

REVIIJA ZA ELEMENTARNO IZOBRAŹEVANJE
JOURNAL OF ELEMENTARY EDUCATION

ISSN 2350-4803 (SPLET/ONLINE)
ISSN 1855-4431 (TISK/PRINT)



The Journal of Elementary Education is published with the support of the Slovenian Research and Innovation Agency

Revija za elementarno izobraŹevanje izhaja s podporo Javne agencije za znanstvenoraziskovalno in inovacijsko dejavnost Republike Slovenije

Revija za elementarno izobraževanje

Odgovorni urednik:	Matjaž Duh (Univerza v Mariboru, Pedagoška fakulteta, Slovenija)
Urednica za področje družboslovja:	Silva Bratož (Univerza na Primorskem, Pedagoška fakulteta, Slovenija)
Urednica za področje humanistike:	Sonja Starc (Univerza na Primorskem, Pedagoška fakulteta, Slovenija)
Urednik informacijske podpore:	Tomaž Bratina (Univerza v Mariboru, Pedagoška fakulteta, Slovenija)
Tehnična urednica:	Jerneja Herzog (Univerza v Mariboru, Pedagoška fakulteta, Slovenija)
Tajnik revije:	Kosta Dolenc (Univerza v Mariboru, Pedagoška fakulteta, Slovenija)

MEDNARODNI UREDNIŠKI ODBOR

dr. Herbert Zoglowek, (UiT The Arctic University of Norway, Norveška), dr. Maria Aleksandrovich, (Akademia Pomorska w Slupsku, Poljska), dr. Grozdanka Gojkov, (Univerzitet u Beogradu, Srbija), dr. Jelena Prtljaga, (Visoka škola strukovnih studija za obrazovanje vaspitača »Mihailo Palov« Vršac, Srbija), ddr. Jürgen Kühnis, (Pädagogische Hochschule Schwyz, Švica), dr. Marie Fulková, (Univerzité Karlově, Češka), dr. Oliver Holz, (KU Leuven, Belgija), dr. Siniša Opić (Sveučilište u Zagrebu, Hrvatska), dr. Ivana Batarello Kokić, (Sveučilište u Splitu), dr. Anita Zovko (Sveučilište u Rijeci, Hrvatska), Nickolas Komninos (Univerza Udine, Italija), dr. Dean Iliev, (Univerza St. Klement Bitola, Severna Makedonija), dr. Ljubica Marjanovič Umek, (Univerza v Ljubljani, Slovenija), dr. Janez Vogrinc, (Univerza v Ljubljani, Slovenija), dr. Milena Valenčič Zuljan, (Univerza v Ljubljani, Slovenija), ddr. Joca Zurc (Univerza v Mariboru, Slovenija), dr. Alenka Valh Lopert (Univerza v Mariboru, Slovenija), dr. Michelle Gadpaille, (Univerza v Mariboru, Slovenija), dr. Andrej Šorgo (Univerza v Mariboru Slovenija), dr. Mateja Ploj Vrtič (Univerza v Mariboru), dr. Majda Schmidt Krajnc, (Univerza v Mariboru, Slovenija), dr. Alenka Lipovec, (Univerza v Mariboru, Slovenija), dr. Mara Cotič (Univerza na Primorskem, Slovenija), dr. Tina Štemberger, (Univerza na Primorskem, Slovenija)

NASLOV UREDNIŠTVA

Revija za elementarno izobraževanje, Uredništvo revije Revija za elementarno izobraževanje
Koroška cesta 160, SI-2000 Maribor, Slovenija, e-pošta: rei.pef@um.si, <http://rei.um.si>

ZALOŽNIK

Univerzitetna založba Univerze v Mariboru
Slomškov trg 15, 2000 Maribor, Slovenija
e-pošta: zalozba@um.si, <http://press.um.si/>, <http://journals.um.si/>

Članki se referirajo v: SCOPUS (Elsevier Bibliographic Databases), DOAJ, ERIH PLUS, EBSCO (EBSCOhostweb), Ulrich's Periodicals Directory, IBZ (Internationale Bibliographie der Zeitschriftenliteratur), Proquest, dLib.si, DKUM, COBISS (Co-operative Online Bibliographic System and Services).
Revija za elementarno izobraževanje je revija, ki jo izdaja Univerzitetna založba Univerze v Mariboru v soizdajateljstvu Pedagoške fakultete Univerze v Mariboru, Pedagoške fakultete Univerze na Primorskem in Pedagoške fakultete Karlove Univerze v Pragi. Več o reviji: <https://journals.um.si/index.php/education>

Prispevke avtorji oddajo na spletni aplikaciji:
<https://journals.um.si/index.php/education/about/submissions>.

Journal of Elementary Education

Editor-in-Chief:	Matjaž Duh (University of Maribor, Faculty of Education, Slovenia)
Editor for Social Sciences:	Silva Bratož (University of Primorska, Faculty of Education, Slovenia)
Editor for Humanities:	Sonja Starc (University of Primorska, Faculty of Education, Slovenia)
IT Editor:	Tomaž Bratina (University of Maribor, Faculty of Education, Slovenia)
Technical Editor:	Jerneja Herzog (University of Maribor, Faculty of Education, Slovenia)
Head Secretary:	Kosta Dolenc (University of Maribor, Faculty of Education, Slovenia)

INTERNATIONAL EDITORIAL BOARD

Herbert Zoglowek, PhD (University of Tromsø, Norwegian Arctic University, Norway), Maria Aleksandrovich, PhD (Pomeranian University in Slupsk, Poland), Grozdanka Gojkov, PhD (University of Belgrade, Serbia), Jelena Prtljaga, PhD (Preschool Teacher Training College »Mihailo Palov«, Serbia), Jürgen Kühnis, PhD (The Schwyz University of Teacher Education, Switzerland), Marie Fulková, PhD (Charles University, Czech Republic), Oliver Holz, PhD (KU Leuven, Belgium), Siniša Opić, PhD (University of Zagreb, Croatia), Ivana Batarelo Kokić, PhD (University of Split, Croatia), Anita Zovko, PhD (University of Rijeka, Croatia), Nickolas Komninos, (University of Udine, Italy), Dean Iliev, PhD (University St. Kliment Bitola, North Macedonia), Ljubica Marjanović Umek, PhD (University of Ljubljana, Faculty, Slovenia) Janez Vogrinc, PhD (University of Ljubljana, Slovenia), Milena Valenčič Zuljan, PhD (University of Ljubljana, Slovenia), Alenka Valh Lopert, PhD (University of Maribor, Slovenia), Michelle Gadpaille, PhD (University of Maribor, Slovenia), Andrej Šorgo PhD (University of Maribor, Slovenia), Mateja Ploj Vrtič, PhD (University of Maribor), Majda Schmidt Krajnc, PhD (University of Maribor, Slovenia), Joca Zorc, PhD (University of Maribor, Slovenia), Alenka Lipovec, PhD (University of Maribor, Slovenia), Mara Cotič, PhD (University of Primorska, Slovenia) Tina Štemberger, PhD (University of Primorska, Faculty of Education, Koper, Slovenia)

EDITORIAL OFFICE ADDRESS

Journal of Elementary Education, Editorial Board of Journal of Elementary Education
Koroška cesta 160, SI-2000 Maribor, Slovenija , e-pošta: rei.pef@um.si, <http://rei.um.si>

PUBLISHED BY

University of Maribor Press
Slomškov trg 15, 2000 Maribor, Slovenia
e-mail: zalozba@um.si, <http://press.um.si/>, <http://journals.um.si/>

Articles appearing in this journal are abstracted and indexed in: SCOPUS (Elsevier Bibliographic Databases), DOAJ, ERIH PLUS, EBSCO (EBSCOhostweb), Ulrich's Periodicals Directory, IBZ (Internationale Bibliographie der Zeitschriftenliteratur), Proquest, dLib.si, DKUM, COBISS (Co-operative Online Bibliographic System and Services).

Journal of Elementary Education is a peer-reviewed journal, open access journal that publishes scientific articles primarily but not limited to the area of elementary school education. More about the journal: <https://journals.um.si/index.php/education>

Manuscripts should be uploaded at <https://journals.um.si/index.php-education/about/submissions>.

Revija za elementarno izobraževanje

Journal of Elementary Education

Volume 18

Number 1

March 2025

Kazalo / Table of Contents

Prispevki / Articles

Injury Prevention in Pre-Primary and Primary Education: An Analysis of Teachers' Perspectives and Expertise

Preprečevanje poškodb v predšolskem in osnovnošolskem izobraževanju: analiza perspektiv in strokovnega znanja učiteljev

1

Barbora Loudová Stralczyńska, Kateřina Chroustová, Martin Bílek, Vlastimil Chytrý, Tereza Krčmářová & Jana Krátká

Inkluzivnost in pravičnost poklicnega strokovnega izobraževanja

Inclusiveness and Equity in Vocational Education and Training

19

Katja Jeznik & Nina Kristl

Career Counselling to Persons with Special Needs in the Context of Positive Psychology

Karierno svetovanje osebam s posebnimi potrebami v kontekstu pozitivne psihologije

37

Janez Drobnič

Preschool Teachers' Conceptions of Professional Development in Relation to Career Motivation and Job Satisfaction

Pojmovanja profesionalnega razvoja med vzgojitelji – njihova povezava z motivi izbire poklica in s poklicnim zadovoljstvom

51

Mojca Žveglič Mihelič, Milena Valenčič Zuljan & Romina Plešec Gasparič

Vpliv vključevanja sodobnih likovnih praks v pouk likovne umetnosti na likovnooblikovni razvoj osmošolcev

The Impact of Implementation Contemporary Art Practices into Art Education on the Artistic Development of Eighth-Grade Students

69

Katja Kozjek Varl & Jerneja Herzog

Spirituality of Children in Families and Those in Residential Care

Duhovnost otrok v družinah in tistih v institucionalni oskrbi

89

Goran Kardum, Ante Grčić & Marina Sablić

New Polystochastic Statistical Inference in Social Sciences -

Defining new Rules and Thresholds

Novo polistohastično statistično sklepanje v družboslovju –

107

Določitev novih pravil in mejnih vrednosti

Siniša Opić



INJURY PREVENTION IN PRE-PRIMARY AND PRIMARY EDUCATION: AN ANALYSIS OF TEACHERS' PERSPECTIVES AND EXPERTISE

BARBORA LOUDOVÁ STRALCZYNSKÁ¹, KATEŘINA CHROUSTOVÁ¹, MARTIN
BÍLEK¹, VLASTIMIL CHYTRÝ² & TEREZA KRČMÁŘOVÁ¹ & JANA KRÁTKÁ¹

Potrjeno/Accepted
2. 2. 2025

Objavljeno/Published
31. 3. 2025

¹Charles University, Faculty of Education

²Jan Evangelista Purkyně University, Faculty of Education

CORRESPONDING AUTHOR/KORESPONDENČNÍ AVTOR
barbora.loudova@pedf.cuni.cz

Abstract/Izvleček

The article presents a study focused on the teaching staff and the impact of their occupational health and safety (OHS) teaching on pupils in pre-primary and primary education. A questionnaire survey was conducted among 227 teachers from eleven pre-primary and primary schools in Prague, Czech Republic in 2021. Pre-primary teachers rated themselves as more competent in OHS than teachers of primary education, although pre-primary children had a higher rate of injuries. More frequent OHS training did not affect teachers' self-assessment but reduced child injury rates, especially if such training was completed more than once a year.

Keywords:

Children's Injury
Prevention, Injury
Incidence, Occupational
Health and Safety, Pre-
primary and Primary
School, Teachers.

Ključne besede:

pojavnost poškodb,
predšolska vzgoja in
osnovna šola,
preprečevanje poškodb
pri otrocih, učitelji,
varnost in zdravje pri
delu.

UDK/UDC

[373.24+373.3]:351.78

Preprečevanje poškodb v predšolskem in osnovnošolskem izobraževanju: analiza perspektiv in strokovnega znanja učiteljev

V članku je predstavljena raziskava, osredinjena na pedagoško osebje ter vpliv njihovega poučevanja varnosti in zdravja pri delu (VZD) na učence v predšolskem in osnovnošolskem izobraževanju. Leta 2021 je bila izvedena anketna raziskava med 227 učitelji enajstih predšolskih izobraževalnih ustanov in osnovnih šol, v Pragi na Češkem. Učitelji predšolskih otrok so se ocenili kot bolj usposobljeni za področje VZD kot učitelji osnovnošolskega izobraževanja, čeprav so imeli predšolski otroci večjo stopnjo poškodb. Pogostejše usposabljanje na področju VZD ni vplivalo na samooceno učiteljev, zmanjšalo pa je stopnjo poškodb otrok, zlasti če je bilo opravljeno več kot enkrat letno.

DOI <https://doi.org/10.18690/rei.3788>

Besedilo / Text © 2025 Avtor(ji) / The Author(s)

To delo je objavljeno pod licenco Creative Commons CC BY Priznanje avtorstva 4.0 Mednarodna. Uporabnikom je dovoljeno tako nekomercialno kot tudi komercialno reproduciranje, distribuiranje, dajanje v najem, javna priobčitev in predelava avtorskega dela, pod pogojem, da navedejo avtorja izvirnega dela. (<https://creativecommons.org/licenses/by/4.0/>).



Introduction

Protecting children's health is a complex task that requires interventions at the government, societal and local community levels (Gray, 2022). Ensuring the safety of learners during education and developing their health and safety awareness are among the core tasks of pre-primary and primary education. This regularly appears in legislative, curriculum and strategic documents ("Council Resolution on a strategic framework for European cooperation in education and training towards the European Education Area and beyond (2021-2030) 2021/C 66/01," 2021; Farewell et al., 2021; Okan et al., 2020; Paakkari et al., 2020; Wiseman et al., 2016). Teachers' professional abilities are key agents in Occupational Health and Safety (OHS) education (Kullmann, 2022). Teachers are facilitators of OHS education, supervise compliance with safety conditions (Tureková and Depešová, 2019), and influence children's OHS practices in school (Nursyuhada Binti Mohamad et al., 2019). The extent of teaching experience or frequency of continuing professional development (CPD) in OHS for teachers are variables that influence the provision of safety in the learning environment and the development of children's awareness of OHS (Jourdan, 2011; Smith et al., 2005). Therefore, in many countries, teachers are required to regularly participate in ongoing OHS training (Horáčková and Kuhnová, 2017); however, it is not well known how effective these mandatory measures are. For this reason, the research focused on how teachers themselves assess their abilities and whether any links can be identified between child injury rates in pre-primary and primary education and the experience and abilities of teachers in this area. The aim of the study is to explore the relationships between (i) length of teaching experience, (ii) level of education being taught, and (iii) frequency of OHS training and first aid training and (a) the number of injuries in each teacher's practice during the school year, and (b) perceptions of their own expertise in OHS teaching. Teachers' approach to safety issues constitutes an essential component in implementing a safe environment and safety education for children. The significance of this study lies in the fact that it can contribute to the understanding of teachers' experiences with and perceptions of OHS and thus promote injury prevention among children and improve their safety in the school environment.

Children's Injury Rates and Teacher Training in OHS in the Czech Republic

The number of injuries to children in pre-primary and primary education has been increasing year on year, even though educational institutions are gradually improving their environmental, resource, and safety provision ("EU strategic framework on health and safety at work 2021-2027: occupational safety and health in a changing world of work" (2021); European Agency for Safety and Health at Work, 2013; Czech School Inspectorate, 2023). The injury rate index (number of injuries per 100 pupils) was only 2.6 in 2018/2019, with a lower rate in pre-primary schools (.47) than in primary schools (3.08). According to data from the Czech Institute of Health Information and Statistics, pre-primary injuries account for 20% of all cases and injuries caused during sports and physical activities (19% of cases). These injuries most commonly occur during physical education, during lesson breaks, or in the outside school environment. The reason for the growth in the total number of injuries may be the rising injury rate in schools related to diminishing physical skills (Mitchell, 2019), and an increasing tendency towards more risky behaviour among children (Morrongiello and Matheis, 2007) in general. Therefore, when educating children in the family as well as in school, a balance should be sought between safety measures and the benefits of risky situations (Ball, 2002; Hansen Sandseter, 2007; Lavrysen et al., 2017; Smith, 1998; Stralczyńska et al., 2022). Moreover, the use of digital technologies and the activities of children in cyberspace represent a fast-growing educational challenge. Cyberbullying was present in 52% of schools before the COVID-19 pandemic (Czech School Inspectorate, 2016) and has increased significantly since 2020, which is reflected in new national targets and systemic support for teachers in digital technology and safety behaviour (Fryč et al., 2020; NCBI, 2023; National Institute for Cyber and Information Security, 2022).

Methods

Participants

A questionnaire survey was conducted among the teaching staff of the 11 pre-primary and primary schools in Prague, Czech Republic participating in the project *Analysis and Support of Children's Competence at Health and Safety*. For the sake of maximum objectivity, it was a requirement that schools from different districts, and

socio-cultural backgrounds, and of varying size in the Prague region should be represented, with maximum respect for the proportionality of representation in the region. The questionnaire was distributed in the selected schools to all the teachers involved in the education of children of pre-school and primary school age. Research participants included 227 respondents from teaching staff, of which 177 are qualified teachers, 32 teaching assistants and 13 educators (5 participants did not provide this information). The participants are predominantly female ($N = 202$), with only 24 male respondents among them (1 respondent did not complete the gender item). The teaching staff was differentiated by length of teaching experience: $N = 41$ (19%) less than 3 years; $N = 39$ (18%) 3-5 years; $N = 62$ (27%) 6-20 years, and $N = 79$ (36%) more than 20 years. All participants should be trained in OHS at least once every 2 years because the educational institutions are obliged to ensure the health and safety of all persons with regard to the performance of work, study and activities in pre-primary and primary schools (“Act of the Czech National Council on on pre-school, basic, secondary, tertiary professional and other education (Educational Act),” 2023; “Act of the Czech National Council: Labour Code,” 2023).

Instrument and Procedure

For data collection, a questionnaire was designed, comprising 18 questions divided into two categories: demographic statements about the teaching staff, and statements about their experiences with and opinions on OHS awareness for children in pre-primary and primary education. Demographic statements focused on gender, the teaching staff member’s position in the school, the length of their teaching experience, and their highest level of education, as well as the type and size of the school where they worked. The second part of the questionnaire used closed-ended questions, 2 open-ended questions and 5-point Likert scales to assess teachers’ self-assessment of their own abilities to teach OHS to children in pre-primary and primary education, and the frequency of OHS training. This part of the questionnaire also recorded the average number of injuries and accidents in the school year, their type and cause, the methodological materials and aids used to prevent children’s injury and the perceived risks to children in the school. This paper primarily uses data from the closed-ended questions and Likert scales, which are analysed using statistical methods within a quantitative research design.

The questionnaire was developed and administered through the open-source application 1KA (<https://www.1ka.si/>) directly to pedagogical staff from the pre-primary and primary schools participating in the survey. Completion of the questionnaire was voluntary, and anonymous data collection took place from April 2021 to September 2021. The ethical dimension of the questionnaire design and data collection was covered under the Ethical Codex of Charles University (2018) to ensure that participants were informed about the purpose of the research.

Data Analysis

The data from the 1Ka survey system were exported as an Excel file. After initial checking, the cleared data were transferred to Statistica v 13.3 (StatSoft Inc., TIBCO Software, Palo Alto, CA, USA/) and the IBM SPSS 24 statistical package. The data analysis set the margin of error or confidence interval at $\pm 9.60\%$. The size of the file was calculated based on the Sample Size Calculator with a Confidence Level of 95% and a Margin of Error at 9.6% (Population Proportion 50%), with a base file of $N = 100\,000$. The detected sample size is $N = 105$. This means 105 or more measurements/surveys are needed to have a confidence level of 95% that the real value is within $\pm 10\%$ of the measured/surveyed value. The analysis worked with a total of $N = 227$ respondents.

Based on the assertion of Benjamin et al. (2018), a significance level of .05 was chosen. Because of the negative perception of the choice of significance level (McShane et al., 2019), it was decided to present p-values and not limit findings to statements of statistical significance. Given the nature of the data, the chi-square distribution and non-parametric statistical methods were primarily used (primarily the Kruskal-Wallis ANOVA and the Mann-Whitney U test). Statistical calculations were supplemented with substantive significance measures. The choice of coefficient for calculating substantive significance for the chi-square result depended on the number of categories, and for this reason Cramer's V was chosen. In line with the opinion of Soukup et al. (2021), Fisher's Eta was used as the substantive significance measure for the Kruskal-Wallis ANOVA, and Cohen's d for the Mann-Whitney U test. Cramer's coefficient is a value from the interval $<0; 1>$ a value approaching 1 indicates a high degree of material significance, a value approaching 0, on the contrary, a minimum value of material significance. The range of the absolute value of Cohen's d and his evaluation was as follows: small effect (0.2- 0.5), medium effect (0.5- 0.8), large effect (≥ 0.8). For items using five-point Likert scales

(Likert, 1932) for respondent answers, the Cronbach α (Cronbach, 1951) was calculated, with generally acceptable values for the coefficient between 0.7 and 0.95 (Tavakol and Dennick, 2011). In this case, $\alpha = 0.795$. The validity of the instrument was addressed on the basis of expert judgement.

