility, majority of students are seen to be satisfied (on a proportion of total 41.38% from 100% of responses)
- Considering the Likert scale responses for health/wellbeing services , majority of students are seen to be dissatisfied (on a proportion of total 51.17% from 100% of responses)
- Considering the Likert scale responses for Career services, majority of students are seen to be satisfied (on a proportion of total 55.17% from 100% of responses)
- Considering the Likert scale responses for satisfaction with the registration process, majority of students are seen to be satisfied (on a proportion of total 79.31% from 100% of responses)

- Considering the Likert scale responses for satisfaction with campus facilities, majority of students are seen to be satisfied (on a proportion of total 79.31% from 100% of responses)
- Considering the Likert scale responses for satisfaction with the student community and also social life, majority of students are seen to be satisfied (on a proportion of total 72.41% from 100% of responses)
- Considering the Likert scale responses for satisfaction with campus location and surrounding area, majority of students are seen to be satisfied (on a proportion of total 68.97% from 100% of responses)
- Considering the Likert scale responses for campus safety and security, majority of students are seen to be satisfied (on a proportion of total 72.41% from 100% of responses).
- Considering the Likert scale responses for statement “It is very easy to make friends with the domestic students”, majority of students are seen to agree (on a proportion of total 44.83% from 100% of responses).
- Considering the Likert scale responses for statement “It is very easy to make friends with the international students”, majority of students are seen to agree (on a proportion of total 37.93% from 100% of responses)
- Considering the Likert scale responses for statement, “The university administrative staff is very helpful and supportive”, majority of students are seen to agree (on a proportion of total 72.41% from 100% of responses).
- Considering the Likert scale responses for statement “I would recommend this university to the future students”, majority of students are seen to agree (on a proportion of total 41.38% from 100% of responses).
- Considering the Likert scale responses for statement “I would recommend this study program to the future students”, majority of students are seen to agree (on a proportion of total 86.21% from 100% of responses).
- Considering the Likert scale responses for statement, “I want to live in Ostrava after graduating”, majority of students are seen to agree (on a proportion of total 41.38% from 100% of responses).
- Considering the Likert scale responses for statement, “I enjoy studying my major here.” Majority of students are seen to agree (on a proportion of total 65% from 100% of responses).
- Considering the Likert scale responses for statement, “I enjoy the Ostrava's cultural events” majority of students are seen to agree (on a proportion of total 72.41% from 100% of responses).
- Considering the Likert scale responses for statement, “I have had many positive experiences with Ostrava citizens.” majority of students are seen to agree (on a proportion of total 44.83% from 100% of responses).
- Considering the Likert scale responses for statement, “I am satisfied with bachelor’s degree studies and experiences,” majority of students are seen to be satisfied (on a proportion of total 65.52% from 100% of responses).
- Considering the Likert scale responses for quality of academic facilities, majority of students are seen to be satisfied (on a proportion of total 62% from 100% of responses).

- Considering the Likert scale responses for Quality of Curriculum/lecturers, majority of students are seen to be satisfied (on a proportion of total 55.17% from 100% of responses).
- Considering the Likert scale responses for daylight campus safety, majority of students are seen to be satisfied (on a proportion of total 96% from 100% of responses).
- Considering the Likert scale responses for nighttime campus safety, majority of students are seen to be satisfied (on a proportion of total 68.97% from 100% of responses).

Pearson's Correlation and T-Test

Pearson's correlation is used when the significance of relationship between two sets of variables is required. In this research, the Pearson's correlation is calculated to be 0.346, showing a weak to moderate correlation between the two variables. It is noteworthy, that if the correlation co-efficient lies between 1 to -1, a correlation is said to exist, where 1 refers to perfectly positive correlation and direct relationship, whereas -1 refers to perfectly negative correlation and inverse relationship. (Schober, Boer and Schwarte, 2018)

Paired two tailed T test is the most reliable statistical tool in this research because of the following reasons (Mishra et al., 2019):

- Direction of the effect Is unknown (the relationship in hypothesis is not specified as positive or negative)
- The research simply looks for a "change" in one variable when the other changes.
- The research is considering only one population group, and not diversified hence, the t test is "paired" t test.

Referring to Excel worksheet "T test", it can be clearly seen that the highlighted P value is near to 0 (rounding off would make it 0 altogether).