Results

Descriptive statistics of the responses focused on selected items of the questionnaire dealing with the teachers' self-perception of their own OHS expertise, the sources of information, and the types of accidents that can happen in pre-primary and primary education. The differences in the total number of N are due to the reluctance of teaching staff to answer some of the questions; given the voluntary nature of the questionnaire, not all items were mandatory.

The results of the descriptive analysis show that teaching staff perceive themselves as competent in the OHS of children in pre-primary and primary education (N = 194; 89%). Teaching staff draw most of their information in this area from the head teacher (N = 192; 86%), from available teaching materials and manuals (N = 129; 58%) and from colleagues (N = 115; 52%). Teaching staff were most likely to report no injuries (N = 105; 47%) or 1-2 injuries (N = 91; 41%) in their teaching per year. In their opinion, the following accidents and injuries are most likely to occur during educational activities or events (N = 220): bites, pinches (N = 153; 70%); fracture (N = 149; 68%); head injury (N = 147; 67%), and allergic reactions (N = 146; 66%).

RQ1: What is the relationship between a teacher's length of teaching experience and the self-assessment of their abilities in the OHS of children in pre-primary and primary education?

Teaching staff perceived themselves as competent in the area of OHS for children in pre-primary and primary education on a 5-point Likert scale (Strongly agree, Rather agree, Neither agree nor disagree, Rather disagree, Strongly disagree).

The initial examination focused on the respondents' perception of themselves as competent in the field of OHS for children in relation to their length of teaching experience (see Table 1).

Table 1*Descriptive statistics of teachers' self-perception of their OHS skills as a function of their years of teaching experience:*

Years of teaching experience	N	Mean	Median	Mode	Min	Max
<3	40	1.73	2	2	1	3
3–5	37	1.92	2	2	1	4
6–20	59	1.80	2	2	1	4
>20	76	1.83	2	2	1	4

Subsequently, a Kruskal-Wallis test was performed: $H(3, N=212) = 1.461, p = .691$. Cohen's d in this case is $d = .102$. It can thus be concluded that the individual differences are not significant.

RQ2: What is the relationship between the level of the educational system and teachers' self-assessment as competent in the field of OSH for children in pre-primary and primary education?

The initial examination focused on the respondent's perception of themselves as competent in the field of OHS for children in relation to the level of the educational system (see Table 2).

Table 2*Descriptive statistics of teacher's self-perception of their OHS skills as a function of the level of educational system:*

Level of educational system	N	Mean	Median	Mode	Min	Max
Pre-primary schools	78	1.67	2	2	1	3
Primary schools	77	1.82	2	2	1	4
Primary schools (with activity also at lower secondary school)	48	2.04	2	2	1	4
After-school club	12	1.92	2	2	1	2

Statistical and substantive significance was further calculated by the Kruskal-Wallis test: $H(3, N = 215) = 8.305390, p = 0.0401$. Post hoc shows differences only between pre-primary and primary schools. In terms of substantive significance (Cohen's d), this is a small effect ($d = 0.35$).

RQ3: What is the relationship between the number of injuries or accidents to children occurring in an average year within each level of the educational system based on the teacher's experience?

First, an examination of the frequencies in each category of education level was carried out (see Table 3).

Owing to the low numbers for injuries in each area -- (i) 6-10, (ii) >10, only the others mentioned (i.e., 0, 1-2 and 3-5 injuries per year) will be considered in the inductive analysis. The Pearson Chi-square test was performed: $\chi^2 = 14.912$, $df = 4$, $p = .021$. Cramer's V was chosen to calculate the substantive significance: $V = .159$.

Table 3

Frequency of the number of injuries or accidents to children that occur in an average year within each level of the educational system based on the teacher's experience:

Level of educational system	0	1-2	3-5	6-10	>10	Sum
Pre-primary schools	31	40	10	1	0	82
Primary schools	34	32	10	1	0	77
Primary schools (with activity also at lower secondary school)	32	13	1	1	1	48
After-school club	7	6	0	0	0	13
Sum	104	91	21	3	1	220

It turns out that there are significant differences between groups at the significance level of $p < 0.05$. In terms of substantive significance, this is a weak relationship. Based on descriptive analysis, it can be concluded that pre-primary education has the highest frequency of injuries, followed by primary and then lower secondary education. Thus, according to the respondents, younger children are more likely to be injured, and this frequency decreases with increasing age.

RQ4: What is the relationship between the number of injuries or accidents to children and first aid training and teachers' self-assessment of their OHS competence?

The initial examination focused on the descriptive items of perception of oneself as competent in the field of OHS for children in pre-primary and primary education in relation to the frequency of OHS and first aid training (see Table 4).

In the case of items focusing on the frequency of training, the null hypothesis was constructed as follows: There is no statistically significant difference in the perception of oneself as a competent person depending on the frequency of training. Since we are working with multiple variables, the Kruskal-Wallis test was used for the calculation: $H(3, N = 210) = 1.186$, $p = .756$ with Cohen's $d = .126$ for OSH training and $H(4, N = 210) = 7.775$, $p = .102$ with Cohen's $d = .308$ for first aid training. It turns out that there is no significant difference between the groups, as can also be seen (estimated) from the descriptive analysis.

Table 4

Descriptive statistics of self-perceived OHS competence as a function of the frequency of OHS and first aid training:

Training		N	Mean	Med	Mod	F	Min	Max	SD
<i>Health and safety training</i>	Several times a year	24	1.71	2	2	13	1	3	.624
	Once a year	158	1.83	2	2	94	1	4	.660
	Once every 2 years	15	1.93	2	2	8	1	3	.704
	I don't know / I haven't participated yet	13	1.92	2	2	7	1	4	.862
<i>First aid training</i>	Several times a year	13	1.54	2	2	7	1	2	.519
	Once a year	119	1.76	2	2	72	1	4	.624
	Once every 2 years	29	1.97	2	2	16	1	3	.680
	Less than once every 2 years	18	1.83	2	2	13	1	3	.514
	I don't know / I haven't participated yet	31	2.06	2	2	15	1	4	.854

RQ5: What is the relationship between the frequency of OHS training and first aid training and the number of injuries or accidents to children that occur in an average year?

The frequencies in each category for the number of injuries or accidents to children that occur in an average year depending on the frequency of OHS training and first aid training are reported in Table 5.

Table 5

Absolute frequencies for the number of injuries or accidents to children that occur in an average year depending on the frequency of OSH training and first aid training for teaching staff

Training		0	1-2	3-5	6-10	>10	Sum
<i>Health and safety training</i>	Several times a year	19	2	4	0	0	25
	Once a year	70	74	14	2	1	161
	Once every 2 years	5	8	2	0	0	15
	I don't know / I haven't participated yet	6	5	2	0	0	13
	Sum	100	89	22	2	1	214
<i>First aid training</i>	Several times a year	8	2	3	0	0	13
	Once a year	64	46	10	2	1	123
	Once every 2 years	9	16	5	0	0	30
	Less than once every 2 years	3	13	1	0	0	17
	I don't know / I haven't participated yet	15	12	4	0	0	31
	Sum	99	89	23	2	1	214

It appears that categories representing 3–5, 6–10 and more than 10 injuries are very underrepresented and were therefore not considered in the following analyses. The Pearson Chi-square test and Cramer's V were performed. For the frequency of OSH training, the values were as follows: $\chi^2=14.07464$, $df=4$, $p=.007$, $V=.158$. It turns out that there are significant differences between groups at the significance level of $p<.01$. In terms of substantive significance, this is a weak relationship.

Based on descriptive statistics, it appears that in the given set of respondents, training organised in OHS more than once a year corresponds with more frequent reporting of injuries at a low level or even at zero (see Table 5).

This does not apply to first aid training, where the values were as follows: $\chi^2= 4.880$, $df= 4$, $p = .299$, $V = .093$. In this case, there are no significant differences between the groups.

Discussion

The study aimed to investigate the current situation related to injuries among children in pre-primary and primary schools. The study also examined the relationships between teaching experience, educational system level, OHS and first aid training frequency, and the number of injuries per year in each teachers' practice, as well as teachers' self-assessment of their OHS competence.

In terms of the influence of teaching practice (RQ1), the data obtained from the respondents corresponds with data published in older studies of Czech and foreign origin (Dvořáková et al., 2019; Marádová, 2011). The differences between groups of teachers in length of practice were not significant. This result differs from the Gowri and Missiriya (2017) study, where there was a positive correlation but weak linear correlation between the practice and the level of teachers' OHS knowledge. In general, the respondents rated their competence positively (median 2, i.e. the teachers rather agreed that they perceived themselves as competent in the area of OHS). This could be explained by the fact that for contemporary teachers, awareness of their own expertise is very important, and they are rather self-conscious in this respect (Stará and Vodrážková, 2022). Interestingly, teachers with less than 3 years of experience, in contrast to their more experienced colleagues, never indicated that they felt only partly competent or not at all competent in OHS. Teachers' first aid skills and knowledge are also related to OHS; however, teachers often have sufficient theoretical knowledge of first aid but only a few practical skills (Deutsch et al., 2022).

Teachers took the traditional ways of professional development (information shared by school management, manuals and information gained from colleagues) as their preferred method, as confirmed by Turekova and Depesova's (2019) study, which concluded that teachers' readiness to educate children on OHS is closely related to their training and the available teaching materials.

For the RQ2 focusing on the differences in teachers' self-assessment of their OHS competence, statistically significant differences were observed only between pre-primary and primary teachers. An interesting result is that pre-primary and primary teachers rated themselves as competent in OHS more than secondary teachers did (Mean 1.67 and 1.82). This is an interesting insight since statistically more injuries are experienced by children in pre-primary and primary school age categories than by older students (Czech School Inspectorate, 2022), which is consistent with our findings among teachers (RQ3). Conversely, in another study (Nursyuhada Binti Mohamad et al., 2019), primary school teachers had less knowledge and less favourable attitudes compared to secondary school teachers in school health and safety. On the other hand, in Czech public pre-primary schools, the school injury rate is lower than at the primary and secondary levels (Czech School Inspectorate, 2022). The inquiry in relation to RQ4 revealed that most teachers participate in OHS and first aid training once a year. However, an interesting finding was that the frequency of training did not correlate with teacher self-assessment. Here, one may question why this is the case, as the general assumption was that regular in-service teacher training would lead to the development of teacher expertise and increase their internal perception of their own level of competency. A possible reason for these results could be the content of the training courses, which often do not target common problems, risks in routine teaching situations, but extreme situations, and thus may appear irrelevant for teachers in terms of their everyday experience. This leads us to consider the effectiveness of the use of finances in the OHS training system in its current form in the Czech Republic. An important outcome in RQ5 is the finding that while more frequent OHS training does not affect teachers' perceptions of their own competence, it does influence lower child injury rates, especially if OHS training occurs more than once a year. The research therefore implies that it would be desirable to diversify OHS training to also focus on everyday problem situations, the use of multiple sources of information and educational constructs for one's own pedagogical work, as well as self-reflection and support for the teacher in relation to their OHS abilities (knowledge transfer/skills development, attitudinal change and empowerment) (O'Connor et al., 2014).

Implications for School Health Policy, Practice, and Equity

Most injuries occur outside the building as injuries during physical activities or free play (Jaffe et al., 2021), situations where teachers have a rather limited ability to intervene to prevent the occurrence of injury and where children have a greater degree of freedom and thus need to be adequately prepared for this responsibility by teachers as part of quality educational provision. The findings from the data examined in relation to RQ2 and RQ3 suggest that teachers of younger children are more confident in their level of competence in OSH, but at the same time these children have a higher injury rate. Further research could therefore explore this disparity.

Consequently, we recommend more inclusion of OHS issues for teacher training and in-service training practices in pre-primary and primary education. Lengthy work experience, the type of kindergarten, and previous training in first aid were all positively associated with attitudes towards first aid (Ganfure et al., 2018) among pre-primary teachers. We also recommend providing teachers with tools and strategies to strengthen passive and active safety measures in all environments inside and outside schools (Burgos-García, 2010; Jensen and Simovska, 2005), but most importantly to educate children and strengthen their OHS competences and involvement in the “Whole-School Approach” to OHS (European Agency for Safety and Health at Work, 2013). Primary and pre-primary schools should cooperate with parents to positively influence children’s behavioural patterns (Howells, 2022; Scheuer and Heck, 2022) and develop support programmes focusing on children’s health competences (OECD, 2020, pp. 90-91).

Limitations

The first limitation is that the selection for the research sample was not, and could not be random, since our study used educators involved in the project for further comparison of research data from parents and pupils. The second limitation is the reluctance of some teachers to answer the whole questionnaire, which was a consequence of the voluntary nature of the questionnaire. Another limitation is related to the fact that the questionnaire was intended only for Czech teachers, who may have different teaching experiences and conditions related to cultural and geographical differences.

The research could usefully be repeated in other countries of the European Union, taking account of cultural differences, perhaps first in Slavic countries, to increase the applicability of this research.

Conclusion

Protecting children's health has taken on new dimensions in the last two years. The importance of health - for a child's ability to learn and develop their potential - is particularly recognised in the context of threats to children's basic safety and life today.

This study explores the relationship between teachers' professional expertise in OHS and their reflection on their own teaching experiences with childhood injuries in pre-primary and primary education. We explored potential links between the risk to children in the educational process and teachers' length of experience and professional readiness. The results showed that the teaching staff perceive themselves as competent in the field of OHS for children in pre-primary and primary education, but that there is no statistically significant relationship between the length of teaching experience, the level of the educational system or the frequency of OHS training and first aid training and their self-assessment. On the contrary, a statistically significant relationship was found between the frequency of OHS training and the number of children's injuries or accidents occurring on average per year, with more frequent OHS training being correlated with a lower number of accidents.

Based on the results of the study, we recommend that the issue of OHS be included more fully in the initial studies and further training of teachers, especially focusing on practical safety measures in all environments inside and outside schools. The key issue is to educate children and strengthen their knowledge and skills in the field of OHS and involve them in a whole-school approach to health and safety education.

Acknowledgements

The paper was developed with state budget funding provided by the Technology Agency of the Czech Republic within the ETA Programme in the framework of the project Analysis and Support of Children's Competence at Health and Safety, grant number: TL03000213.

References

- Act of the Czech National Council on on pre-school, basic, secondary, tertiary professional and other education (Educational Act), (2023). <https://www.aspi.cz/products/lawText/1/1/1/-2/zakon-c-561-2004-sb-o-predskolnim-zakladnim-strednim-vyssim-odbornem-a-jinem-vzdelavani-skolnim-zakladnim-strednim-vyssim-odbornem-a-jinem-vzdelavani-skolsky-zakon>
- Act of the Czech National Council: Labour Code, (2023). <https://www.aspi.cz/products/lawText/1-/62694/1/2/zakon-c-262-2006-sb-zakonik-prace>
- Ball, D. J. 2002. *Playgrounds – risks, benefits and choices*. HSE Books.
- Benjamin, D. J., Berger, J. O., Johannesson, M., Nosek, B. A., Wagenmakers, E. J., Berk, R., Bollen, K. A., Brembs, B., Brown, L., Camerer, C., Cesarini, D., Chambers, C. D., Clyde, M., Cook, T. D., De Boeck, P., Dienes, Z., Dreber, A., Easwaran, K., Efferson, C., . . . and Johnson, V. E. (2018). Redefine statistical significance. *Nature Human Behaviour*, 2(1), 6-10. <https://doi.org/10.1038/s41562-017-0189-z>
- Burgos-García, A. (2010). Education, health and safety in schools. *International Journal of Learning*, 17, 431-446. <https://doi.org/10.18848/1447-9494/CGP/v17i04/47015>
- Charles University (2018). *Code of Ethics*. <https://cuni.cz/UKEN-731.html>
- Council Resolution on a strategic framework for European cooperation in education and training towards the European Education Area and beyond (2021-2030) 2021/C 66/01, 1-21 66 (2021). [https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32021G0226\(01\)](https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32021G0226(01))
- Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika*, 16, 297–334. <https://doi.org/10.1007/BF02310555>
- Czech School Inspectorate (2016). *Výroční zpráva České školní inspekce za školní rok 2015/2016* [Annual Report of the Czech School Inspectorate for the school year 2015/2016]. Česká školní inspekce
- Czech School Inspectorate (2022). *Kvalita a efektivita vzdělávání a vzdělávací soustavy ve školním roce 2021/2022: výroční zpráva ČŠI* [Quality and efficiency of education and the education system in the school year 2021/2022: CSI annual report]. Česká školní inspekce
- Czech School Inspectorate (2023). *Kvalita a efektivita vzdělávání a vzdělávací soustavy ve školním roce 2022/2023: výroční zpráva ČŠI* [Quality and efficiency of education and the education system in the school year 2022/2023: CSI annual report]. Česká školní inspekce
- Deutsch, K., Jäkl, I., Bánfai-Csonka, H., Betlehem, J., Ferkai, A. L., Máté, O., and Bánfai, B. (2022). First aid knowledge and skills of primary school teachers in Hungary. *Kontakt*, 24(2), 137-146. <http://dx.doi.org/10.32725/kont.2022.010>
- Dvořáková, B., Grenová, E., and Kuhnová, I. (2019). Knowledge of teachers for students' education in OSH - results of the survey in some faculties for teachers training in the territory of Moravia [sic]. *The Journal of Safety Research and Applications*, 12(3-4). <https://www.bozpinf-o.cz/no-de/76731/pdf-export>
- EU strategic framework on health and safety at work 2021-2027: Occupational safety and health in a changing world of work (2021)
- European Agency for Safety and Health at Work, Gervais, R., Brück, C., Nicolescu, G., Zwink, E., Vilkevicius, G., Hassard, J., Théveny, L., Antoine, M., Kaluza, S., France, M., Cabeças, M., and Eeckelaert, L. (2013). *Occupational safety and health and education – A whole-school approach*. Publications Office of the European Union. <https://doi.org/doi/10.2802/51709>
- Farewell, C. V., Maiurro, E., Powers, J. and Puma, J. (2021). The healthy environment project: Promoting sustainable change in early childhood education settings. *Health Education Journal*, 80(4), 472-486. <https://doi.org/10.1177/0017896920988754>

- Fryč, J., Matušková, Z., Katzová, P., Kovář, K., Beran, J., Valachová, I., Seifert, L., Běťáková, M., and Hrdlička, F. (2020). *Strategy for the education policy of the Czech Republic up to 2030+*. Ministry of Education, Youth and Sports. https://www.msmt.cz/uploads/brozura_S20-30_en_fin_online.pdf
- Ganfure, G., Amey, G., Tamirat, A., Lencha, B., and Bikila, D. (2018). First aid knowledge, attitude, practice, and associated factors among kindergarten teachers of Lideta sub-city Addis Ababa, Ethiopia. *PLoS One*, 13(3), e0194263. <https://doi.org/10.1371/journal.pone.0194263>
- Gowri, M., and Missiriya, S. (2017). Knowledge and practice of schoolteachers on health care of schoolchildren. *International Journal of Pharma and Bio Sciences*, 8(1), 227-231. <https://doi.org/10.223-76/ijpbs.2017.8.1. b227-231>
- Gray, J. (2022). Protecting children: Building effective systems. In S. Deb (Ed.), *Child safety, welfare and well-being: Issues and challenges* (pp. 551-564). Springer Singapore. https://doi.org/10.1007/978-981-16-9820-0_30
- Hansen Sandseter, E. B. (2007). Categorising risky play – how can we identify risk-taking in children's play? *European Early Childhood Education Research Journal*, 15(2), 237-252. <https://doi.org/10.1080/13502930701321733>
- Horácková, A., and Kuhnová, I. (2017). Preparation of teachers for education in OHS: Basis for the development of teachers training program for OSH learning [sic]. *The Journal of Safety Research and Applications*, 10(1). <http://www.bozpinfo.cz/josra/preparation-teachers-education-ohs-basis-for-development-teachers-training-program-osh>
- Howells, K. (2022). Health education: What does it mean? In M. A. Peters (Ed.), *Encyclopedia of teacher education* (pp. 762-767). Springer Nature Singapore. https://doi.org/10.1007/978-981-16-8679-5_418
- Jaffe, E., Khalemsky, A., and Khalemsky, M. (2021). Game-related injuries in schools: A retrospective nationwide 6-year evaluation and implications for prevention policy. *Israel Journal of Health Policy Research*, 10(1), 51. <https://doi.org/10.1186/s13584-021-00487-5>
- Jensen, B., and Simovska, V. (2005). Involving students in learning and health promotion processes – clarifying why? what? and how? *Promotion & Education*, 12, 150-156. <https://doi.org/10.11-77/10253823050120030114>
- Jourdan, D. (2011). *Health education in schools: The challenge of teacher training*. National Institute for Prevention and Health Education. Saint-Denis: Inpes, coll. Santé en action.
- Kullmann, K. (2022). Educational and training institutions. In R. Heimann and J. Fritzsche (Eds.), *Violence prevention in education, school, and club* (pp. 155-170). Springer Fachmedien Wiesbaden. https://doi.org/10.1007/978-3-658-38551-4_9
- Lavrysen, A., Bertrands, E., Leyssen, L., Smets, L., Vanderspikken, A., and De Graef, P. (2017). Risky play at school. Facilitating risk perception and competence in young children. *European Early Childhood Education Research Journal*, 25(1), 89-105. <https://doi.org/10.1080/1-350293X.201-5.1102412>
- Marádová, E. (2011). Promoting health in school curriculum [sic] - curriculum goals and strategies for their implementation in primary schools. In E. Řehulka (Ed.), *School and Health 21, 2011: Health literacy through education* (pp. 97-106). Masarykova univerzita. https://www.ped.muni.-cz/z21/knihy/2011/39/texty/eng/11_maradova_eng.pdf
- Mitchell, J. (2019). Physical inactivity in childhood from preschool to adolescence. *ACSM's Health & Fitness Journal*, 23(5), 21-25. <https://doi.org/10.1249/fit.0000000000000507>
- Morrongiello, B. A., and Matheis, S. (2007). Understanding children's injury-risk behaviors: The independent contributions of cognition and emotions. *Journal of Pediatric Psychology*, 32(8), 926-937. <https://doi.org/10.1093/jpepsy/jsm027>
- National Institute for Cyber and Information Security (2022). *Educational portal*. <https://osveta.n-ukib.cz/local/dashboard/>
- NCBI (2023). *National center for a safer internet*. <https://www.ncbi.cz/>
- Nursyuhada Binti Mohamad, Y., Vivien, H., Ezza Sabrina Binti, A., and Khairuddin Bin, O. (2019). The educator's perspective: Knowledge, attitude and practices on occupational safety and

- health at school among primary and secondary school teachers. *Malaysian Journal of Public Health Medicine*, 19(1), 184-190. <https://doi.org/10.37268/mjphm/vol.19/no.1/art.52>
- O'Connor, T., Flynn, M., Weinstock, D., and Zandoni, J. (2014). Occupational safety and health education and training for underserved populations. *New Solutions*, 24(1), 83-106. <https://doi.org/10.2190/NS.24.1.d>
- OECD. (2020). *Building a high-quality early childhood education and care workforce*. <https://doi.org/10.1787/b90bba3d-en>
- Okan, O., Paakkari, L., and Dadaczynski, K. (2020). *Health literacy in schools: State of the art*. <https://www.schoolsforhealth.org/sites/default/files/editor/fact-sheets/factsheet-2020-english.pdf>
- Paakkari, L., Okan, O., Aagaard-Hansen, J., Barnekow, V., Weber, M. W., and Sørensen, K. (2020). WHO working group on health literacy in schools. *European Journal of Public Health*, 30(Supplement_5). <https://doi.org/10.1093/eurpub/ckaa165.152>
- Scheuer, C., and Heck, S. (2022). Physically active and healthy school: Role of primary physical education teacher. In M. A. Peters (Ed.), *Encyclopedia of teacher education* (pp. 1302-1307). Springer Nature Singapore. https://doi.org/10.1007/978-981-16-8679-5_423
- Smith, B. J., Potts-Datema, W., and Nolte, A. E. (2005). Challenges in teacher preparation for school health education and promotion. *Promotion & Education*, 12(3-4), 162-164. <https://doi.org/10.1177/10253823050120030116>
- Smith, S. J. (1998). *Risk and our pedagogical relation to children: On the playground and beyond*. SUNY, NY Press.
- Soukup, P., Trahorsch, P., and Chytrý, V. (2021). Míry věcné významnosti s intervaly spolehlivosti a ukázky jejich využití v pedagogické praxi [Effect sizes and their confidence intervals: Examples of their use in education]. *Studia Paedagogica*, 26, 131. <https://doi.org/10.5817/SP2021-3-6>
- Stara, J., and Vodrážková, A. (2022). Choosing from a range of e-resources when planning lessons: A challenge for teachers. *LARTEM e-journal*, 14(1), 1-15. <https://doi.org/10.21344/ia-rtm-v14i1.977>
- Stralczyńska, B. L., Chroustová, K., Skřehot, P., Chytrý, V., Bílek, M., and Marádová, E. (2022). Childhood injuries and their sustainable prevention from the perspective of parents and grandparents. *Sustainability*, 14(17), 10592. <https://www.mdpi.com/2071-1050/14/17/10592>
- Tavakol, M., and Dennick, R. (2011). Making sense of Cronbach's alpha. *International Journal of Medical Education*, 2, 53-55. <https://doi.org/10.5116/ijme.4dfb.8dfd>
- Tureková, I., and Depešová, J. (2019). *Significance of teacher education in the field of occupational health and safety*. <https://doi.org/10.21125/edulearn.2019.2130>
- Wiseman, N., Harris, N., and Lee, P. (2016). Lifestyle knowledge and preferences in preschool children: Evaluation of the Get up and Grow healthy lifestyle education programme. *Health Education Journal*, 75(8), 1012-1024. <https://doi.org/10.1177/0017896916648726>

Authors:

Barbora Loudová Stralczyńska, PhD

Assistant Professor, Faculty of Education, Charles University, M. Rettigové 4, 116 39 Prague, Czech Republic; e-mail: barbora.loudova@pedf.cuni.cz
Docentka, Pedagoška fakulteta, Karlova univerza, M. Rettigové 4, 116 39, Praha, Česka, e-pošta: barbora.loudova@pedf.cuni.cz

Kateřina Chroustová, PhD

Assistant Professor, Charles University, M. Rettigové 4, 116 39 Prague, Czech Republic; e-mail: katerina.chroustova@pedf.cuni.cz

Docentka, Karlova univerza, Karlova univerza, M. Rettigové 4, 116 39, Praga, Česka, e-pošta: katerina.chroustova@pedf.cuni.cz

Martin Bílek, PhD

Professor, Charles University, M. Rettigové 4, 116 39 Prague, Czech Republic; e-mail: martin.bilek@pedf.cuni.cz

Profesor, Karlova univerza, Karlova univerza, M. Rettigové 4, 116 39, Praga, Česka, e-pošta: martin.bilek@pedf.cuni.cz

Vlastimil Chytrý, PhD

Associate Professor, Faculty of Education, Jan Evangelista Purkyně University, Pasteurova 3544/1, 400 96 Ústí nad Labem, Czech Republic, e-mail: vlastimil.chytry@ujep.cz

Izredni profesor, Pedagoška fakulteta, Univerza Jan Evangelista Purkyně, Pasteurova 3544/1, 400 96 Ústí nad Labem, Česka, e-pošta: vlastimil.chytry@ujep.cz

Tereza Krčmářová, PhD

Assistant Professor, Charles University, M. Rettigové 4, 116 39 Prague, Czech Republic; e-mail: tereza.krcmarova@pedf.cuni.cz

Docentka, Karlova univerza, Karlova univerza, M. Rettigové 4, 116 39, Praga, Česka, e-pošta: tereza.krcmarova@pedf.cuni.cz

Jana Krátká, PhD

Assistant Professor, Charles University, M. Rettigové 4, 116 39 Prague, Czech Republic; e-mail: jana.kratka@pedf.cuni.cz

Docentka, Karlova univerza, Karlova univerza, M. Rettigové 4, 116 39, Praga, Česka, e-pošta: jana.kratka@pedf.cuni.cz



INKLUZIVNOST IN PRAVIČNOST POKLICNEGA STROKOVNEGA IZOBRAŽEVANJA

KATJA JEZNIK & NINA KRISTL

Potrjeno/Accepted
2. 2. 2025

Filozofska fakulteta, Univerza v Ljubljani, Ljubljana, Slovenija

Objavljeno/Published
31. 3. 2025

CORRESPONDING AUTHOR/KORESPONDENČNI AVTOR/
katja.jeznik@ff.uni-lj.si

Abstract/Izvleček

Pred dvema desetletjema je bil oblikovan indeks inkluzije, ki jo opredeli na treh ravneh (to so politika, kultura in praksa) in je povezan z večdimenzionalnim razumevanjem pravičnosti, ki pravično prerazporeditev dopolni s pripoznanjem, zastopanostjo in soodvisnostjo, kar je predstavljeno v članku. Raziskava temelji na analizi odgovorov učiteljev, svetovalnih delavcev in ravnateljev poklicnih in strokovnih šol. Glavno vprašanje je, kako se inkluzija in pravičnost udejanjata v poklicnih in strokovnih šolah. V najvišji meri se udejanja redistributivna pravičnost, sledi soodvisnost, zastopanost in pripoznanje pa sta ovrednotena nižje. Ugotovitve zahtevajo premislek o trenutni inkluzivnosti in pravičnosti vzgojno-izobraževalnega sistema na ravni poklicnega in strokovnega izobraževanja.

Ključne besede:

inclusivity and equity,
redistribution,
recognition,
representation, relational
justice.

Keywords:

inkluzivnost in
pravičnost,
prerazporeditev,
pripoznanje,
zastopanost,
soodvisnost.

UDK/UDC
37.018:373.5

Inclusiveness and Equity in Vocational Education and Training

Two decades ago, the Index for Inclusion was developed. It defines inclusion at three levels (policy, culture and practice) and can be linked to a multidimensional understanding of equity that complements redistribution with recognition, representation, and relationality as presented in the article. The research is based on an analysis of the responses of teachers, counsellors, and principals of vocational education and training (VET) schools. The main question is how inclusion and equity are implemented in VET. Redistributive justice is most frequently being implemented, followed by relationality. Representation and recognition are ranked lower. The findings require reflection on the present inclusiveness and equity of the VET system.

DOI <https://doi.org/10.18690/rei.3877>

Besedilo / Text © 2025 Avtor(ji) / The Author(s)

To delo je objavljeno pod licenco Creative Commons CC BY Priznanje avtorstva 4.0 Mednarodna. Uporabnikom je dovoljeno tako nekomercialno kot tudi komercialno reproduciranje, distribuiranje, dajanje v najem, javna priobčitev in predelava avtorskega dela, pod pogojem, da navedejo avtorja izvirnega dela. (<https://creativecommons.org/licenses/by/4.0/>).



Uvod

Leta 2002 sta Booth in Ainscow (2002) v Veliki Britaniji oblikovala indeks inkluzije, s katerim lahko ovrednotimo inkluzivnost šol. Indeks predpostavlja ukrepe delovanja na treh ravneh: (a) na ravni politike z vzpostavljanjem sistemskih rešitev in opredelitvijo pravic pogosto izključenih, (b) na ravni kulture z vzpostavljanjem in utrjevanjem inkluzivnih vrednot skupnosti in (c) na ravni prakse kot didaktična podpora pogosto izključenim in skrb za odnose. Šole ga lahko uporabijo kot orodje za samoevalvacijo, lahko pa predstavlja izhodišče za sistemsko proučevanje inkluzije. Ob prizadevanju za inkluzijo je pomembno upoštevati tudi osnovna načela pravičnosti. Povezanost inkluzivnosti in pravičnosti bo v nadaljevanju utemeljena s pomočjo večdimenzionalnega modela pravičnosti (Fraser in Honneth, 2003; Fraser idr., 2004; Fraser, 2007; Lesar, 2013, 2019; Lynch idr., 2009; Lynch idr., 2021), ki izhaja iz štirih dimenzij: prerazporeditev, pripoznanje, zastopanost in soodvisnost. Vsaka dimenzija izpostavlja določen način vključenosti, zato lahko sklenemo, da se inkluzija bolj pravično uresničuje ob upoštevanju vseh štirih dimenzij pravičnosti.

Prva dimenzija pravičnosti: prerazporeditev

Prerazporeditvena dimenzija pravičnosti, ki temelji na pravični prerazporeditvi temeljnih svoboščin in dobrin, temelji na Rawlsovi teoriji pravičnosti (1971; Lynch idr., 2009). Rawls izpostavi dva pogoja. Prvi je, da morajo biti vsaki osebi zagotovljene enake pravice pri doseganju temeljnih svoboščin v najširšem pomenu besede. Drugi pa, da morajo biti socialne in ekonomske razlike med ljudmi uravnavane tako, da lahko pričakujemo, da uvedeni ukrepi koristijo vsakomur. Izhodiščna pogoja, kot je bilo predstavljeno že na drugih mestih (Jeznik, 2015), Rawls (1971) razdela v tri načela: načelo enakih možnosti; načelo poštenih enakih možnosti oz. pozitivna diskriminacija in načelo razlik oz. diferenca. Načela zavezujejo k delovanju, ki vsem, ne glede na njihov položaj, omogoča enake pogoje za uspeh. Pravične so le tiste razlike, ki prinašajo koristi ljudem, ki so v družbi v najslabšem položaju.

Takšno razumevanje pravičnosti je bilo v preteklosti deležno nekaterih kritik, ki se nanašajo predvsem na neustrezno naslavljanje razlogov za razlike med ljudmi, npr. strukturna revščina ipd. Različni avtorji (Ainscow, 2023; Fraser in Honneth, 2003; Fraser idr., 2004; Jeznik, 2015; Knijn idr., 2020) ne le, da opozarjajo na nezadostnost takšnega razumevanja pravičnosti, ampak oblikujejo tudi bolj ustrezne modele, kjer

se prerazporeditveni vidik pravičnosti nadgrajuje še z drugimi dimenzijami. Pravično prerazporejanje temeljnih dobrin nadgradijo na kulturnem (pripoznanje), političnem (zastopanost) in emocionalnem ter odnosnem (soodvisnost) področju.

Druga dimenzija pravičnosti: pripoznanje

Pripoznanje pomeni spoštovanje različnih življenjskih stilov, svetovnih nazorov, življenjskih okoliščin, zdravstvenih situacij ipd., a ne le na ravni priznanja določenih pravic in svoboščin, temveč tudi na ravni možnosti javnega izražanja svojega položaja (Fraser in Honneth, 2003; Fraser idr., 2004). Fraser (2007) že pred desetletjem opozori na nekatere omejitve pripoznanja. Gre za povezovanje osebnostnih lastnosti posameznika s stereotipnimi prepričanji o določeni kulturi, jezikovni skupni ipd. Fraser (prav tam) opozori, da je podobno problematično, če posamezniku njegov identitetni položaj ni pripoznan. Skubic Ermenc (2023) navaja številne primere, ki izhajajo iz odnosa večinske kulture do manjšinskih. Z analizo odnosa šole do kulturne različnosti je ugotovila, da je slovenska šola usmerjena v asimilacijsko politiko, in to tako na ravni šolskih dokumentov (učni načrti) kot tudi na ravni vsakodnevnega govora v smislu, če se otrok ne more prilagoditi zahtevam večinskega šolskega okolja, naj se šola drugje.

Krivice, s katerimi se soočajo predstavniki različnih manjšin, so pogosto razpete med napačno pripoznanje etničnih, verskih, spolnih ali rasnih razlik in prerazporejanje neenakosti. Dinamika izključevanja, ki jo ustvarjajo neenakosti pri dostopu do kakovostnega izobraževanja ter izkušnje odtujenosti zaradi nepripoznanja, lahko vplivajo na šolsko uspešnost in omejujejo vrednost izobraževanja pri razvoju sposobnosti otrok iz manjšinske populacije. Lyncih in Baker (2005) opozorita, da lahko to na ravni izobraževanja zaznamo skozi zamolčani kurikulum ali skozi slabše vrednotenje določenega znanja. Rešitev ni v prilagajanju delovanja šole manjšinskim populacijam, ampak v oblikovanju takšne vrednotne naravnosti, da lahko posameznik kljub skupnim vrednotam ohranja svojo edinstvenost (Biesta, 2022).

Tretja dimenzija pravičnosti: zastopanost

Fraser idr. (2004) prerazporeditev in pripoznanje dopolnijo z zastopanostjo, ki teži k zastopstvu različnih družbenih skupin in posameznikov z vidika njihove moči in vpliva na položaj v skupnosti.

Akkan in Buğra (2020) ugotovita, da je dejanska zastopanost pogosto omejena in posamezniki nimajo vedno možnosti, da bi uveljavili svoje zahteve ter izpodbijali stereotipe in stigmatizacijo v zvezi z njihovimi vrednotami ali kulturno vrednostjo. Gre za zastopstvo različnih družbenih skupin in posameznikov z vidika njihove moči in vpliva na položaj v skupnosti. Kodele in Lesar (2023) ugotovita, da obstaja pozitivna povezava med kulturo vzgojno-izobraževalne ustanove in stopnjo participacije učencev z učnimi težavami. Učenci in učitelji namreč prav participacijo prepoznavajo kot tisti dejavnik, ki vpliva na znižanje učnih težav in prispeva k večji motivaciji za šolsko delo.

Četrta dimenzija pravičnosti: soodvisnost

Lynch idr. (2021) opozorijo na nekatere pomanjkljivosti tridimenzionalnega modela pravičnosti (prerazporeditev, pripoznanje in zastopanost) ter ga dopolnijo s četrto dimenzijo, to je relacionalnost oz. soodvisnost. Tridimenzionalni model namreč temelji na predstavi neodvisne odrasle osebe in zanemarja pomen čustvenih odnosov med ljudmi. Nejasno je, kako, če in kdaj imajo moč in pomen tiste osebe, ki so zaradi starosti, bolezni ipd. v določenem trenutku odvisne od drugih. Avtorji odprejo vprašanje razmerja med tistimi, ki so deležni skrbi in tistimi, ki jo nudijo. Ugotovijo, da gre za politično vprašanje, ki naslavlja predvsem ženski del populacije (prav tam, str. 56). Čeprav je soodvisnost podrejena ekonomskim, političnim ali kulturnim odnosom, je njen glavni namen biti z drugimi in soustvarjati odnose na način, ki ni odtujen in izkoriščevalen (prav tam, str. 58).

Izobraževanje torej s svojimi praksami vključevanja in izključevanja po eni strani krepi obstoječe družbene neenakosti, po drugi strani pa ima pomembno vlogo pri njihovem premoščanju. Nadaljnje proučevanje različnih dimenzij pravičnosti, kljub izpostavljenim kritikam, je pomembno predvsem zato, ker lahko socialno-ekonomske neenakosti vplivajo tudi na dostopnost do izobraževanja. Revščina tako še vedno velja za enega od vzrokov in posledico neenakih možnosti v izobraževanju, ki vodijo k zgodnjemu opuščanju šolanja in vplivajo na možnosti otrok iz prikrajšanega okolja na trgu dela. Pa ne le revščina, še številne druge osebne okoliščine, kot so spol, rasa, etnična pripadnosti, kultura, religija itd. (Akkan in Buğra, 2020). Tudi Knijn idr. (2020) kljub omejitvam modela, na katere opozorijo (pozitivizem in formalizem), večdimenzionalni model pravičnosti razumejo kot eno izmed izhodišč, s katerim lahko podpremo raziskovanje področja, ponuja pa tudi

uporabno orodje za interdisciplinarno in empirično utemeljeno obravnavo različnih zahtev po pravičnosti.

V nadaljevanju bodo analizirani izsledki raziskave *Inkluzija v poklicnem in strokovnem izobraževanju* (2022), ki je bila spomladi 2022 izvedena pod okriljem *Centra RS za poklicno izobraževanje*, na vzorcu učiteljev, svetovalnih delavcev in ravnateljev. Glavni namen je bil ugotoviti, kako se inkluzija in pravičnost udejanjata v poklicnih in strokovnih šolah in ali se ravnatelji, svetovalni delavci in učitelji razlikujejo v ocenah le-tega ter do kakšnih razlik prihaja med njimi.

Metodologija

Predstavljena izhodišča, s katerimi je bila utemeljena teoretska povezanost inkluzivnosti in večdimenzionalnega modela pravičnosti, so osnova dveh raziskovalnih vprašanj:

- kako se večdimenzionalni model pravičnosti udejanja v srednjih poklicnih in strokovnih šolah in
- ali se ravnatelji, šolski svetovalni delavci in učitelji razlikujejo v oceni le-tega ter do kakšnih razlik med njimi prihaja.

Analizirani podatki so bili pridobljeni v sklopu raziskave o *Inkluziji v poklicnih in strokovnih šolah* (2022), ki je bila leta 2022 izvedena pod okriljem *Centra RS za poklicno izobraževanje*. Raziskava je bila izvedena z anketiranjem treh skupin: učiteljev (n=354), ravnateljev (n=44) in svetovalnih delavcev (n=29), skupno 427 oseb. Podatke smo zbirali v času od 27. junija do 14. julija 2022 s pomočjo spletnega orodja za zbiranje podatkov 1ka.

Opis vzorca

Med anketiranimi prevladujejo učitelji, slabo petino predstavljajo ravnatelji in svetovalni delavci. Tri četrtine anketiranih predstavljajo osebe ženskega spola. Več kot polovico vzorca predstavljajo strokovni delavci z več kot 20 let delovnimi izkušnjami v vzgoji in izobraževanju.