4.1 Findings

The results of sample proportion techniques clearly show that out of 29 variables tested, only 2 variables of study aspects seem to show dissatisfaction or disagreement among respondents. This shows that the students of bachelor's degree majors at the public universities of Ostrava are satisfied with the majority of study aspects. To further test the linear relationship, a correlation test has been conducted.

Pearson's correlation coefficient shows a value of 0.346, showing a positive correlation between study aspects of bachelor's degrees and overall satisfaction levels of bachelor's degree students in public universities in the city of Ostrava.

As for t-test of Pearson's correlation, significance level $\alpha = 0.05$, and p value is 3.16743E-21 which means $p \leq \alpha$, rejecting the null hypothesis H_0 and accepting the alternate hypothesis H_1 .

Different way to apply T test statistic is to compare the t stat and critical value of t for two tailed calculated through MS-Excel. As T stat value 26.16992379 is greater than the critical value of t 2.048, the null hypothesis would be rejected.

Hence, the correlation between two variables is justified through all three tests conducted.

4.2 Results Summary

The above results clearly show that there is a significant positive correlation between certain student traits and satisfaction with overall bachelor degree study aspects in Public Universities in the City of Ostrava. The line graph shown as Fig 2 also justifies the results of this research; the variables are seen to change with the same intensity and linearity; the student traits and study aspects are directly related to the overall satisfaction levels of students of bachelor degrees in public universities in Ostrava. The calculated Pearson's correlation of 0.36 aligns perfectly with the graphical representation, showing moderate positive direct relationship between the two variables.

Hence, the null hypothesis is rejected and the alternate hypothesis is accepted:

- **“There is a significant relationship between certain student traits and satisfaction with overall bachelor degree study aspects in Public Universities in the City of Ostrava.”**

This means that the more the student traits progress e.g. better residential status, higher monthly income, full time jobs, local language studies and domestic students, the more satisfaction levels have been shown towards study aspects like lectureship quality, career services, campus facilities etc.

To further illustrate, random correlation between study aspect and student trait were calculated, e.g. correlation co-efficient for monthly income and satisfaction with lectureship quality is 0.43. Similarly, language of study has shown a positive correlation of 0.28 with satisfaction of students with campus facilities and social life. Also, students who find studies at Ostrava Public Universities affordable and less costly, seem to enjoy cultural events more than students who think otherwise (correlation of 0.12).

Hence the positive correlation between two variables has been justified in more than one ways of statistical interpretations.

Following figure 1 indicates scatter plot showing almost linear relationship between study aspects and satisfaction level among students as majority data points lie close by.

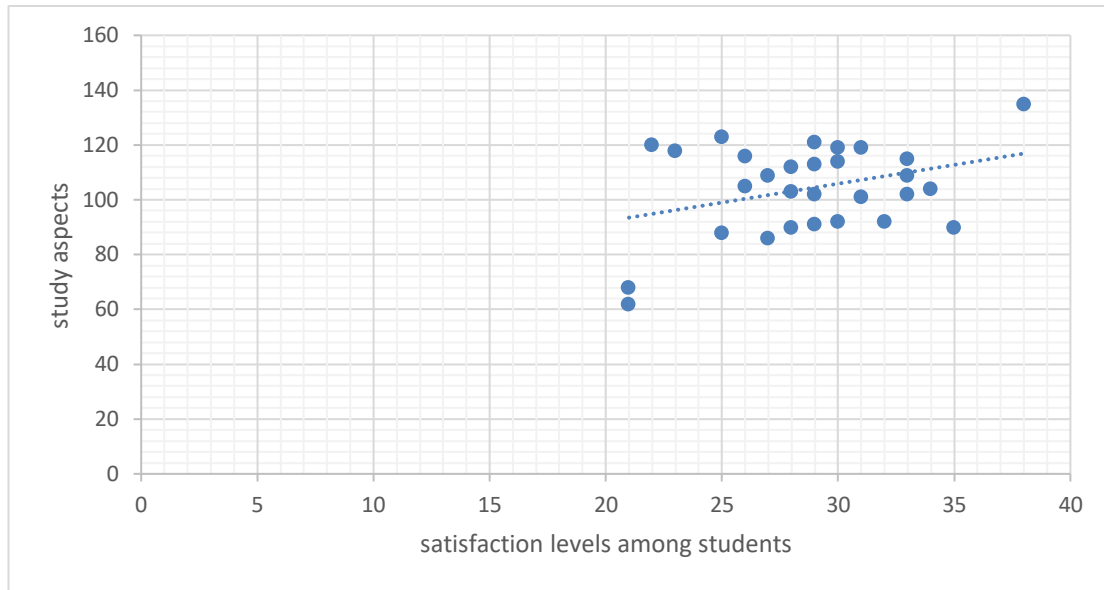


Figure no.1: Satisfaction levels among students. Source: Authors.