Tabela 1*Opis vzorca*

		Vsi	Učitelji	Ravnatelji	Šolski svetovalni delavci
Udeleženci	n	427	354	44	29
	n %	100,0	82,9	10,3	6,8
Spol	moški	21,2%	21,6%	29,3%	3,7%
	ženski	75,0%	74,1%	68,3%	96,3%
	ne želim se opredeliti	3,8%	4,3%	2,4%	0,0%
Leta delovnih izkušenj v vzgoji in izobraževanju	do 5 let	8,9%	8,6%	0,0%	25,9%
	6 let – 10 let	9,4%	10,1%	2,4%	11,1%
	11 let – 20 let	23,3%	23,9%	14,6%	29,6%
	več kot 20 let	58,5%	57,5%	82,9%	33,3%

Opis instrumentarija

Na osnovi večdimenzionalnega modela pravičnosti in indeksa inkluzije po Booth in Ainscow (2002) je bil oblikovan vprašalnik za merjenje inkluzivnosti in pravičnosti srednjih poklicnih in strokovnih šol (Kristl in Jeznik, 2024). Iz indeksa so bili izbrani tisti kazalniki, ki odražajo tudi določeno dimenzijo pravičnosti. Oblikovalnih je bilo 28 trditev za merjene štirih dimenzij pravičnosti: prerazporeditev, priznanje, zastopstvo in soodvisnost. Stopnja udejanjanja pravičnosti je bila merjenja na štiri stopenjski lestvici: *sploh ne drži* (1), *v glavnem ne drži* (2), *v glavnem drži* (3) in *popolnoma drži* (4). Anketiranci so imeli na voljo možnost ne-odgovora oziroma izbiro odgovora »ne morem se opredeliti« za primer, ko anketiranec ni imel dovolj informacij o stanju, da bi lahko podal odgovor. Osnovne statistične ugotovitve so predstavljene v poročilu *Inkluzija v poklicnem in strokovnem izobraževanju* (2022), v tem prispevku pa so predstavljene opisne značilnosti postavk (numerus, aritmetična sredina in standardni odklon), ločeno za vse tri skupine anketiranih (učitelji, ravnatelji, svetovalni delavci; v tabelah uporabljamo okrajšavo ŠSD). Statistično pomembne razlike v zaznavanju pravičnosti med tremi skupinami so bile preverjene s Kruskal-Wallis preizkusom.

Rezultati in razprava

Podatki so prikazani sumarno po štirih dimenzijah pravičnosti, za vse tri skupine vprašanih in glede na razlike med njimi.

*Prerazporeditev***Tabela 2***Razlike v mnenjih med učitelji, ravnatelji in šolskimi svetovalnimi delavci o trditvah s področja prerazporeditve*

Prerazporeditev		n	M	SD	Kruskal Wallis Test	
					χ^2	p
Zaposleni na naši šoli si prizadevamo za odpravljanje ovir pri doseganju ciljev dijakov na vseh področjih.	Vsi	423	3,53	0,545	6,817	0,033
	Učitelji	350	3,51	0,550		
	Ravnatelji	44	3,73	0,451		
	ŠSD	29	3,45	0,572		
Šola organizira razrede/oddelke in učne skupine tako, da so čim bolj heterogene.	Vsi	393	3,15	0,754	1,974	0,373
	Učitelji	325	3,13	0,749		
	Ravnatelji	42	3,26	0,798		
	ŠSD	26	3,19	0,749		
Finančna sredstva šolskega sklada se smiselno porabljajo za zagotavljanje enakih možnosti dijakov.	Vsi	366	3,42	0,631	5,161	0,076
	Učitelji	302	3,40	0,643		
	Ravnatelji	39	3,64	0,486		
	ŠSD	25	3,36	0,638		
Razvojni načrt naše šole in iz njega izhajajoče prakse učinkovito zmanjšujejo ovire pri učenju in participaciji vseh dijakov.	Vsi	397	3,31	0,550	2,056	0,358
	Učitelji	332	3,32	0,566		
	Ravnatelji	39	3,36	0,486		
	ŠSD	26	3,19	0,402		
Vsem novim dijakom pomagamo, da se čim prej privadijo na šolo.	Vsi	420	3,65	0,515	1,101	0,577
	Učitelji	347	3,65	0,523		
	Ravnatelji	44	3,70	0,462		
	ŠSD	29	3,59	0,501		

Odgovori nakazujejo primerljivo stopnjo soglašanja s trditvami, opazen pa je trend nekoliko višjega soglašanja s trditvami s strani ravnateljev.

Ugotovili smo, da se novim dijakom pomaga pri privajanju na šolo in da je prizadevanje za odpravljanje ovir pri doseganju ciljev dijakov na vseh področjih (učenje, osebni razvoj, kariera,...) s strani zaposlenih na šoli, dobro prisotno. Odgovori ravnateljev se statistično pomembno ($\chi^2 = 6,817$; $p = 0,033$) razlikujejo od odgovorov učiteljev in svetovalnih delavcev. Ravnatelji ta prizadevanja bolj prepoznavajo.

Dijaki, ki izhajajo iz okolij z nižjim socialno-ekonomskim statusom, so upravičeni do pomoči iz šolskih skladov. Zanimalo nas je, kako anketiranci ocenjujejo porabo teh sredstev. Ugotovili smo, da se finančna sredstva šolskega sklada po njihovem mnenju v glavnem smiselno porabljajo za zagotavljanje enakih možnosti dijakov, kar je spodbudna ugotovitev. Kljub temu pa se zdi smiselno v prihodnje analizirati za kaj in za koga ter pod kakšnimi pogoji se dejansko porabljajo sredstva šolskega sklada in ugotoviti, ali imajo vsi, ki potrebujejo pomoč, enak dostop do teh sredstev.

Porazdeljevanje temeljnih dobrin lahko pomeni podporo posameznikovi vključenosti, lahko pa takšni ukrepi vodijo k še večji stigmatizaciji pogosto izključenih (Akkan in Buğra, 2020). To je ena izmed ključnih kritik tega vidika pravičnosti, ker, če si ne prizadevamo aktivno za odpravo vzrokov za nepravičnosti, lahko z bolj pravičnim porazdeljevanjem ključnih dobrin le zaobidemo razloge za nastanek socialno-ekonomskih razlik.

Anketirani so delno potrdili trditev *razvojni načrt naše šole in iz njega izhajajoče prakse učinkovito zmanjšujejo ovire pri učenju in participaciji vseh dijakov*. Čeprav zapisi sami po sebi nimajo neposrednega vpliva na pedagoško prakso, je včasih prav poznavanje določenih izhodišč pogoj za izboljšanje kakovosti pedagoškega dela.

Najbolj raznolike odgovore smo izmerili pri trditvi *šola organizira razrede/oddelke in učne skupine tako, da so čim bolj heterogene*. Polovica anketiranih je odgovorila, da to v glavnem drži, dobra četrtina pa, da to v celoti drži. Čeprav je raznolikost realnost sodobnih inkluzivno naravnanih učnih okolij, lahko na ravni opozoril nekaterih avtorjev (Burke idr., 2023) identificiramo prakse nepripoznanja oz. nevidne raznolikosti, ki lahko, podobno kot pretirano izpostavljanje drugačnosti, vodijo k dodatni stigmatizaciji. Spreminjajo pa se tudi opredelitve raznolikosti znotraj koncepta inkluzivnosti, ki naj naslavlja vse učeče se in ne le pogosto izključene skupine, kot so npr. osebe s posebnimi potrebami, priseljenci itd. (prav tam; Ermenc S. idr., 2019; Lesar, 2019).

Pripoznanje

Večina vprašanih se ni strinjala s trditvijo, da *bi bilo bolje, če se na šolo ne bi vpisovali dijaki s PP in dijaki z migrantskim ozadjem*. Med tistimi, ki so se s trditvijo strinjali, je največ učiteljev, sledijo jim ravnatelji in nato svetovalni delavci, razlike med njimi pa so tudi statistično pomembne ($\chi^2 = 6,094$; $p = 0,048$).

Da je med učitelji v primerjavi z ostalima skupinama več takih, ki menijo, da bi bilo *bolje, če se na šolo ne bi vpisovali dijaki s PP in dijaki z migrantskim ozadjem*, lahko pojasnimo s tem, da so učitelji v dnevnem stiku z različnimi dijaki, njihovo začetno izobraževanje pa, kot je bilo izpostavljeno (Lesar in Žveglič Mihelič, 2020), ni bilo usmerjeno na srečevanje s tako raznolikimi posamezniki, ki se srečujejo v sodobnih učnih skupnostih.

Tabela 3*Razlike v mnenjih med učitelji, ravnatelji in šolskimi svetovalnimi delavci o trditvah s področja pripoznanja*

Pripoznanje		n	M	SD	Kruskal Wallis Test	
					χ^2	p
Bolje bi bilo, da se na našo šolo ne bi vpisovali dijaki s posebnimi potrebami in migrantskim ozadjem.	Vsi	401	1,66	0,798	6,094	0,048
	Učitelji	334	1,70	0,827		
	Ravnatelji	40	1,43	0,549		
	ŠSD	27	1,41	0,636		
Preverjanje in ocenjevanje znanja zaposleni smiselno prilagajamo različnim dijakom.	Vsi	418	3,22	0,634	1,832	0,400
	Učitelji	348	3,23	0,652		
	Ravnatelji	42	3,21	0,565		
	ŠSD	28	3,11	0,497		
Na naši šoli so žrtve medvrstniškega nasilja večinoma dijaki iz ranljivih skupin.	Vsi	307	2,03	0,816	7,769	0,021
	Učitelji	247	2,09	0,819		
	Ravnatelji	36	1,72	0,701		
	ŠSD	24	1,88	0,850		
Ko načrtujemo učni proces, se zaposleni uspešno prilagajamo vsem različnim dijakom.	Vsi	407	3,11	0,583	0,649	0,723
	Učitelji	340	3,11	0,621		
	Ravnatelji	43	3,12	0,324		
	ŠSD	24	3,04	0,359		
V svoje pedagoško delo načrtno vključujem teme, ki se nanašajo na razumevanje drugačnosti.	Vsi	405	3,14	0,658	0,369	0,832
	Učitelji	336	3,13	0,681		
	Ravnatelji	43	3,21	0,466		
	ŠSD	26	3,19	0,634		
Zaposleni med seboj sodelujemo pri načrtovanju, poučevanju in evalvaciji učnega procesa za dijake s posebnimi potrebami.	Vsi	412	3,19	0,665	1,155	0,561
	Učitelji	340	3,17	0,689		
	Ravnatelji	44	3,25	0,488		
	ŠSD	28	3,32	0,612		
Zaposleni med seboj sodelujemo pri načrtovanju, poučevanju in evalvaciji učnega procesa za dijake z migrantskim ozadjem.	Vsi	363	3,04	0,749	0,466	0,792
	Učitelji	306	3,05	0,758		
	Ravnatelji	32	3,00	0,622		
	ŠSD	25	3,08	0,812		
Zaposleni med seboj sodelujemo pri načrtovanju, poučevanju in evalvaciji učnega procesa za dijake z nižjim socialno-ekonomskim statusom.	Vsi	384	2,93	0,767	0,126	0,939
	Učitelji	318	2,92	0,772		
	Ravnatelji	40	2,95	0,714		
	ŠSD	26	3,00	0,800		

Večje razlike v odgovorih so vprašani podali pri oceni trditve, da so *žrtve medvrstniškega nasilja večinoma dijaki iz ranljivih skupin*. Slaba tretjina vprašanih se ni mogla opredeliti, med tistimi, ki pa so se, pa se odgovori bolj nagibajo k nestrinjanju. Izmerili smo statistično pomembne razlike ($\chi^2 = 7,769$; $p = 0,021$) v oceni učiteljev, ki se v večji meri strinjajo s to trditvijo kakor pa ravnatelji in svetovalni delavci. Do razlik verjetno pride predvsem zaradi bolj neposrednega stika učiteljev z dijaki, deloma pa verjetno tudi zaradi kompleksnosti trditve.

Razumevanje medvrstniškega nasilja ni enoznačno, prav taka kompleksno pa je tudi prepoznavanje dijakov iz različnih ranljivih družbenih skupin.

Ugotovitve kažejo tudi, da zaposleni na šolah za *namen načrtovanja, poučevanja in evalvacije učnega procesa sodelujejo med seboj* v največji meri, *kadar gre za dijake s posebnimi potrebami*, manj *kadar gre za dijake z migrantskim ozadjem*, še manj pa v povezavi *z dijaki z nižjim socialno-ekonomskim statusom*. Razlike sicer niso velike, a nakazujejo, katerim skupinam se na šolah namenja več, in katerim manj pozornosti. Pripoznanje spodbuja premislek o tem, katerim osebam nameniti več pozornosti. Glede na to, da imamo v Sloveniji relativno solidno urejeno izobraževanje za osebe s posebnimi potrebami, nekoliko manj optimalne rešitve pa poznamo na področju izobraževanja priseljencev in drugih pogosto izključenih skupin, npr. revnih, je ključno, da smo na to pozorni tudi na ravni različnih sistemskih ukrepov (Inkluzija ..., 2022).

Pripoznanje pa je povezano tudi z različnimi prilagoditvami, ki so posledica pravic, ki jih imajo pogosto izključeni dijaki. Ugotovili smo, da je po oceni vprašanih v največji meri *prisotno prilagajanje preverjanja in ocenjevanja znanja, pa tudi prilagajanje načrtovanja učnega procesa različnim dijakom in vključevanje v pouk tematik, ki se nanašajo na razumevanje drugačnosti*. Bi pa bilo treba v prihodnje analizirati konkretne prakse prilagajanja, ki se jih poslužujejo pedagoški delavci v šolah in ugotoviti, ali ob tem prihaja tudi do nepripoznanja in napačnega pripoznanja.

Zastopanost

Več raziskav (Kalin idr., 2009; Ule, 2015; Gregorčič Mrvar idr., 2020) nakazuje na kompleksnost sodelovanja med šolo in starši. Pred več kot desetletjem so Kalin idr. (2009) ugotavljali, da si niti eni niti drugi ne želijo pretirano medsebojno sodelovati in da dvomijo v medsebojne kompetence v smislu, da starši ne verjamejo, da učitelji dobro opravljajo svoje delo in da učitelji dvomijo v to, da so starši res dobri straši. Izstopa tudi podatek, da učitelji v Sloveniji v primerjavi z učitelji v nekaterih drugih evropskih državah poročajo, da se starši preveč vtikajo v šolske zadeve (Ule, 2015). Po drugi strani pa naj bi bilo dobro sodelovanje med starši in svetovalno službo (Gregorčič Mrvar idr., 2020). Verjetno gre v ozadju tudi za zelo različne predstave o tem, kaj pomeni sodelovanje med šolo in starši.

Tabela 4.*Razlike v mnenjih med učitelji, ravnatelji in šolskimi svetovalnimi delavci o trditvah s področja zastopanosti*

Zastopanost		n	M	SD	Kruskal Wallis Test	
					χ^2	p
Na naši šoli se načrtno pogovarjamo o razumevanju pojma inkluzija.	Vsi	374	2,64	0,838	0,154	0,926
	Učitelji	303	2,63	0,870		
	Ravnatelji	43	2,70	0,638		
	ŠSD	28	2,68	0,772		
Na naši šoli imamo poenoteno razumevanje inkluzivne šole.	Vsi	353	2,67	0,805	2,398	0,302
	Učitelji	289	2,69	0,825		
	Ravnatelji	41	2,68	0,687		
	ŠSD	23	2,43	0,728		
Na naši šoli dijaki sodelujejo tudi pri dejavnostih, ki niso povezane s poukom.	Vsi	424	3,64	0,542	0,310	0,857
	Učitelji	352	3,63	0,544		
	Ravnatelji	44	3,66	0,568		
	ŠSD	28	3,68	0,476		
Na naši šoli pedagoški delavci s starši dobro sodelujemo.	Vsi	422	3,53	0,541	0,464	0,793
	Učitelji	349	3,53	0,549		
	Ravnatelji	44	3,59	0,497		
	ŠSD	29	3,52	0,509		
Opredelitev inkluzije/vključujoče šole in iz nje izhajajoče prakse (organizacija in prilagoditve pouka itd.) so vključene v razvojni načrt naše šole.	Vsi	348	3,28	0,676	7,286	0,026
	Učitelji	286	3,31	0,690		
	Ravnatelji	38	3,21	0,577		
	ŠSD	24	3,00	0,590		
Dijaki na naši šoli si med seboj pomagajo.	Vsi	422	3,23	0,511	2,854	0,240
	Učitelji	349	3,24	0,512		
	Ravnatelji	44	3,14	0,510		
	ŠSD	29	3,34	0,484		
Dijaška skupnost na šoli je enakovreden partner pri oblikovanju šolskih pravil, izvedbi šolskih prireditev, predstavitvi šole širši javnosti, izbiri vsebin za projekte itd.	Vsi	391	3,22	0,657	0,523	0,770
	Učitelji	323	3,23	0,657		
	Ravnatelji	43	3,16	0,652		
	ŠSD	25	3,16	0,688		

Dobro sodelovanje pa je osnova za to, da lahko dobro sodelujemo tudi v obdobjih kriznega izobraževanja, kar so dokazale raziskave, ki so bile opravljene med pandemijo covid-19 (prav tam).

Dve trditvi sta bili povezani z načrtnim pogovarjanjem o razumevanju pojma inkluzije in s poenotenim razumevanju tega pojma na ravni zaposlenih na šoli. Oboje so vprašani ocenili kot šibko, kar pa je, kot je izpostavljeno tudi v poročilu *Inkluzija v poklicnih in strokovnih šolah* (2022, str. 82) zelo pomembno.

Pogovarjati se moramo o tem, kaj si predstavljamo pod posameznim pojmom in to opredeliti tudi na ravni šolskih dokumentov. Kajti sicer dopuščamo ravnanja, ki lahko le na videz spodbujajo večjo mero vključenosti.

Kot statistično pomembne se pokažejo razlike v mnenju o *vključenosti opredelitev inkluzije/vključujoče šole in iz nje izhajajočih praks v razvojni načrt šole* ($\chi^2 = 7,286$; $p = 0,026$), in sicer učitelji v večji meri kot ravnatelji in svetovalni delavci ocenjujejo, da so opredelitev inkluzije in iz nje izhajajoče prakse vključene v razvojni načrt šole.

Soodvisnost

Tabela 5

Razlike v mnenjih med učitelji, ravnatelji in šolskimi svetovalnimi delavci o trditvah s področja soodvisnosti.

Soodvisnost		n	M	SD	Kruskal Wallis Test	
					χ^2	p
Standardi etičnega delovanja na naši šoli so zelo visoki.	Vsi	403	3,32	0,609	13,179	0,001
	Učitelji	333	3,30	0,601		
	Ravnatelji	44	3,59	0,497		
	ŠSD	26	3,04	0,720		
Na šoli se takoj odzovemo na različne izključujoče prakse med dijaki.	Vsi	402	3,50	0,539	2,972	0,226
	Učitelji	332	3,48	0,547		
	Ravnatelji	44	3,64	0,487		
	ŠSD	26	3,50	0,510		
Na šoli se takoj odzovemo na različne izključujoče prakse zaposlenih do dijakov.	Vsi	385	3,44	0,575	9,203	0,010
	Učitelji	317	3,42	0,582		
	Ravnatelji	42	3,69	0,468		
	ŠSD	26	3,35	0,562		
Na naši šoli vodstvo spodbuja dodatno izobraževanje na temo inkluzivne šole/raznolikosti med dijaki.	Vsi	378	3,16	0,741	2,429	0,297
	Učitelji	309	3,14	0,754		
	Ravnatelji	43	3,35	0,573		
	ŠSD	26	3,12	0,816		
Če želim, se lahko vedno udeležim dodatnega izobraževanja na temo inkluzivne šole/raznolikosti med dijaki.	Vsi	393	3,46	0,638	9,468	0,009
	Učitelji	323	3,42	0,651		
	Ravnatelji	42	3,74	0,445		
	ŠSD	28	3,50	0,638		
Na naši šoli se zaposleni in dijaki med seboj spoštujemo.	Vsi	414	3,36	0,532	12,059	0,002
	Učitelji	342	3,33	0,517		
	Ravnatelji	44	3,61	0,493		
	ŠSD	28	3,29	0,659		
Na naši šoli se dijaki med seboj spoštujejo.	Vsi	399	3,11	0,474	9,128	0,010
	Učitelji	329	3,09	0,461		
	Ravnatelji	42	3,31	0,468		
	ŠSD	28	3,04	0,576		

Ugotovili smo, da le dobra tretjina vprašanih ocenjuje, *da so standardi etičnega delovanja na njihovi šoli visoki*, ravnatelji pogosteje kot učitelji in svetovalni delavci ($\chi^2 = 13,179$; $p = 0,001$). Le slaba polovica anketiranih navaja, da povsem drži, da je *na šolah prisotno takojšnje odzivanje na različne izključujoče prakse med dijaki in izključujoče prakse zaposlenih do dijakov*, slaba polovica pa, da je takojšnje odzivanje v glavnem prisotno. Izmerili smo statistično pomembne razlike ($\chi^2 = 9,203$; $p = 0,010$), ki kažejo, da se s to trditvijo v večji meri strinjajo ravnatelji kakor učitelji in svetovalni delavci.

Čeprav ne moremo vedeti, kaj točno si pod tem predstavljajo in ne moremo oceniti, v kakšni meri gre le za socialno zaželene odgovore, je dejstvo, da so v šoli dolžni reagirati na različne izključujoče prakse, saj so v nasprotnem primeru odgovorni za posledice. Glede na kompleksnost tematike, bi to bilo smiselno v nadaljevanju dodatno proučiti.

Zaznali smo relativno nizko stopnjo *medsebojnega spoštovanja v odnosih med zaposlenimi in dijaki*, hkrati pa smo izmerili tudi statistično pomembne razlike med ravnatelji in učitelji ter svetovalnimi delavci. Podobno nizka stopnja medsebojnega spoštovanja je bila ugotovljena tudi za zaposlene same, med skupinami pa ni prišlo do pomembnih razlik. Predvsem pa anketiranci menijo, da je *stopnja medsebojnega spoštovanja nizka med dijaki*, pri čemer se tudi s to trditvijo pomembno ($\chi^2 = 9,128$; $p = 0,010$) bolj strinjajo ravnatelji kot pa preostali dve anketirani skupini. Kot je zapisano v poročilu *Inkluzija v poklicnem in strokovnem izobraževanju* (2022), lahko to morda razložimo kot posledico tega, da so pedagoški delavci pogosto bolj pozorni na konflikte in medvrstniško nasilje med dijaki, ali pa lažje opazijo neustrezno kot ustrezno komunikacijo med njimi. Temu lahko sledi prepričanje, da med dijaki ni spoštovanja.

Kot je izpostavljeno tudi v poročilu (prav tam, 2022, str. 84), moramo ob težnji k bolj pravični vključenosti različnih dijakov poleg izobraževalne skrbeti tudi za vzgojno dimenzijo pedagoškega dela, ki vključuje skrb za spoštljive odnose med vsemi udeleženci itd. Prav s tem je povezana ugotovitev o tem, da slaba polovica anketiranih navaja, da *če želi, se lahko vedno udeleži dodatnega izobraževanja na temo inkluzivne šole/raznolikosti med dijaki*, dobra tretjina pa, da *se v glavnem lahko udeleži*. Stališče je v večji meri prisotno med ravnatelji v primerjavi z ostalima skupinama, razlike pa so statistično pomembne ($\chi^2 = 9,468$; $p = 0,009$).

Sklep

V poklicnih in strokovnih šolah se, po ocenah anketiranih, v najvišji meri udejanja prerazporeditveni vidik pravičnosti, sledi soodvisnost. Udejanjanje zastopanosti in pripoznanja je bilo na splošno ovrednoteno nekoliko nižje (Inkluzija ..., 2022). Ker so razlike majhne, ne moremo zaključiti, da bi bil posamezni vidik pravičnosti glede na indeks inkluzije bistveno bolj ali slabše vrednoten. Izpostavili pa smo nekatere ključne vsebinske ugotovitve, nekatere se nanašajo na sistemsko raven in zahtevajo širše premisleke o trenutni ureditvi področja inkluzivnosti in pravičnosti vzgojno-izobraževalnega sistema, spet druge pa se dotikajo prepričanj strokovnih delavcev, kar je bilo predstavljeno na drugem mestu (Jeznik in Kristl, 2024).

Opozorimo lahko na v teoriji večkrat izpostavljeno kritiko, da bolj pravična porazdelitev dobrin sama po sebi še ne spodbudi odprave različnih vzrokov za nepravilnosti, ki se utrjujejo tudi skozi vzgojno-izobraževalni sistem. Pomemben korak k spodbujanju bolj kakovostnih in bolj pravičnih praks vključevanja, je prespraševanje na koga naj se prakse vključevanja sploh nanašajo ter kje in na kakšen način naj se jih uvaja. Pri tem je nujno v procese odločanja vključiti tiste, ki so jim določeni ukrepi namenjeni. To je bilo potrjeno tudi z raziskavo, kjer smo ugotovili, da vsi vprašani visoko vrednotijo medsebojno spoštljivost, slišnost in uresničljivost idej dijakov, pa tudi partnerski odnos med starši in pedagoškimi delavci.

Raziskava ima nekaj omejitev (Inkluzija ..., 2022). Nekatere trditve so bile preveč kompleksne, druge presplošne. Oba koncepta, inkluzija in pravičnost, sta kompleksna in bi bilo treba kvantitativno zbiranje podatkov dopolniti z drugimi pristopi. Tako bi lahko določene ugotovitve analizirali bolj poglobljeno.

Članek je rezultat raziskovalnega programa št. P5-0174 Pedagoško-andragoško raziskovanje – Učenje in izobraževanje za kakovostno življenje v skupnosti, ki ga financira Javna agencija za raziskovalno dejavnost Republike Slovenije.

Summary

Inclusiveness and equity are fundamental goals of most modern education systems around the world and in Slovenia, including vocational education and training. Two decades ago, Booth and Ainscow (2002) created an *Index for Inclusion* in the UK to evaluate and encourage efforts towards more inclusive schools.

The Index for Inclusion assumes that educational institutions act at three levels: at the policy level by establishing systemic solutions and defining the rights of the excluded, at the cultural level by establishing and reinforcing inclusive community values, and at the practice level as didactic support for the excluded and nurturing relationships. The Index for Inclusion can be used by educational institutions as a tool for self-evaluation and can be a starting point for a systemic study of inclusiveness in vocational education and training.

In striving for more inclusive schools, it is important to consider basic principles of equity. The link between inclusion and equity is grounded in this paper using a multidimensional model of equity (Fraser et al., 2004; Fraser, 2007; Lesar, 2013, 2019; Lynch et al., 2009; Lynch et al., 2021), which is based on four dimensions: redistribution, recognition, representation and relationality. Each of the four dimensions of equity highlights a particular way in which an individual is included, which means that inclusion can be more equitably achieved when all four dimensions of equity are considered. Similar observations have been made by others (Akkan and Buğra, 2020, p. 143; Knijn et al., 2020; Polat, 2011), pointing to the link between the life chances of the commonly excluded and their sense of belonging to an inclusive education system.

The research was conducted among three groups of teachers, head teachers and school counsellors, 427 respondents in total. The main questions were how equity is implemented in vocational education and training and whether principals, school counsellors and teachers differ in their perceptions of equity.

The study shows that the redistributive aspect of equity is the most widely realised, followed by relationality. The implementation of representation and recognition scored slightly lower. Some substantive findings are also highlighted which relate to the systemic level and call for broader reflection on the current regulation of inclusiveness and equity in the educational system at the level of vocational education and training in Slovenia. At the level of the redistributive dimension of equity, we confirmed the theoretical critique that a more equitable distribution of basic goods does not in itself promote the elimination of the various causes and reasons for inequity in society, which are also reproduced and reinforced through the contemporary educational system. It therefore seems vital to question to whom inclusion practices apply at all and where and how they should be introduced. In this context, it is essential to involve those who are targeted by certain measures in decision-making processes.

This was confirmed by the study, where it was found that all respondents highly valued mutual respect, being heard and having their ideas implemented, as well as the partnership between parents and teaching staff.

Since inclusion and equity are complex research topics, it would be useful to complement quantitative data collection with qualitative methodological approaches, e.g. focus group interviews, observation, etc., and to further confirm or analyse in more depth some of the suggested findings.

Literatura

- Ainscow, M. (2023). Making Sense of Inclusion and Equity in Education. V J. Banks (ur.) *The Inclusion Dialogue Debating Issues, Challenges and Tensions with Global Experts* (str. 6–22). New York: Routledge.
- Akkan, B., in Buğra, B. (2020). Education and Justice: Inclusion, Exclusion and Belonging. V T. Knijn in D. Lepianka (ur.). *Justice and Vulnerability in Europe*. (str. 143–159). Social and Political Science. DOI: <https://doi.org/10.4337/9781839108488>
- Biesta, G. (2022). *Vzgoja kot čudovito treganje* (Let. 201, str. 257). Krtina.
- Booth, T., in Ainscow, M. (2002). *Index for inclusion: Developing learning and participation in schools*. Centre for Studies on Inclusive Education. <http://www.csi.org.uk/resources/inclusion-index-explained-shtml#indicators>
- Burke, J., Goriss-Hunter, A., in Emmett, S. (2023). Policy, Discourse and Epistemology in Inclusive Education. V S. Weuffen, J. Burke, M. Plunkett, A. Goriss-Hunter in S. Emmett (ur.) *Inclusion, Equity, Diversity, and Social Justice in Education*. (str. 13–27). Singapore: Springer. https://doi.org/10.1007/978-981-19-5008-7_2
- Ermenc, K. S. (2023). Nekateri izzivi izobraževanja učencev in dijakov priseljencev z vidika načela medkulturnosti. *Sodobna Pedagogika*, 74(1), 9–27. https://www.sodobna-pedagogika.net/-clanki/01-2023_nekateri-izzivi-izobrazevanja-ucencev-in-dijakov-priseljencev-z-vidika-nacela-medkulturnosti/
- Ermenc, K. S., Jeznik, K., in Mažgon, J. (2019). *Inclusion – a general pedagogical concept*. Verlag Dr. Kovač.
- Fraser, N., in Honneth, A. (2003). *Redistribution or Recognition?: A Political-Philosophical Exchange*. New York: Verso.
- Fraser, N., Dahl, H. M., Stoltz, P., in Willig, R. (2004). Recognition, Redistribution and Representation in Capitalist Global Society: An Interview with Nancy Fraser. *Acta Sociologica*, 47(4), 374–382. <http://www.jstor.org/stable/4195051>
- Fraser, N. (2007). Feminist Politics in the Age of Recognition: A Two-Dimensional Approach to Gender Justice. *Studies in Social Justice*, 1(1), 23–35.
- Gregorčič Mrvar, P., Jeznik, K., Kalin, J., Kroflič, R., Mažgon, J., Šteh, B., in Šarić, M. (2020). *Šolska svetovalna služba: stanje in perspektive*. Znanstvena založba Filozofske fakultete Univerze v Ljubljani. <http://www.dlib.si/details/URN:NBN:SI:DOC-8QY35V3K>
- Inkluzija v poklicnem in strokovnem izobraževanju: Prvo poročilo* (2022). <https://cpi.si/aktualno/novice/inkluzija-v-poklicnem-in-strokovnem-izobrazevanju>
- Jeznik, K. (2015). From the acknowledgment to the recognition of children's and adolescents' identity. *Sodobna Pedagogika*, 132(1), 46–62.
- Jeznik, K., in Kristl, N. (2024). Stališča zaposlenih o inkluzivnosti in pravičnosti strokovnih in poklicnih šol. *Pedagoška obzorja: časopis za didaktiko in metodiko*, 39(2), str. 3–21. DOI: 10.557077ds-po.v39i2.130
- Kalin, J., Resman, M., Šteh, B., Gregorčič Mrvar, P., Govekar-Okoliš, M., in Mažgon, J. (2009). *Izživi in smernice kakovostnega sodelovanja med šolo in starši*. Znanstvena založba Filozofske fakultete.

- Knijn, T., Theuns, T., in Miklós Z. (2020). Redistribution, recognition and representation: understanding justice across academic disciplines V T. Knijn in D. Lepianka (ur.) *Justice and Vulnerability in Europe*. (str. 54–72) <https://doi.org/10.4337/9781839108488.00011>
- Kodele, T., in Lesar, I. (2023). The school counsellors about participation of pupils with learning difficulties. *Sodobna pedagogika*, 140(4), 195–214. https://www.sodobna-pedagogika.net/clanki/04-2023_solski-svetovalni-delavci-o-participaciji-otrok-z-ucnimi-tezavami/
- Kristl, N., in Jeznik, K. (2024). Measuring inclusion in vocational education and training through the prism of justice of education. *International Journal of Cognitive Research in Science, Engineering and Education*, 12(1), 103–117. DOI: 10.23947/2334-8496-2024-12-1-103-117
- Lesar, I. (2013). Ideja inkluzije - med različnimi koncepti pravičnosti in etičnimi teorijami. *Sodobna Pedagogika*, 130(2), 76–95.
- Lesar, I. (2019). Izzivi pedagogike pri vpeljevanju inkluzivnosti v šolski sistem. *Sodobna Pedagogika*, 136(1), 50–69.
- Lesar, I., in Žvegljč Mihelič, M. (2020). Beliefs of university staff teaching in pedagogical study programmes on concept(s) of inclusiveness - the case of Slovenia. *International Journal of Inclusive Education*, 24(7), 739–753. <https://www.tandfonline.com/doi/full/10.1080/13603116.2018.1488186>
- Lynch, K., Kalaitzake, M., in Crean, M. (2021). Care and affective relations: Social justice and sociology. *The Sociological Review*, 69(1), 53–71. <https://doi.org/10.1177/0038026120952744>
- Lynch, K., Baker, J., in Lyons, M. (2009). *Affective equality: Love, care and injustice*. Palgrave Macmillan. <https://doi.org/10.1057/97>
- Lynch, K., in Baker, J. (2005). Equality in education: An equality of condition perspective. *Theory and Research in Education*, 3(2), 131–164. <https://doi.org/10.1177/1477878505053298>
- Polat, F. (2011). Inclusion in education: A step towards social justice. *International Journal of Educational Development*, 31(1), 50–58. <https://doi.org/10.1016/j.jiedudev.2010.06.009>
- Rawls, J. (1971). *A theory of justice*. The Belknap Press of Harvard University Press.
- Ule, M. (2015). Vloga staršev v izobraževalnih potekih otrok v Sloveniji. *Sodobna Pedagogika*, 132(1), 30–45. <http://www.dlib.si/details/URN:NBN:SI:doc-HESOCJQ2>

Avtorici:**Dr. Katja Jeznik**

Docentka, Filozofska fakulteta, Univerza v Ljubljani, Aškerčeva 2, 1000 Ljubljana, Slovenija, e-pošta: katja.jeznik@ff.uni-lj.si
Assistant Professor, Faculty of Arts, University of Ljubljana, Aškerčeva 2, 1000 Ljubljana, Slovenia, e-mail: katja.jeznik@ff.uni-lj.si

Nina Kristl

Asistentka, Filozofska fakulteta, Univerza v Ljubljani, Aškerčeva 2, 1000 Ljubljana, Slovenija, e-pošta: nina.kristl@ff.uni-lj.si
Assistant, Faculty of Arts, University of Ljubljana, Aškerčeva 2, 1000 Ljubljana, Slovenia, e-mail: nina.kristl@ff.uni-lj.si

CAREER COUNSELLING TO PERSONS WITH SPECIAL NEEDS IN THE CONTEXT OF POSITIVE PSYCHOLOGY

JANEZ DROBNIC

Potrjeno/Accepted

15. 1. 2025

¹Univerza na Primorskem, Pedagoška fakulteta, Koper, Slovenija

Objavljeno/Published

31. 3. 2025

CORRESPONDING AUTHOR/KORESPONDENČNI AVTOR/

Janez.drobnic@pef.upr.si

Abstract/Izveček

Recently, the advantages or strengths of the individual have become important or even dominant in personal counselling. The basis for such a counselling approach can be found in positive psychology. The question is how positive psychology and its emphasis on strengths rather than weaknesses find its way into current vocational/career guidance approaches in today's schools, especially for people with special needs. With the help of an empirical study using quantitative research methods, we sought to establish in primary and secondary schools whether they carried out counselling according to these principles. The results showed that strength-based counselling has already found its way into vocational/career guidance, but the non-directive counselling approach and the issue of individual autonomy remain in the background.

Keywords:

counselling,
career/vocational
guidance, positive
psychology, strength,
weakness.

Ključne besede:

svetovanje,
karierna/poklicna
orientacija, pozitivna
psihologija, moč,
šibkost.

UDK/UDC

[376:331.108.4]:159.9

Karierno svetovanje osebam s posebnimi potrebami v kontekstu pozitivne psihologije

V zadnjem času postajajo prednosti oziroma moči posameznika pri osebnem svetovanju pomembne ali celo prevladujoče. Osnovo za tak svetovalni pristop najdemo v pozitivni psihologiji. Vprašanje je, kako se pozitivna psihologija in njen poudarek na prednostih namesto na slabostih najde v trenutnih pristopih poklicnega/kariernega usmerjanja v današnji šoli, zlasti za osebe s posebnimi potrebami. S pomočjo empirične študije, v kateri smo uporabili kvantitativne raziskovalne metode, smo v osnovnih in srednjih šolah preverili, ali izvajajo svetovanje po teh načelih. Rezultati so pokazali, da je svetovanje na podlagi moči že našlo pot v poklicno/karierno orientacijo, manj pa na druga področja, vendar sta nedirektivni svetovalni pristop in vprašanje avtonomije posameznika še vedno v ozadju.

DOI <https://doi.org/10.18690/rei.3743>

Besedilo / Text © 2025 Avtor(ji) / The Author(s)

To delo je objavljeno pod licenco Creative Commons CC BY Priznanje avtorstva 4.0 Mednarodna.

Uporabnikom je dovoljeno tako nekomercialno kot tudi komercialno reproduciranje, distribuiranje,

dajanje v najem, javna priobčitev in predelava avtorskega dela, pod pogojem, da navedejo avtorja

izvirnega dela. (<https://creativecommons.org/licenses/by/4.0/>).

Introduction

If we look at the development of psychology over the last hundred years, we can quickly see that it could be defined as that science which deals primarily with the treatment of diseases, problems and hardships of individuals or, in other words, with the repair of damage to or deviation from the optimal psychological functioning of an individual. This almost exclusive attention to pathology has thereby neglected individual strengths, the most powerful weapon in therapy's arsenal, which is a central preoccupation of positive psychology. Therefore, the entry of positive psychology at the end of the last century constitutes a breakthrough and innovation in professional psychological treatment. Littman-Ovadia et al. (2021) state that this paradigm of "power or strengths of the individual" is drawn from psychology itself, specifically positive psychology, for the purpose of optimal human functioning in the full set of life areas through daily use of character traits. Clearly, this is a set of tried and tested approaches in psychology based on the use of individual preferences and offering counselling psychologists a new language of benefits and of positive human qualities that often remain unnamed and unrecognized in therapeutic settings (Smith, 2006).

Counselling based on strengths offers counselling psychologists new professional opportunities (Smith, 2006). We are talking about an approach to counselling and working with clients based on the strengths of the individual, one that represents a paradigm shift - from a focus on deficits, known as what is "wrong" with an individual's learning, development, career, etcetera. Undoubtedly, we can conclude from the context of theory and practice that this positive approach also yields a new paradigm, with a specific narrative and a language of strengths and positive human qualities, which is contrary to classical therapeutic methods that focus on disorder, inability, and difficulty.

Of course, questions arise as to which personal characteristics, strengths, and resources can be used in the context of career counselling, i.e., what can help an individual in his/her vocational decision and further his/her career guidance and how we define an individual's strengths.

Strengths from a positive psychology perspective

To identify the strengths of the individual, various instruments for definition have been developed. Mention is made here of two tests, the VIA-Inventory of Strengths

and Values and the Action Inventory of Strengths (VIA-IS), developed by Peterson and Seligman (2004), which are the two most frequently cited tools for identifying strengths and virtues and measuring tools (Ghielen, 2019). These authors identified and classified the positive psychological characteristics of people, providing a theoretical framework to help understand the strengths and virtues and to develop practical applications for positive psychology. They identified six classes of virtues (i.e., “core virtues”) that underlie twenty-four measurable character traits (Peterson and Seligman, 2004). In this model, character traits are divided into six main groups: wisdom and knowledge; courage; humanity; justice; moderation, and transcendence. Each of these is further divided into three-to-five-character traits. Thus, it divides justice into equal treatment, leadership, and teamwork.

Authors of studies such as Thagar (2005) are not entirely convinced that this classification of the virtues and advantages of positive psychology is completely adequate, so the classification has been subject to revision or supplementation by other human areas as introduced by Schuurmans-Stekhoven, (2011) or Peng (2015). To perform counselling in the context of positive psychology, other qualities and psychological constructs appear in the individual not only interests, abilities, competences, and motives. In doing so, four specific positive psychological constructs are foregrounded, such as strength, hope, adaptability, and self-empowerment; at the same time, researchers add that these constructions were developed in specific cultural and social environments, which are therefore not directly transferable or universally applicable and must be adapted for counselling to be appropriate and successful.

While considering these components from the field of positive psychology, another dimension emerges: moral values and ethical bases for conduct (Peng, 2015). According to Peng, such counselling practice becomes a moral imperative of the counsellor, as well as of the counselee, which appears more prominently in the context of non-directive counselling – in constructivism, or in coaching—which should be used both in solving problems and hardships as well as in creating an individual’s life path and career (Savickas, 2017).

In addition to the positive effects of such an advisory and therapeutic approach, in which positive psychology plays a key role, we must also mention the sceptics who doubt or only partially support the new direction. In this context, Seligman et al. (2006) emphasize that the effectiveness of such interventions remains to be studied, despite their increased use in counselling and therapeutic treatments.

Obviously, it is insufficient to classify and define these approaches; how the use of these approaches manifests itself in the consequences of various interventions must also be considered. This prompted Linley (2008) to develop an appropriate method for testing the effects, and that is the SBCC. Thus, based on the Advantage-based counselling questionnaires, Smith (2006) developed several methods of counselling and psychotherapeutic intervention, which are based on the inclusion of new, more complex elements, such as building a therapeutic alliance, empowerment, and on strengthening resilience to achieve goals through strategies and other constructs.