The following figure no. 2 indicates a line graph showing positive correlation between independent (student traits and study aspects) and dependent (satisfaction levels of students) variables in the research. Note that both variables change with the same pattern and intensity, justifying positive value of Pearson’s correlation.

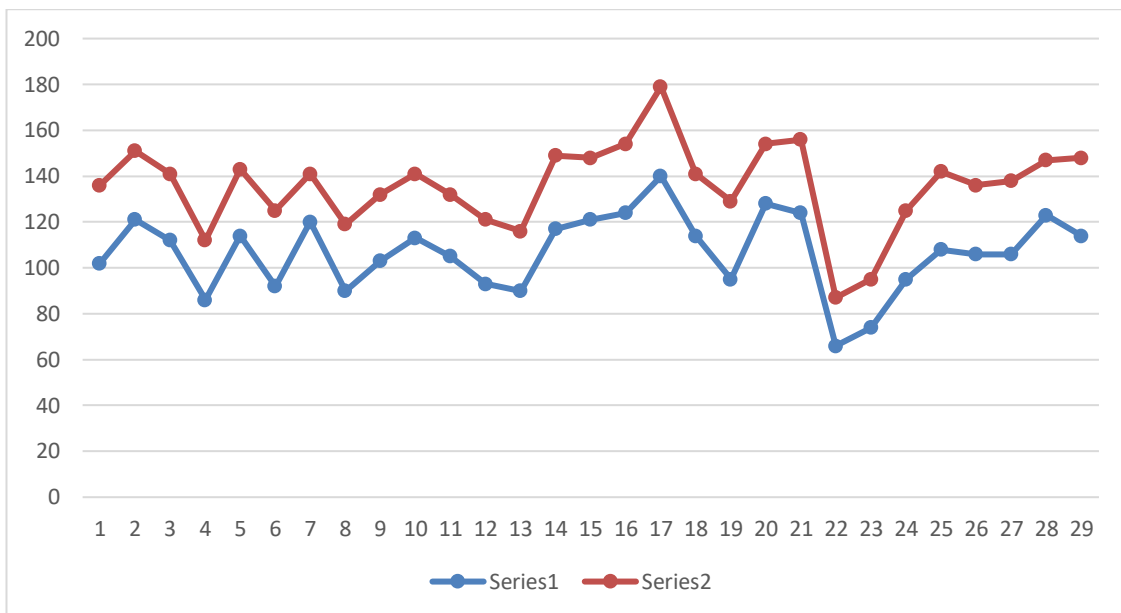


Figure no. 2: Pattern of correlation between study aspects of Bachelor’s Degree and satisfaction levels of students in public universities of Ostrava. Source: Authors.

5. Recommendations

Czech Policymakers may consider the following recommendations:

- Increase the funding and access to grants/scholarships for the bachelor's students. This can help lower the financial barriers to obtaining a degree. More need-based financial aid would be much more helpful.
- Expand the career counseling and job placement assistance programs. Help connect the students with internship opportunities and provide coaching on job search skills. This can facilitate the transition from the university to the workforce.
- Incentivize the universities and programs that partner with the local employers. Promoting work-integrated learning opportunities for bachelor's students through co-ops, apprenticeships, etc., can help in the building of the relevant skills.
- Support more options for people/parents who have flexible time. This allows the those working full-time to still gradually work towards a degree. Online and hybrid programs can also assist with this.
- Review language policies relating to the courses offered in Czech vs. other European languages. Consider offering more English-taught programs to both increase the domestic access and also international student enrolment.

6. Conclusions

To conclude it is safe to say that certain student traits affect the satisfaction level of students towards overall bachelor degree study aspects in the public universities of Ostrava. The quantitative data and apt statistical tools have successfully proven that a positive significant relationship exists between the two variables. It is pertinent that to satisfy students towards study aspects of bachelor degree in Ostrava, they should be provided with better living conditions, income generating sources, language barrier elimination and safety within the university premises etc.