However, it should also be emphasized that there have been criticisms of approaches based on positive psychology. Some mention negative experiences from these counselling sessions, or the potential for the individual's problems to be ignored or avoided in the counselling or therapy process (Lazarus, 2003; Held, 2004), thus inadequately considering their characteristics in the case of constructs of morality and moral behaviour (Fowers, 2008). Psychologists who advocate positive psychology emphasize that the goal of this type of counselling is far from ignoring negative traits and factors in the individual, but how these internal factors in the individual's strength are used to solve problems, i.e. the negative traits of the individual, which otherwise need to be known in order to be overcome or healed. This represents, in a sense, an alternative approach in counselling that was once focused on the disease and weakness of the individual, an approach that was previously dominant but has recently been placed in modern approaches that achieve better outcomes for the individual and his functioning (Seligman and Csikszentmihalyi, 2000).

School counselling

In the field of school counselling, specific counselling models such as ASCA (2012) and ASCA Mindsets & Behaviors for Student Success (2014) have been deployed, especially in American schools, to promote the growth and development of each student. Although some argue that there is extensive literature to apply these approaches in terms of individual development in the career field (Burck et al., 2014), there are criticisms that these models lack practical methods for implementation in counselling practice (Mellin et al., 2011; Aulthouse et al. 2017). School counsellors point out that psychology and social work are more focused on pathology and the medical model (Mellin et al., 2011) rather than on the strengths and benefits model.

The shift in thinking towards strengths, at least on a theoretical level, in student counselling forms the focus of the Positive Psychology Movement on Strengths and Advantages model, which enables good practice (Seligman and Csikszentmihalyi, 2000). Kosine et al. (2008) argue that a purpose-oriented approach to career development is highly consistent with the emphasis by the US National Model ASCA (2014) on identity development, self-research, effectiveness, and support for students' pursuit of personal and vocational development.

Reiner et al. (2013) propose developing a specific professional identity for a school career counsellor, one that would differ from the vocation of a psychologist. Several studies are available on the effectiveness of a positive approach in career counselling. One of these is the Littman-Ovadia et al. (2014) study, which demonstrated the success of integrating strengths into career counselling, where participants, with the help of counsellors, could identify and use their strengths to achieve career goals.

Since 2020, the constructivist counselling approach has been gaining ground in the field of career guidance and counselling. This approach highlights not the individual's strengths, at least in the narrative sense, but other aspects of counselling such as the way the client and counsellor work together. This should be primarily as partners, involving unconditional, positive understanding and empathy (Amundson, 2009); moreover, this approach does not highlight the authority of the counsellor, his decisive power and directive action. On the contrary, the client becomes the author of his own future story, from his own experience and based on his own strengths.

Such an approach also offers a completely new way of defining the role of the career counsellor, who is no longer exalted, with high professional authority and in a judgmental role; instead, the counsellor becomes a colleague of the advisee, an encourager, and the subjective assessment of the appropriateness of the career decision becomes the advisee's responsibility (Savickas 2011).

Dick et al. (2014) believe that school counsellors could use more positive psychology approaches in counselling. Positive psychology already has an extensive body of literature on which school counsellors could draw when designing career-oriented interventions (Carey et al., 2008). However, they admit that the theoretical foundations do not find a place in the practice of consultants, since there is a lack of direct practical guidance in the use of these methods. It is not entirely clear why positive psychology has not become better established in the school counselling profession, which is why we were also interested in how it is established in Slovenia in career counselling for students with special needs.

Career counselling for people with special needs based on the principle of strengths

(Drobnič, 2018) notes that vocational counselling for persons with special needs/disabled persons in Slovenia and in the world is generally carried out in a single process, mainly comprising rehabilitation methods, which means that the decision-making in vocational development revolves mainly around the impairment level arising from the disorder or disability. Therefore, we can ask whether, by abandoning the medical paradigm as a way of intervention to ensure vocational integration, we could develop innovative approaches and models of vocational/career orientation based on positive psychology, thereby ensuring successful professional development throughout the student's career path.

The experience of an inclusive approach in the education of persons with special needs, which no longer foregrounds impairment, disability, or handicaps, but rather inner strength, individuality and positive attitude, ensures better learning and social-integrative effects (Opara, 2009). Therefore, in the field of education, the focus falls increasingly on the strengths of the individual. Since in the process of training and education, we can achieve better results in terms of academic skills, these experiences could also be transferred to the field of rehabilitation for persons with special needs, since the basis of rehabilitation is precisely training. However, vocational rehabilitation for persons with special needs has long been the basis for vocational and career decision-making (Drobnič, 2018). Such an orientation is problematic because in the rehabilitation process, he no longer sees the person as a whole, but above all his impairment or disability. This confirms the naming of people after these impairments, such as: paraplegics, dystrophics, mentally ill, which can also be the reason for labeling in a derogatory sense. A mental pattern of thinking based on what an individual cannot "do" is eventually adopted by the persons themselves, who in a situation of helplessness and non-competition with the "healthy" identify themselves with this label, adopt it and live with it" (ibid., p. 180).

In addition, people with special needs may even exhibit certain advantages in individual areas of work and career, which should be used to their advantage. Thus, individuals with autism performed better on tests that require focusing on small details within more complex patterns (Huygelier et al., 2018).

This means that they are better systemisers than empathizers: they are fascinated by logical structures and have a better command of sophisticated computer language. It is interesting that students with autism also achieve statistically significantly better results than others on highly figurative IQ tests (Motttron, 2011).

Other categories of people with special needs show a similar range of advantages. For example, children with ADHD tend to seek novelty, which is an important prerequisite for creative behaviour (Boot et al., 2017). Children with bipolar disorder achieved higher results than other children on a popular test of creative thinking (Simeonova et al., 2005). People with Williams syndrome often show well-developed musical abilities and interests (Levitin et al., 2004).

Methodology

The key research question is, on what principles do counsellors in schools carry out career counselling? We are interested in whether they base this on the strength of the individual and his competence advantages, or on something else. Another research question is whether they have been improving recently in terms of modern approaches in career counselling such as the constructivist approach and indirect counselling. We decided on an empirical descriptive research approach with quantitative research methods.

Sample

Based on a random selection, 60 primary schools were invited to take the survey, which means 13.4% of all primary schools in Slovenia, 50 secondary schools or 25.6% of the total, and 34 schools with special programs (100%). The questionnaire was addressed to the counselling service at these schools, namely to those workers who oversee career guidance. The questions were answered by 42 primary schools or their counselling services, 30 schools with a special program and 29 secondary schools.

Instruments and Procedures

We decided on an empirical descriptive research approach with quantitative research methods.

The measuring instrument was a questionnaire, which, in addition to other questions, contained questions about career counselling. For the purpose of studying the described problem, we used two closed-type questions.

We checked the following measurement characteristics of the instrument: substantive and constructive validity, reliability, and objectivity. Reliability was checked using the internal consistency method (Cronbach's coefficient α) and by factor analysis.

For further analyses, we used inferential and bivariate statistical methods to test hypotheses to study the relationship and differences between variables: χ^2 - test to test the relationship between variables, such as career decision factors by type of school, environment and additional education of counsellors, variance homogeneity tests and t-tests.

We examined the key factors in vocational decision-making, both internal and external (Drobnič, 2018), which, in the opinion of consultants, are important in vocational/career decision-making. The two key questions were as follows: 1) "On what should the vocational decision be based?" and 2) "Had the employees in the school counselling service received additional training in the previous 5 years in providing career guidance on the basis of the constructivist approach?"

Counsellors were asked to rank the following factors/elements of vocational decision in order of importance:

- disorders/disabilities
- strengths
- what the student is interested in doing
- abilities and skills
- learning success/knowledge
- where the student will find a job

These factors are the ones most often mentioned in the history of vocational guidance (Drobnič, 2018), with specific factors taking the foreground in certain periods.

Findings

"Abilities and skills" are in the second place ($M = 2.98$), and "disorders and disabilities" ($M = 3.14$) in the third place. Interestingly, the factor "where the student

will find a job” was ranked only in fifth place ($M = 4.78$), and in the sixth and final place they put “learning success/knowledge” ($M = 5.00$).

We also established whether there were differences between counsellors depending on their schools of origin (urban or village schools).

Table 1

Ranking of factors in vocational decision-making among counsellors in Slovenian schools

Vocational decision should be based on:	Counsellor location	N	M	SD	St. ev. error
Disorders/disabilities	Urban school	56	3.41	1.535	.205
	Village school	44	2.80	1.440	.217
	All	100	3.14	1.518	.152
Strengths	Urban school	56	1.86	1.242	.166
	Village school	44	1.64	.990	.149
	All	100	1.76	1.138	.114
What the student is interested in doing	Urban school	55	3.09	1.127	.152
	Village school	45	3.38	1.173	.175
	All	100	3.22	1.151	.115
Abilities and skills	Urban school	56	3.20	1.458	.195
	Village school	44	3.18	1.244	.188
	All	100	3.19	1.361	.136
Learning success/ knowledge	Urban school	56	2.93	1.219	.163
	Village school	44	3.05	1.238	.187
	All	100	2.98	1.223	.122
Where the student will find a job	Urban school	56	5.04	1.206	.161
	Village school	44	4.95	.888	.134
	All	100	5.00	1.073	.107

To determine statistically significant differences in attitudes between groups, we first performed Levene’s test to analyse variance, to further determine the statistical significance of differences between groups based on a comparison of arithmetic means.

Using the test of arithmetic means, we verified statistically significant differences in the attitudes of groups from village and urban schools regarding the decision-making factors in vocational decisions. Statistically significant differences in attitudes were found for the item “where the student will find a job” (0.013), and for “disorders/disabilities represent an obstacle to occupation/employment” (0.042).

The career decision factor “where the student can find employment” is more important for counsellors in village schools ($M=4.95$) than for counsellors in urban schools, and the item “Disorders/disabilities” is also important for counsellors at village schools ($M=2.80$), more important than for counsellors at urban schools, because this is ranked higher in terms of importance.

Table 2*What vocational decisions should be based on - opinions of school counsellors*

Vocational decision should be based on:		Sum of squares	df	Ar. mean of squares	F	Sig.
Disorders/disabilities represent an obstacle to occupation/employment	Between groups	9.327	1	9.327	4.179	.044
	Within groups	218.713	98	2.232		
	Total	228.040	99			
Strengths	Between groups	1.201	1	1.201	.927	.338
	Within groups	127.039	98	1.296		
	Total	128.240	99			
What the student is interested in doing	Between groups	.005	1	.005	.003	.958
	Within groups	183.385	98	1.871		
	Total	183.390	99			
Abilities	Between groups	.337	1	.337	.223	.637
	Within groups	147.623	98	1.506		
	Total	147.960	99			
Learning success/knowledge	Between groups	.162	1	.162	.140	.709
	Within groups	113.838	98	1.162		
	Total	114.000	99			
Where the student will find a job	Between groups	12.686	1	12.686	6.459	.013
	Within groups	192.474	98	1.964		
	Total	205.160	99			

We also checked whether the counsellors had received any additional training in career guidance. This question is interesting from the point of view of modern content in career counselling, including positive psychology and the constructivist approach.

Table 3*Had school counselling employees received additional training in the previous 5 years to provide career guidance based on the constructivist approach?*

Had been trained to provide career guidance in the constructivist approach		Counsellors from			
		Elementary schools	Special schools	Secondary schools	All
Yes	N	2	6	3	11
	%	4.8 %	20.0 %	10.3 %	10.9 %
No	N	40	24	26	90
	%	95.2 %	80.0 %	89.7 %	89.1 %
All	N	42	30	29	101
	%	100.0 %	100.0 %	100.0 %	100.0 %

Almost 90% of school counselling employees had not taken part in training for implementing vocational education and career guidance, which indicates that they were not following the innovations in career guidance. This share is as high as 95.2% in primary schools, while the smallest share was found in the group of counsellors working in special schools (80.0%).

We also sought to establish whether additional training for counsellors affects their positions in determining the importance of individual career decision-making factors; however, given the insufficient number of participants, we were unable to determine this.

We also asked which tests counsellors used in making career decisions and found that they most often used the Where and How (a specific, standardized test to determine the vocational preferences of young people), with primary schools being the most prevalent here, followed by the Holland test, which is used by a slightly higher proportion in secondary schools; however, the vocational interests test, which was once the most popular, is now seldom used.

Discussion and conclusions

A study on career counselling approaches in Slovenian schools showed that counsellors have already recognized the possibilities and advantages offered by positive psychology, as they understand individual strengths as a good basis for career counselling. Of course, the question is how they define the concept of advantage for an individual, which is also a problem in other countries (Drobnič, 2018).

Based on the empirical results of this research, we can conclude that career guidance and counselling should be designed in such a way as to enable individuals to have the greatest impact. This would be done by mobilizing the student's internal sources of strength, while providing a supportive environment and developing strategies to help the student build an individual capacity to be as independent as possible and well-integrated into professional and social life. We also positively understand the trend in school counselling to improve their knowledge in various ways and adopt innovative approaches from positive psychology. It shows that career counselling according to the principles of strengths can offer added value and innovation in the current era of rapid social change and uncertainty.

The next question we addressed in the research is whether the client's autonomy is

considered, which is best demonstrated by non-directive counselling and the constructivist approach. This is especially important for people with special needs (Wehemeyer, 1996), who are often treated under the patronage of various authorities, without sufficiently considering the need for individual independence, which is what modern inclusive pedagogical models emphasise. Here, however, it emerged that directive counselling dominates, while constructivist approaches such as autonomous career building remain relegated to the background in school career orientation.

Although we have empirically supported strengths-based career counselling techniques, some authors (Seligman et al., 2006; Seligman, Rashid, and Parks, 2006) argue that a holistic approach is still needed to gain insight into an individual's deficits, as these may, if ignored, threaten his career path. The counselling approaches we found among school counsellors in Slovenia show that we are close to the approaches recommended by Lopez et al. (2003), who propose a balance between a strength and power approach and another approach that focuses on human problems and weaknesses. They point out that both advantages and disadvantages are real and should therefore be known, although the former have received less attention until recently.

Positive psychologists emphasize that in their counselling approaches, they explain not only positive qualities and experiences, but also how these internal factors of the individual's strengths are used to solve the problems and weaknesses faced by students, thus providing an alternative to the model of human action centred on illness that once dominated the broader field of psychology (Seligman and Csikszentmihalyi, 2000).

In addition, it should be emphasized that uncritically focusing only on one's strengths, if these are more the fruit of wishes and dreams, can lead to narcissism and a false self-image, which could become a trap for an individual.

References

- ASCA- American School Counselor Association. (2014). *Mindsets & behaviors for student success: K-12 college- and career-readiness standards for every student*. Alexandria, VA: Author.
- Aulthouse, M., Kolbert, J. B., Bundick, M. J., and Crothers, L. M. (2017). Positive Psychology and Career Development. *Journal of School Counseling*, 15(15), n15.
- Boot, N., Nevicka, B., and Baas, M. (2017). Subclinical symptoms of attention-deficit/hyperactivity disorder (ADHD) are associated with specific creative processes. *Personality and Individual Differences*, 114, 73-81.

- Burck, A. M., Bruneau, L., Baker, L., and Ellison, L. (2014). Emerging counselors' perception of wellness: Implications for counselor development. *Counseling Outcome Research and Evaluation*, 5(1), 39-51.
- Carey, J. C., Dimmitt, C., Hatch, T. A., Lapan, R. T., and Whiston, S. C. (2008). Report of the national panel for evidence-based school counseling: Outcome research coding protocol and evaluation of student success skills and second step. *Professional School Counseling*, 11(3), 2156759X0801100306.
- Csikszentmihalyi, M. (2000). The contribution of flow to positive psychology. In J. E. Gillham (Ed.), *The science of optimism and hope: Research essays in honor of Martin E. P. Seligman* (pp. 387-395). Templeton Foundation Press.
- Drobnič J. (2018). *Careers and people with special needs: [academic monograph]*. Koper: University of Primorska Publishing House, Ludus Library.
- Fowers, B. J. (2008). From continence to virtue: Recovering goodness, character unity, and character types for positive psychology. *Theory & Psychology*, 18(5), 629-653.
- Ghielen, S. T. S., van Woerkom, M., and Christina Meyers, M. (2018). Promoting positive outcomes through strengths interventions: A literature review. *The Journal of Positive Psychology*, 13(6), 573-585.
- Holland, J. L. (1985). *Making vocational choices: A theory of vocational personalities and work environments*. Psychological Assessment Resources.
- Huygheleir, H., Van der Hallen, R., Wagemans, J., De-Wit, L., and Chamberlain, R. (2018). The Leuven Embedded Figures Test (L-EFT): measuring perception, intelligence or executive function? *PeerJ*, 6, e4524.
- Kosine, N. R., Steger, M. F., and Duncan, S. (2008). Purpose-centered career development: A strengths-based approach to finding meaning and purpose in careers. *Professional School Counseling*, 12(2), 2156759X0801200209.
- Levitin, D. J., Cole, K., Chiles, M., Lai, Z., Lincoln, A., and Bellugi, U. (2004). Characterizing the musical phenotype in individuals with Williams syndrome. *Child Neuropsychology*, 10(4), 223-247.
- Linley, P. A., Harrington, S., Garcea, N., and Page, N. (Eds.). (2010). *Oxford handbook of positive psychology and work*. Oxford University Press, USA.
- Littman-Ovadia, H., Dubreuil, P., Meyers, M. C., and Freidlin, P. (2021). VIA Character Strengths: Theory, Research and Practice. *Frontiers in Psychology*, 12.
- Littman-Ovadia, H., Lazar-Butbul, V., and Benjamin, B. A. (2014). Strengths-based career counseling: Overview and initial evaluation. *Journal of Career Assessment*, 22(3), 403-419.
- Lopez, Shane J., and Louis, Michelle C. (2009). The principles of strengths-based education. *Journal of College and Character*, 10(4).
- Mellin, E. A., Hunt, B., and Nichols, L. M. (2011). Counselor professional identity: Findings and implications for counseling and interprofessional collaboration. *Journal of Counseling & Development*, 89(2), 140-147.
- Mottron, L. (2011). The power of autism. *Nature*, 479(7371), 33-35.
- Opara, B. (2009). *Children with special needs in kindergartens and schools. The role and tasks of kindergartens and schools in the education of children with special needs: the implementation of educational programs with adapted implementation and additional vocational assistance*. Manual. Ljubljana: Centerkontura.
- Peng, H. (2015). Infusing positive psychology with spirituality in a strength-based group career counseling to evaluate college students' state anxiety [sic]. *International Journal of Psychological Studies*, 7(1), 75.
- Peterson, C., and Seligman, M. E. (2004). *Character strengths and virtues: A handbook and classification* (Vol. 1). Oxford University Press.
- Reiner, S. M., Dobmeier, R. A., and Hernández, T. J. (2013). Perceived impact of professional counselor identity: An exploratory study. *Journal of Counseling & Development*, 91(2), 174-183.
- Savickas, M. L. (2017). *Career counselling* (2nd ed.). American Psychological Association.

- Schuurmans-Stekhoven, J. B. (2011). Is it God or just the data that moves in mysterious ways? How well-being research may be mistaking faith for virtue. *Social Indicators Research*, 100(2), 313-330.
- Seligman, M. E., Rashid, T., and Parks, A. C. (2006). Positive psychotherapy. *American Psychologist*, 61(8), 774.
- Simeonova, D. I., Chang, K. D., Strong, C., and Ketter, T. A. (2005). Creativity in familial bipolar disorder. *Journal of Psychiatric Research*, 39(6), 623-631.
- Smith, E. J. (2006). The strength-based counseling model. *The counseling psychologist*, 34(1), 13-79.
- Wehmeyer, M. L. (1996). Self-determination as an educational outcome. *Self-determination across the life span: Independence and choice for people with disabilities*, 17-36.

Author:**Janez Drobnič, PhD**

Associate Professor, University of Primorska, Faculty of Education, Cankarjeva 5, 6000 Koper, Slovenia, e-mail: janez.drobnic@upr.si
Izredni profesor, Univerza na Primorskem, Pedagoška fakulteta, Cankarjeva 5, 6000 Koper, Slovenija, e-pošta: janez.drobnic@upr.si



PRESCHOOL TEACHERS' CONCEPTIONS OF PROFESSIONAL DEVELOPMENT IN RELATION TO CAREER MOTIVATION AND JOB SATISFACTION

MOJCA ŽVEGLIČ MIHELIČ, MILENA VALENČIČ ZULJAN & ROMINA PLEŠEC
GASPARIČ

Potrjeno/Accepted
4. 10. 2024

University of Ljubljana, Faculty of Education, Ljubljana, Slovenia

Objavljeno/Published
31. 3. 2025

CORRESPONDING AUTHOR/KORESPONDENČNI AVTOR
mojca.zveglic@pef.uni-lj.si

Keywords:

professional
development,
conception of
professional
development, career
motivation, job
satisfaction, preschool
teachers.

Ključne besede:

profesionalni razvoj,
pojmovanja
profesionalnega razvoja,
motivi za izbiro poklica,
poklicno zadovoljstvo,
vzgojitelji.

UDK/UDC:

37.011.3-051:331.36

Abstract/Izvleček

In this paper, we are interested in preschool teachers' conceptions of professional development in relation to their motives for choosing the profession and professional satisfaction. Results of a study among 145 Slovenian preschool teachers show that they generally have a positive conception of professional development; nevertheless, recognition of the importance of learning and in-depth reflection on this conception depend on career motivations, while a broader conception of professional development increases the likelihood of thinking about leaving the profession more frequently. The findings justify the need for better recognition of preschool teachers' needs and obstacles in the workplace.

Pojmovanja profesionalnega razvoja med vzgojitelji in njihova povezava z motivi izbire poklica in s poklicnim zadovoljstvom

V prispevku nas zanimajo vzgojiteljeva pojmovanja profesionalnega razvoja v povezavi z motivi za izbiro poklica in poklicnim zadovoljstvom. Rezultati raziskave med 145 slovenskimi vzgojitelji kažejo, da v povprečju pozitivno pojmujejo profesionalni razvoj, a je upoštevanje vidika pomena učenja in poglobljene refleksije v tem pojmovanju odvisno od motivov za izbiro poklica, ob celovitejšem pojmovanju profesionalnega razvoja pa tudi pogostejše razmišljanje o zapustitvi poklica. Izsledki raziskave potrjujejo potrebo po boljši pripoznavi potreb vzgojiteljev in njihovih ovirah na delovnem mestu.

DOI <https://doi.org/10.18690/rei.4425>

Besedilo / Text © 2025 Avtor(ji) / The Author(s)

To delo je objavljeno pod licenco Creative Commons CC BY Priznanje avtorstva 4.0 Mednarodna. Uporabnikom je dovoljeno tako nekomercialno kot tudi komercialno reproduciranje, distribuiranje, dajanje v najem, javna priobčitev in predelava avtorskega dela, pod pogojem, da navedejo avtorja izvirnega dela. (<https://creativecommons.org/licenses/by/4.0/>).



Introduction

Present-day social circumstances, with numerous rapid and unpredictable changes, present pedagogical workers with demanding professional roles (Hargreaves, 2003). They are expected to do quality work in several areas, from recognizing individual characteristics and introducing diverse actions that are professionally planned and specific to individual children (e.g., children with special needs, gifted students, and immigrants), to cooperation with parents, colleagues, management and the wider social environment (ETUCE, 2008; Mihelač, 2024; Štemberger and Cencič, 2015). Changed professional roles require pedagogical workers to deepen their learning and to continually cultivate their own professional development (Buchberger et al., 2001; Day, 2002; Day and Gu, 2013), which is no longer just a choice for individual enthusiasts, but a necessity for every pedagogical worker. Even the highest quality initial education cannot train pedagogical workers for an entire career but can only enable them to enter the profession with sufficient quality (Birch et al., 2018; Buchberger et al., 2001). Therefore, one of the important tasks in the initial training of students - future pedagogical workers - becomes the formation of appropriate conceptions of the profession and professional development, which will be based on a thorough knowledge of professional roles and awareness of the need for professional learning throughout their careers. Marentič Požarnik (2006) refers not only to professional competence (knowledge of the curriculum) but also to the competences of effective implementation of the pedagogical process, communication and relationships, organization and leadership, and cooperation, and emphasizes the competence of professional development (cf. General Teaching Council for Scotland, 2013). An individual's conceptions of the profession and professional development are the basis for progressing in their professional development competence. This was demonstrated in the findings of Hmelak and Lepičnik Vodopivec (2013), who studied preschool teachers' expectations in relation to professional development. Their sample consisted of 616 Slovenian and Croatian preschool teachers and students, who reported that they wished they had attended in-service training, read scientific papers, and become able to initiate change. This indicates the need for in-depth learning and being an active agent in professional development, which other authors also point out (e.g., Imants and Van der Wal, 2020).

The professional development of pedagogical workers has been the subject of particularly intensive research over the last 30 years. Darling-Hammond et al. (2017,

p. 2) define it as structured professional learning that results in a change in pedagogical worker's knowledge and behaviour. Professional development is also defined as formal activities that develop a person's skills, knowledge and professionalism: e.g., courses, workshops and formal cooperation between teachers (OECD, 2019). On the other hand, the meaning of multiple informal activities, especially collegial cooperation and support is also stressed (Blanuša Trošelj et al., 2020; Krajnc and Valenčič Zuljan, 2014). Valenčič Zuljan (2001, p. 131, 2018, p. 10) defines professional development as a process of "significant lifelong and experiential learning in which individual concepts get sense and practices are changed. The process includes individual, personal, professional and social dimensions and denotes an advance in critical, independent and responsible decisions and handlings".

Conceptions of professional development (CPD) and the profession itself are an important part of the professional equipment of the pedagogical worker (Valenčič Zuljan, 2007), since they affect the individual's perception, thinking and functioning as well as their willingness to learn professionally. In their research on CPD among preschool teachers, Valenčič Zuljan and Blanuša Trošelj (2014) found that the lowest category of CPD - undifferentiated, simple conceptions that do not show the reflection on the process of their own learning and its purpose - prevails among preschool teachers. This finding raises further questions about the preschool teacher's professional role conceptions and their motivations for choosing the profession.

Motivations for choosing a profession are often divided into three subgroups of motives (Salifu and Agbenyega, 2013): a) extrinsic (e.g., pay, working conditions, time or vacations, etc.), b) intrinsic (e.g., love of the pedagogical profession, love for the subject area, desire for personal and professional development), and c) altruistic (e.g., desire to work with children and youth, desire to contribute to the well-being and development of society). Research on career motivation among Slovenian pedagogical workers (Cencič and Čagran, 2002; Javornik Krečič and Ivanuš Grmek, 2005; Tašner et al., 2017; Žvegljč Mihelič et al., 2022) shows a strong representation of internal and altruistic motivations, which is related to job satisfaction (Heinz, 2015) as well as to commitment to or perseverance in the profession (Sinclair, 2008). Nevertheless, Bergmark et al. (2018) point out that some preschool teachers enter the profession for intrinsic and altruistic motivations but leave it when confronted with a reality that contradicts their perceptions of the profession.

As pointed out by Struyven et al. (2013), an appropriate balance between extrinsic, intrinsic and altruistic motivation is necessary to keep pedagogical workers in the profession and support their professional development.

Since preschool teachers are the first pedagogical workers that children meet when they enter the institutionalized education process, they have a major influence on the early education and development of an individual. Quality performance of the responsible tasks they take on requires good professional qualifications and professional motivation, satisfaction and commitment (Sandstrom et al., 2022). The job satisfaction and motivation of a preschool teacher greatly affect that individual's performance and thus the entire institution (Polishchuk et al., 2022), resulting in successful and high-quality early childhood education and care (Gomerčić, 2022). Karaolis and Philippou (2019) define job satisfaction as a positive or negative attribution of value to their work. The pedagogical worker's job satisfaction is related to their relationships with children, professional challenges, professional autonomy, opportunities to innovate their own practice, participation in decision-making, relations with colleagues and opportunities for professional development. Job satisfaction is significantly related to an individual's commitment to the profession, persistence in the profession and quality pedagogical work, so it is worth exploring and enabling (Day et al., 2007; Assunção Flores and Day, 2006; Huberman, 1993; Karaolis and Philippou, 2019; Lee and Quek, 2017).

Motivations for choosing the profession stem from preconceptions about the profession (cf. Masbirorotni, 2020) and should be modified through initial training so that professional development and the recognition of the need for continuous professional learning is encouraged throughout the preschool teacher's career. In the study, we were interested in CPD of preschool teachers and their connection with motivations for choosing the profession and job satisfaction.

We aimed to answer the following research questions:

RQ1: What are the preschool teachers' CPD?

RQ2: How do the preschool teachers' CPD correlate with their motivations for choosing preschool teaching as a career?

RQ3: What is the nature of the relationship between preschool teachers' overall CPD and their job satisfaction?

Method

The research was designed as a study and data was collected using a survey approach.

Sample

The sample consists of 145 Slovenian preschool teachers. Their demographic characteristics are presented in Table 1.

Table 1

Demographics as a percentage

Characteristic	(n = 145)
Gender	
Female	93.8
Male	6.2
Age range (years)	
Up to 20	4.8
21–40	63.4
41–60	30.3
61 and above	1.4
Level of professional degree	
Secondary school or equivalent	12.4
Teaching diploma	55.2
Bachelor's degree or equivalent	26.9
Master's degree (Master of Science) or specialisation	5.5
Professional title	
No title	46.9
Mentor	30.3
Consultant	20.7
Senior consultant	2.1

Instrument

The survey was conducted using a questionnaire designed exclusively for the study. It consists of multiple sections, but in this paper, we present the results of analysis for the following: a) motivations for choosing preschool teaching, b) job satisfaction, c) CPD in the preschool teaching profession, and d) frequency of thinking about leaving the profession. Additionally, the respondents' personal characteristics are included in the questionnaire: gender, age, level of education, and level of professional degree.

The Conceptions of Professional Development scale (CPD scale) includes six items on a 5-point Likert scale, from 1 (*strongly disagree*) to 5 (*strongly agree*).

The Motives for Choosing Preschool Teaching scale (MPT scale) consists of 12 items on a 5-point rating scale, from 1 (*not at all important*) to 5 (*very important*). The respondents rated their job satisfaction on a 3-point rating scale, from 1 (*dissatisfied*) to 3 (*satisfied*), while the frequency of thinking about leaving the profession was measured on a 3-point rating scale, from 1 (*never*) to 3 (*often*).

Data collection and analysis procedures

The online survey was conducted during a two-month period (response rate was 60%). Structural validity and reliability of the scales were established with exploratory factor analysis (EFA). Given the small number of items on the CPD scale, the overall scale was included in the analyses. The share of total variance explained by the first component of the scale indicates sufficient structural validity of the scale (44.57%), while the share of total variance explained by all components (73.99%) as well as Cronbach's alpha for the total scale ($\alpha = .65$) suggest acceptable reliability of the scale. Based on the EFA results, the MPT scale was modified, aggregate variables were formed, and the final scales were tested for reliability (the results of the EFA have already been reported in detail, see Žveglič Mihelič et al., 2022). Principal component analysis (PCA) was conducted separately on the group of items from the scale with orthogonal rotation (Varimax). The Keiser-Meyer-Olkin measure (KMO) verified the sampling adequacy for the analysis (KMO = .84), while Bartlett's test of sphericity for the analyses indicated that correlations between items were sufficiently large for the PCA, $\chi^2 (55) = 704.08$, $p = .000$.

Only the components that had eigenvalues over Kaiser's criterion of 1 in the initial analysis were retained finally (see Table 2).

Table 2

Keiser-Meyer-Olkin measure, results of Bartlett's test of sphericity, percentage of total variance explained by the components, and Cronbach's alpha for the scales

Scale	Keiser-Meyer-Olkin measure	Bartlett's test of sphericity	% of total variance explained by the components	Cronbach's alpha
CPD	.64	$\chi^2 (15) = 369.35$, $p = .000$	73.99	.65
MPT	.84	$\chi^2 (55) = 704.08$, $p = .000$	65.92	.65

Note. CPD = conceptions of professional development, MPT = motivations for choosing preschool teaching.

Table 3 presents the final loadings after rotation for the MPT scale. The items that cluster on the same components suggest that component 1 represents the *Intrinsic and altruistic motives* variable, and component 2 represents the *Motives based on a simplistic view of studies and profession* variable. One item (“4. Working hours suit me”) had to be removed from the model because it lowered the reliability of the sub-scale, and one item (“7. The profession has a good reputation in society”) had to be omitted from the component score because of its high loading on different components. The sub-scales of the final 2-component model had high reliabilities of .82 and .84.

Table 3

Summary of EFA for the MPT scale

Motives for choosing preschool teaching	Rotated factor loading	
	Intrinsic and altruistic motives	Motives based on a simplistic view of studies and profession
1. It offers the opportunity for creativity and originality	.78	
2. It is socially useful work	.77	
6. I have the possibility of postgraduate studies	.73	
7. The profession has a good reputation in society	.73	
10. The profession provides me with a regular income	.68	
5. I like working with children	.64	
12. The preschool teacher profession encourages and enables professional development throughout my career	.63	
9. A preschool teacher's work is not demanding		.88
11. The preschool teacher profession is a tradition in my family		.80
3. There are long holidays		.76
8. Studies are not demanding		.71
Eigenvalues	4.43	2.82
% of variance	40.29	25.63
α	.84	.82

Note. The extraction method was principal component analysis with an orthogonal (Varimax) rotation. Factor loadings below .40 were omitted.

Results and discussion

Preschool teachers' conceptions of professional development (CPD)

One of the most important tasks of undergraduate studies is the formation of students' conceptions of the chosen profession, since these conceptions facilitate

the professional development of the individual based on a thorough knowledge of professional roles and the need for continuous professional learning. Based on this, we sought to find out how preschool teachers in our research perceive professional development in the preschool teaching profession. They were asked to respond to six statements about preschool teachers' professional development by choosing their level of agreement on a 5-point Likert scale (1 – *strongly disagree*, 5 – *strongly agree*). The statements cover two aspects of CPD: 1) importance of learning and in-depth reflection (statements 1, 3 and 4); and 2) importance of cooperation (statements 2, 5 in 6). Descriptive statistics for each statement are presented in Table 4.

Table 4

Average agreement with individual statements about professional development

Statements about professional development	M	SD
3. Professional development lasts until the end of the preschool teacher's career.	4.28	.994
5. Headteacher has a significant influence on the professional growth of employees.	4.18	.872
6. Colleagues have a significant influence on the professional development of everyone.	4.16	.853
2. Cooperation between preschool teachers is one of the forms of professional development.	4.14	1.215
4. There is no professional development of preschool teachers without in-depth reflection.	4.14	.969
1. The preschool teacher's professional development requires continuous in-depth learning by the individual.	4.13	1.219

Results show that the preschool teachers generally agree with all the statements, indicating their recognition of the importance of cooperation, but also of learning and in-depth reflection. Table 4 shows the highest level of agreement with the general item about the duration of professional development, followed by three items related to the influence of other people on the individual's professional development, while the last two are focused on the individual as the main agent in their own development. These findings are in line with professional development research (Day et al., 2007; Day and Gu, 2013; Javornik Krečič et al., 2015; Valenčič Zuljan, 2018), which emphasize the importance of cooperation and reflection as fundamental factors in professional development.

Preschool teachers' conceptions of professional development (CPD) in relation to their motivations for choosing preschool teaching as a career

Previous research by Valenčič Zuljan and Blanuša Trošelj (2014), who included 92 Croatian preschool teachers, has shown that most preschool teachers' conceptions reflected in their answers to open-ended questions fall into the lower category of CPD, namely undifferentiated, one-dimensional, simplistic conceptions that show no reflection on the individual's learning process and its purpose. The more complex conceptions that show reflection on the learning process and the benefits of professional change on their own pedagogical practice are the least present in preschool teachers (Valenčič Zuljan and Blanuša Trošelj, 2014). To promote professional development among pedagogical workers, it is important to know their motivations for choosing this profession and take into account that extrinsic, altruistic, and intrinsic motivations should be appropriately balanced (Struyven et al., 2013) so that special attention can be paid to their individual needs. Thus, we sought to explore the possible relationship between CPD and the type of motivation for choosing the profession.

For this reason, we formed an aggregate variable named *Conception of professional development score* (CPD score) as a sum of responses to all six statements from Table 4. As for the individual items, a higher mean score represents stronger general agreement with various aspects of professional development, or a more positive overall CPD. The average scores indicate a positive CPD score ($M = 4.17$, $SD = .63$). In terms of the motives for choosing preschool teaching, the preschool teachers rated motives associated with intrinsic motivation as the most important ($3.75 \leq M \leq 4.42$, see Žvegljić Mihelić et al., 2022, p. 79), while motives associated with extrinsic motivation were rated lower ($2.51 \leq M \leq 2.91$, *ibid.*). For further analysis, we grouped the EFA motives from Table 3 into two groups of career choice motives and thus two aggregate variables: *Intrinsic and altruistic motives* (established by high intrinsic motivation; IM) and *Motives based on a simplistic view of studies and profession* (established by high extrinsic motivation; EM). IM proved to be statistically significantly more important on average for preschool teachers ($M_{IM} = 3.75$) than EM ($M_{EM} = 2.60$) when choosing a preschool teaching career, $t(116) = 7.89$, $p < .001$. These findings were previously confirmed by other studies for preservice and in-service teachers (Andrews and Hatch, 2002; Assunção Flores and Niklasson, 2014; Cencić and Čagran, 2002; Javornik Krečič and Ivanuš Grmek, 2005; Polak and Devjak, 2014; Tašner et al., 2017; Watt and Richardson, 2012; Zoglowek, 2021).

In Table 5 we present correlations between CPD score and types of motivation when choosing the preschool teaching profession.

Table 5

Spearman's correlation coefficients between types of motivation when choosing the preschool teaching profession and CPD score

Correlations	IM	EM	CPD	1.	2.	3.	4.	5.	6.
IM	1.000								
EM	-.223*	1.000							
CPD score	.605**	-.552**	1.000						
1. The preschool teacher's professional development requires continuous in-depth learning by the individual.	.614**	-.424**	.730**	1.000					
2. Cooperation between preschool teachers is one of the forms of professional development.	.477**	-.377**	.727**	.649**	1.000				
3. Professional development lasts until the end of the preschool teacher's career.	.500**	-.531**	.688**	.523**	.527**	1.000			
4. There is no professional development of preschool teachers without in-depth reflection.	.328**	-.318**	.680**	.431**	.345**	.285**	1.000		
5. Headteacher has a significant influence on the professional growth of employees.	.028	-.049	.379**	-.107	-.053	.158	.431**	1.000	
6. Colleagues have a significant influence on the professional development of everyone.	-.120	.088	.279**	-.133	-.108	.022	.275**	.596**	1.000

Note. IM = intrinsic and altruistic motives, EM = motives based on a simplistic view of studies and profession, CPD score = conception of professional development score.

* $p < .05$. ** $p < .01$.

The results show that there is a significant positive correlation between IM and CPD score, $r_s = .61$, $p < .01$, indicating that the more intrinsic and altruistic motives were present in a preschool teacher when choosing the profession, the more positive overall CPD was present in that person. IM is also positively correlated with all the specific CPD, except for item 5 ("Headteacher has a significant influence on the professional growth of employees"), $r_s = .03$, and item 6 ("Colleagues have a significant influence on the professional development of everyone"), $r_s = -.12$ (both $ps > .05$); these two items are not significantly related to the IM.

These results indicate that more expressed IM typically means a more fully expressed learning-oriented conception of professional development, but not a more expressed interaction-oriented conception of professional development.

On the other hand, the results indicate a significant negative relationship between CPD score and EM, $r_s = -.55$, $p < .01$. This means that the more motives based on a simplistic view of studies and profession were present in a person, the less complex CPD was typical for that person. Most of the items on the CPD scale (items 1, 3, and 4, representing learning-oriented CPD, as well as item 2 (interaction-oriented CPD) are negatively correlated to EM, except for items 5, $r_s = -.05$, and 6, $r_s = .09$, which are unrelated to EM. Overall, the results imply that the more EM is present in a person, the less learning-oriented CPD is significant for that person. Interaction-oriented CPD, on the other hand, seems unrelated to motivation for choosing preschool teaching as a career (neither IM nor EM).

These findings point out that since preschool teachers are not the only agents of cooperation, the locus of control in this aspect of professional development is external (Rotter, 1966). Cooperation with others is regarded as a fact and an outside factor in one's professional development, while one's learning and in-depth reflection is predominantly subjected to that person's decision and, obviously, intrinsic motivation.

The nature of the relationship between preschool teachers' overall conception of professional development (CPD) and their job satisfaction

According to previous studies (Day et al., 2007; Assunção Flores and Day, 2006; Huberman, 1993; Lee and Quek, 2017), pedagogical worker's job satisfaction and their professional perseverance are related, among other things, to the opportunities for professional development. We were interested in establishing the nature of the association between preschool teachers' CPD and their job satisfaction.

We asked the preschool teachers to rate their job satisfaction on a scale, from 1 – *dissatisfied* to 3 – *satisfied*. More than half the respondents answered that they were satisfied with their job (56.9%), while 40.5% were neither dissatisfied nor satisfied. Only 2.6% of them were dissatisfied with their job. Mandarić Vukušić and Krstulović (2024) similarly found on the sample of 206 Croatian preschool teachers, that they were generally satisfied with their work and professional role ($M = 4.23$ on a 5-point scale) as well as with other, more specific, elements of their work.

Other studies also found that even though preschool teachers are satisfied with their jobs, they still wish the pay was higher and that this profession were more appreciated in society (Mandarić Vukušić and Krstulović, 2024; Sandstrom et al., 2022).