Another key point to distinguish is the amount of neutral responses by the respondents; if they are not willing to answer a question, they pick neutral and sense it like an escape from giving opinion. This contaminates results, with some respondent not showing their true choices and diverting outcomes. Hence it should be expected that correlation can be different in certain scenarios between the respective variables.

Acknowledgment

Jan Vrba is a Doctor of Philosophy in Management Researcher at Lincoln University College, Jalan Lembah Sireh, Kota Bharu, Malaysia. This research paper is a part of Doctor of Philosophy Research and the Doctor of Philosophy Thesis. Lincoln University Author's Manuscript. There was no external funding for this Research.

References

- Binu, V.S., Mayya, S.S. and Dhar, M. (2014) 'Some basic aspects of statistical methods and sample size determination in health science research,' *Ayu (Jamnagar)*, 35(2), p. 119. <https://doi.org/10.4103/0974-8520.146202>.
- Czech Republic (1998) *111/1998 Sb. Zákon o vysokých školách (Laws on Universities)*. <https://www.zakonyprolidi.cz/cs/1998-111>.
- Doucek, P. (2007) *ICT education and Requirements for ICT graduates in the Czech Republic* 1. <https://www.semanticscholar.org/paper/ICT-Education-and-Requirements-for-ICT-Graduates-in-Doucek-Novotn%C3%BD/492dc17de1730b87e22d042fca619bf8a69dd5da>.
- Elom, C.O. *et al.* (2023) 'Students' satisfaction with their academic majors and study commitment: The mediating role of academic psychological capital,' *Psychology in the Schools*, 60(8), pp. 2919–2931. <https://doi.org/10.1002/pits.22896>.
- Hoffmannová, D. (2022) *Satisfaction of University Students with Teaching and Teachers (Bachelor's Thesis)*. Univerzita Palackého v Olomouci. https://theses.cz/id/tcupbp/Hoffmannova_DP_2022.pdf.
- Kliková, M. (2014) *Bílá kniha - národní program rozvoje vzdělávání v České republice*. <https://www.semanticscholar.org/paper/B%C3%AD1%C3%A1-kniha-n%C3%A1rodn%C3%AD-program-rozvoje-vzd%C4%9Bl%C3%A1v%C3%A1n%C3%AD-v-Klikov%C3%A1/b20230702c3c49f1f7a6a5b30ebb36042982bcc8>.
- Mishra, Prabhaker *et al.* (2019) 'Application of student's t-test, analysis of variance, and covariance,' *Annals of Cardiac Anaesthesia/Annals of Cardiac Anaesthesia*, 22(4), p. 407. https://doi.org/10.4103/aca.aca_94_19.
- Raudenská, P. and Mysíková, M. (2020) 'Returns to bachelor's and master's degree in tertiary education: the case of the Czech Republic after the Bologna Process,' *Innovation: The European Journal of Social Science Research*, 36(3), pp. 498–514. <https://doi.org/10.1080/13511610.2020.1732198>.
- Ryška, R. and Zelenka, M. (2011) 'Professional success due to scarcity? Bachelor graduates in the Czech Republic,' in *SensePublishers eBooks*, pp. 69–88. https://doi.org/10.1007/978-94-6091-570-3_3.
- Schober, P., Boer, C. and Schwarte, L.A. (2018) 'Correlation Coefficients: appropriate use and interpretation,' *Anesthesia and Analgesia/Anesthesia & Analgesia*, 126(5), pp. 1763–1768. <https://doi.org/10.1213/ane.0000000000002864>.
- Simonová, N. (2003) 'Czech Higher Education Still at the Crossroads,' *Sociologicky Casopis-czech Sociological Review*, 39, pp. 410–410. <https://www.semanticscholar.org/paper/Czech-Higher-Education-Still-at-the-Crossroads-Simonov%C3%A1/438ae3d827267bee280a44a91b975a164552007f>.



- Veröffentlichungsversion, P. (2003) 'Czech Higher Education Still at the Crossroads,' *Education, Political Science* [Preprint]. <https://semanticscholar.org/paper/0617fdec0268527635c49377a1f8a6ee5cbc869e>.
- Xu, T. and Li, X. (2023) 'Satisfaction with online education among students, faculty, and parents before and after the COVID-19 outbreak: Evidence from a meta-analysis,' *Frontiers in Psychology*, 14. <https://doi.org/10.3389/fpsyg.2023.1128034>.