Additionally, we asked the preschool teachers about the frequency of thinking about leaving the preschool teaching profession as a manifestation of job satisfaction. Most of them (71.2%) responded that they had never thought about leaving the profession, while a quarter of them (26.0%) thought about it from time to time. Only 2.9% of the preschool teachers reported that they often thought about leaving the profession. Modrej and Cugmas (2015) obtained similar results among primary school teachers. As expected, the frequency of thinking about leaving the profession is significantly negatively correlated to job satisfaction ($r_s = - .32$, $p < .001$), suggesting that the more satisfied one is with their job, the less frequently they think about leaving the profession. On the other hand, Mandarić Vukušić and Krstulović (2024), who also dealt with preschool teachers' professional commitment in the context of job satisfaction, point out that despite high levels of commitment, preschool teachers are especially susceptible to leaving the profession in the early stages of their professional career when they still lack mechanisms to cope with stress, so it is key to offer them appropriate support. Similar findings have been reported by other authors (Bergmark et al., 2018; Žveglič Mihelič et al., 2022).

Further results show a statistically significant positive correlation between CPD and job satisfaction ($r_s = .23$, $p < .05$); the more positive conception of professional development suggests a higher level of job satisfaction. But CPD is also positively related to the frequency of thinking about leaving the preschool teaching profession ($r_s = .21$, $p < .05$), meaning that the more positive the conception of professional development the preschool teacher has, the more frequently they think about leaving the preschool teaching profession.

These results indicate that even though more positive overall CPD suggests a higher level of job satisfaction, it also plays a role in one's scepticism about staying in the profession. Considering that more positive CPD indicates a broader and thus more complex understanding of professional development, perhaps some of the preschool teachers with more positive CPD were more critical of themselves, their role in the preschool teaching process and of the discrepancy between the elements of professional development that were and were not present in their case, more often leading them to think they could not rise to the standards they set for themselves or perceived were expected of them to rise to.

Conclusion

Preschool teachers are key actors in the implementation of quality preschool education, so their preparation for the profession is vital, as is their readiness for professional development as a process of significant lifelong and experiential learning that includes two important aspects: the importance of learning and in-depth reflection, and the importance of cooperation. The degree of involvement in their own professional development is inherently related to their conceptions of that development.

Our research indicates that preschool teachers generally have a positive overall conception of professional development but associate it more with cooperation than with learning and in-depth reflection. The interaction-oriented conception of professional development proved to be unrelated either to intrinsic and altruistic motives for choosing the profession or to motives based on a simplistic view of studies and profession (extrinsic motives). The learning-oriented conception of professional development, however, proved to be positively linked to the intrinsic and altruistic motives for choosing the profession and negatively to the extrinsic motives. This means that preschool teachers who were led by intrinsic and altruistic motives in their career choice developed a more comprehensive conception of professional development. The findings also reflect underlying differences in the perceived need for one's own contribution in cooperation with others as a collective process compared to learning and in-depth reflection for which individual responsibility and mobilization are inevitable, often exclusive and thus dependent on intrinsic motivation.

Results also show that a comprehensive conception of professional development, despite job satisfaction, increases the likelihood of thinking about leaving the profession more frequently. This suggests a degree of despair among preschool teachers, who feel that they lack the resources to fulfil the (perceived) expectations placed on them as pedagogical workers.

A person's conceptions of their profession and their professional development are the basis for progress in their professional development competence. For quality professional learning among pedagogical workers, it is necessary to further justify the importance of particular training for the individual, so that everyone feels its significance and long-term contribution.

The fact that the most reflective preschool teachers sometimes contemplate leaving their profession justifies the need for greater recognition of their needs and management of any distress they may face in their workplace.

Considering preschool teachers' conception of professional development, motivation for choosing the profession, and job satisfaction makes it possible to find ways to attract motivated students, ensure quality initial education, attract qualified staff who undergo continuous professional learning and development, and retain them in the profession.

References

- Andrews, P., and Hatch, G. (2002). Initial motivations of serving teachers of secondary mathematics. *Evaluation & Research in Education*, 16(4), 185–201. <https://doi.org/10.1080/095007902-08667018>
- Assunção Flores, M., and Day, C. (2006). Contexts which shape and reshape new teachers' identities: A multi-perspective study. *Teaching and Teacher Education*, 22(2), 219–232. <http://dx.doi.org/10.1016/j.tate.2005.09.002>
- Assunção Flores, M., and Niklasson, L. (2014). Why do student teachers enrol for a teaching degree? A study of teacher recruitment in Portugal and Sweden. *Journal of Education for Teaching* 40(4), 328–343. <https://doi.org/10.1080/02607476.2014.929883>
- Bergmark, U., Lundström, S., Manderstedt, L., and Palo, A. (2018). Why become a teacher? Student teachers' perceptions of the teaching profession and motives for career choice. *European Journal of Teacher Education*, 41(3), 266–281.
- Birch, P., Balcon, M. P., Bourgeois, A., Davydovskaia, O., and Tremosa, S. P. (2018). Teaching Careers in Europe: Access, Progression and Support. Eurydice Report. *Education, Audiovisual and Culture Executive Agency, European Commission*.
- Blanuša Trošelj, D., Franković, K., and Valenčič Zuljan, M. (2020). Preschool teachers' involvement in informal learning as an important factor of their professional development. *Andragoška spoznanja*, 26(3), 69–85.
- Buchberger, F., Campos, B. P., Kallos, D., and Stephenson, J. (2001). *Zelena knjiga o izobraževanju učiteljev*. Ministrstvo za šolstvo, znanost in šport.
- Cencič, M., and Čagran, B. (2002). Motivacijski dejavniki izbire študija in poklica vzgojitelja predšolskih otrok. *Sodobna Pedagogika*, 53(5), 104–122.
- Darling-Hammond, L., Hyler, M. E., and Gardner, M. (2017). *Effective teacher professional development*. Palo Alto, CA: Learning Policy Institute.
- Day, C. (2002). *Developing teachers: The challenges of lifelong learning*. Routledge.
- Day, C., and Gu, Q. (2013). *Resilient teachers, resilient schools: Building and sustaining quality in testing times*. Routledge.
- Day, C., Sammons, P., Stobart, G., Kington, A., and Gu, Q. (2007). *Teachers matter: Connecting lives, work and effectiveness*. Open University Press.
- ETUCE (2008). *Teacher education in Europe*. An ETUCE policy paper.
- General Teaching Council for Scotland (2013). *Guidelines for initial teacher education programmes in Scotland*. <https://dera.ioe.ac.uk/id/eprint/19281/1/guidelines-for-ite-programmes-in-scotland-pd.pdf>
- Gomerčič, L. (2022). Mnenja in stališča slovenskih in hrvaških vzgojiteljev o usposobljenosti za odkrivanje potencialno nadarjenih predšolskih otrok. *Journal of Elementary Education*, 15(1), 105–125.

- Hargreaves, A. (2003). *Teaching in the knowledge society: Education in the age of insecurity*. Teachers College Press.
- Heinz, M. (2015). Why choose teaching? An international review of empirical studies exploring student teachers' career motivations and levels of commitment to teaching. *Educational Research and Evaluation*, 21(3), 258–297.
- Hmelak, M., and Lepičnik Vodopivec, J. (2013). Pričakovanja vzgojiteljev predšolskih otrok, vezana na njihov profesionalni razvoj. *Journal of Elementary Education*, 6(2/3), 63–78.
- Huberman, M. (1993). *The lives of teachers*. Teachers College Press.
- Imants, J., and Van der Wal, M. M. (2020). A model of teacher agency in professional development and school reform. *Journal of Curriculum Studies*, 52(1), 1–14.
- Javornik Krečič, M., and Ivanuš Grmek, M. (2005). The reasons students choose teaching professions. *Educational Studies*, 31(3), 265–274.
- Javornik Krečič, M., Vršnik Perše, T., and Ivanuš Grmek, M. (2015). Pedagoški delavci v strokovnem in poklicnem izobraževanju kot aktivni oblikovalci in usmerjevalci lastnega poklicnega razvoja. *Journal of Elementary Education*, 8(3), 77–94. <https://journals.um.si/index.php/education/article/view/408>
- Karaolis, A., and Philippou, N. G. (2019). Teachers' professional identity. In M. S. Hannula, G. C. Leder, F. Morselli, M. Vollstedt, and Q. Zhang (Eds.), *Affect and Mathematics Education* (pp. 397–417). Springer.
- Krajnc, S., and Valenčič Zuljan, M. (2014). The impact of collegial cooperation of pre-school teachers on professional development of individuals and organization. *Istraživanja u pedagogiji*, 4(2), 11–23.
- Lee, P. M. J., and Quek, C. L. (2017). Preschool teachers' perceptions of school learning environment and job satisfaction. *Learning Environments Research*, 21, 369–386. <https://doi.org/10.1007/s1-0984-017-9256-7>
- Mandarić Vukušić, A., and Krstulović, V. (2024). Job satisfaction and professional burnout in kindergarten teachers. *Journal of Elementary Education*, 17(1), 37–51.
- Marentič Požarnik, B. (2006). Okvirni seznam ključnih kompetenc/zmožnosti. In *XV. Strokovno srečanje ravnateljic in ravnateljev. Osnovno šolstvo*. Ministrstvo za šolstvo in šport.
- Masbirorotni M., Mukminin A., Muhaimin, M., Habibi A., Haryanto E., Hidayat M., Marzulina L., Harto K., Erlina D., and Kamil D. (2020). Why Student Teachers Major in English Education: An Analysis of Motives for Becoming Future Teachers. *Journal of Elementary Education*, 13(4), 429–452. <https://doi.org/10.18690/rei.13.4.429-452.2020>
- Mihelač, L. (2024). Recommendation Systems, Parents, and Preschool Children: The Story Behind Digital Technology. *Journal of Elementary Education*, 17(2), 155–170. <https://journals.um.si/index.php/education/article/view/3488>
- Modrej M., and Cugmas Z. (2015). Poklicni stres in profesionalni razvoj učiteljev razrednega pouka. *Journal of Elementary Education*, 8(4), 29–48. <https://journals.um.si/index.php/education/article/view/394>
- OECD (2019). *TALIS 2018 Technical report*. OECD Publishing.
- Polak, A., and Devjak, T. (2014). Profesionalni razvoj študentov predšolske vzgoje in njihova percepcija poklicne kariere. In Devjak, T. (Ed.), *Sodobni pedagoški izzivi v teoriji in praksi* (pp. 307–324). Pedagoška fakulteta. <https://zalozba.pef.uni-lj.si/index.php/zalozba/catalog/view/160/-376/361-1>
- Polishchuk, O., Koltunovych, T., Andricieva, Y., Heisonyuk, N., and Oliynyk, M. (2022). Job Satisfaction and Professional Burnout of Preschool Teachers. *Revista Românească pentru Educație Multidimensională*, 14(4), 325–352. <https://doi.org/10.18662/rrem/14.4/>
- Rotter, J. B. (1966). Generalized expectancies for internal versus external control of reinforcement. *Psychological Monographs: General and Applied*, 80(1), 1–28. <https://doi.org/10.1037/h0092976>
- Salifu I., and Agbenyega J. S. (2013). Teacher motivation and identity formation: Issues affecting professional practice. *MIER Journal of Education Studies, Trends & Practices*, 3(1), 58–74.

- Sandstrom, H., Casas, M., Hernandez-Lepe, F., and Greenberg, E. (2022). *Early Educators' Work Experiences and Job Satisfaction*. Urban Institute. <https://www.urban.org/sites/default/files/20-22-05/Early%20Educators%E2%80%99%20Work%20Experiences%20and-%20Job%20Satisfaction.pdf>
- Sinclair, C. (2008). Initial and changing student teacher motivation and commitment to teaching. *Asia-Pacific Journal of Teacher Education*, 36(2), 79–104.
- Struyven, K., Jacobs, K., and Dochy, E. (2013). Why do they want to teach? The multiple reasons of different groups of students for undertaking teacher education. *European Journal of Psychology of Education*, 28(3), 1007–1022.
- Štemberger T., and Cencič, M. (2015). Kaj poklicni življenjepisi vzgojiteljic odkrivajo o prepletenosti poklica vzgojitelja in ustvarjalnosti? *Journal of Elementary Education*, 8(3), 17–38. Retrieved from <https://journals.um.si/index.php/education/article/view/405>
- Tašner, V., Žvegljč Mihelič, M., and Mencin-Čeplak, M. (2017). Gender in the teaching profession: University students' views of teaching as a career. *CEPS Journal*, 7(2), 47–69.
- Valenčič Zuljan, M. (2001). Modeli in načela učiteljevega profesionalnega razvoja. *Sodobna pedagogika*, 2, 122–141.
- Valenčič Zuljan, M. (2007). Students' conceptions of knowledge, the role of the teacher and learner as important factors in a didactic school reform. *Educational Studies*, 33(1), 29–40. <https://doi.org/10.1080/03055690600948166>
- Valenčič Zuljan, M. (2018). Factors of teachers' professional development. In N. Tatkovič, F. Šuran, and M. Diković (Eds.), *Reaching horizons in contemporary education* (pp. 9–31). Juraj Dobrila University of Pula, Faculty of Educational Sciences.
- Valenčič Zuljan, M., and Blanuša Trošelj, D. (2014). Profesionalni razvoj vzgojiteljev z vidika vzgojiteljevih pojmovanj. *Andragoška spoznanja*, 20(1), 43–60.
- Watt, H. M. G., and Richardson, P. W. (2012). An introduction to teaching motivations in different countries: Comparisons using the FIT-Choice scale. *Asia-Pacific Journal of Teacher Education*, 40(3), 185–197. <https://doi.org/10.1080/1359866X.2012.700049>
- Zoglowek, H. (2021). Why Become a PE Teacher? – Motivation, Self-Concept and Implications for Teacher Education. *Journal of Elementary Education*, 14(1), 31–46. <https://doi.org/10.18690/r-ci.14.1.31-46.2021>
- Žvegljč Mihelič, M., Stanič Nosonjin, M., Gojkov-Rajič, A., and Valenčič Zuljan, M. (2022). Motivations for choosing a career and the expectations of Serbian and Slovenian preschool teachers of their own career development. *International Journal of Cognitive Research in Science, Engineering and Education*, 10(1), 71–91. <https://doi.org/10.23947/2334-8496-2022-10-1-71-91>

Authors:

Dr. Mojca Žvegljč Mihelič,

Asistentka, Univerza v Ljubljani, Pedagoška fakulteta, Kardeljeva pl. 16, 1000 Ljubljana, Slovenija e-pošta: mojca.zveglic@pef.uni-lj.si
 Assistant, University of Ljubljana, Faculty of Education, Kardeljeva pl. 16, 1000 Ljubljana, Slovenia, e-mail: mojca.zveglic@pef.uni-lj.si

Dr. Milena Valenčič Zuljan,

Redna profesorica, Univerza v Ljubljani, Pedagoška fakulteta, Kardeljeva pl. 16, 1000 Ljubljana, Slovenija e-pošta: milena.valencic@pef.uni-lj.si
 Full Professor, University of Ljubljana, Faculty of Education, Kardeljeva pl. 16, 1000 Ljubljana, Slovenia, e-mail: milena.valencic@pef.uni-lj.si

Dr. Romina Plešec Gasparič,

Docentka, Univerza v Ljubljani, Pedagoška fakulteta, Kardeljeva pl. 16, 1000 Ljubljana, Slovenija e-pošta: romina.plesecgasparic@pef.uni-lj.si

Assistant Professor, University of Ljubljana, Faculty of Education, Kardeljeva pl. 16, 1000 Ljubljana, Slovenia, e-mail: romina.plesecgasparic@pef.uni-lj.si

VPLIV VKLJUČEVANJA SODOBNIH LIKOVNIH PRAKS V POUK LIKOVNE UMETNOSTI NA LIKOVNOOBLIKOVNI RAZVOJ OSMOŠOLCEV

KATJA KOZJEK VARL & JERNEJA HERZOG

Potrjeno/Accepted
10. 2. 2025

Pedagoška fakulteta, Univerza v Mariboru, Maribor, Slovenija

Objavljeno/Published
31. 3. 2025

CORRESPONDING AUTHOR/KORESPONDENČNI AVTOR
mucic.mia1@gmail.com

Abstract/Izvleček

Znano je, da lahko različni dejavniki pozitivno vplivajo na likovni razvoj pri učencih, vendar pa še ni raziskano, ali lahko nanj pozitivno vpliva tudi sodobna likovna umetnost. Predvsem zato, ker je večplastna in kompleksna za razumevanje, se na tem mestu utemeljeno pojavlja vprašanje, ali jo lahko z namenom pozitivnega vplivanja na razvoj likovnih sposobnosti vključujejo učitelji v enaki meri in obsegu kot druge vsebine likovne umetnosti. Zato v prispevku predstavljamo rezultate pedagoškega eksperimenta, s katerim smo preverjali vpliv vključevanja sodobnih umetniških praks na razvoj likovnooblikovnih sposobnosti osmošolcev ($N = 121$). Z raziskavo smo uspeli dokazati, da vključevanje sodobnih umetniških praks v pouk likovne umetnosti pozitivno vpliva na likovnooblikovni razvoj osmošolcev.

Ključne besede:
contemporary visual
arts, art instruction, art
development, artistic
design skills.

Keywords:
sodobna likovna
umetnost, pouk likovne
umetnosti, likovni
razvoj,
likovnooblikovne
sposobnosti.

UDK/UDC:
373.3.091.3:7

The Impact of Implementation Contemporary Art Practices into Art Education on the Artistic Development of Eighth-Grade Students

It is known that several factors can have a positive effect on the artistic development of pupils, but it has not yet been investigated whether such development can also be positively influenced by the contemporary visual arts. Mainly because it is multi-layered and complex to understand, the question here is whether teachers can incorporate contemporary visual arts to the same degree and extent as other visual arts content to exert a positive influence on the development of artistic skills. Therefore, in this paper we present the results of a pedagogical experiment conducted to examine the effects of incorporating contemporary artistic practices on the development of artistic creativity skills in eighth graders ($N = 121$). Through the study, we were able to demonstrate that the inclusion of contemporary art practices in art lessons does have a positive impact on the development of art design skills among eighth graders.

DOI <https://doi.org/10.18690/rei.4989>

Besedilo / Text © 2025 Avtor(ji) / The Author(s)

To delo je objavljeno pod licenco Creative Commons CC BY Priznanje avtorstva 4.0

Mednarodna. Uporabnikom je dovoljeno tako nekomercialno kot tudi komercialno reproduciranje, distribuiranje, dajanje v najem, javna priobčitev in predelava avtorskega dela, pod pogojem, da navedejo avtorja izvirnega dela. (<https://creativecommons.org/licenses/by/4.0/>).

Uvod

V izobraževalnem sistemu je že zadnjih dvajset let moč zaznati pozitivne težnje k vključevanju, razvijanju in spodbujanju ustvarjalnosti pri učencih (Craft, 2005). Raziskovalci so se namreč že pred časom začeli zavedati, da je pomembno izobraževati mlade z ustrezno razvitimi kompetencami za sodobno življenje 21. stoletja. Pri tem imajo učitelji zagotovo ključno vlogo. Kadar govorimo o omenjenih kompetencah, ne moremo in ne smemo prezreti ustvarjalnosti, za katero menimo, da je ena ključnih kompetenc. Ob tem pa vemo, da lahko ustvarjalnost razvijamo z ustreznimi dejavnostmi in pri tem imajo umetniški učni predmeti v izobraževalnem sistemu gotovo velik potencial in morda tudi priložnost, da se nanje ne gleda zgolj kot vzgojne učne predmete in učne predmete, kjer se učenci le sproščajo. Gotovo pa ima pri razvoju ustvarjalnosti precejšnjo vlogo, tako menita Huzjak in Županić Benić (2017), učitelj z ustreznimi kompetencami in didaktičnimi pristopi. Učitelj je namreč tisti, ki zna in mora znati izbrati in uporabiti ustrezne metode poučevanja ter oblikovati in načrtovati takšne ustvarjalne naloge, ki spodbujajo ustvarjalni odziv učencev (Herzog in Duh, 2011). Na celoten razvoj ustvarjalnega potenciala posameznika lahko namreč vplivamo neposredno z razvijanjem likovnoustvarjalnih, likovnooblikovnih in optičnotematskih sposobnosti (Duh, 2004; Herzog, 2009, 2017). Umetniško ustvarjanje, tako ugotavljata Herzog in Duh (2011), v visoki meri korelira s splošno ustvarjalnostjo, razvoj umetniške ustvarjalnosti pa pozitivno vpliva na razvoj splošne ustvarjalnosti. Pri tem ima pomembno vlogo tudi šolsko okolje, kjer obstaja ogromno možnosti in spodbud za umetniško ustvarjanje (Dinkelmann, 2008). Prav zato mora umetnostna vzgoja v šoli temeljiti na razvoju ustvarjalnosti (Herzog in Duh, 2011), pri čemer pa končni izdelek naj ne bi bil pretirano v ospredju, ampak naj bi se bolj poudarjal sam ustvarjalni proces (McLennan, 2010). Duh (2004) in Vahter (2016) izpostavljata, da lahko z ustreznim pedagoškim procesom, ustvarjanjem spodbudnega okolja in ustvarjalnega učitelja z aktivno likovno dejavnostjo močno vplivamo na likovno ustvarjalnost učencev. Aktivna likovna dejavnost je seveda pogoj, da se ustvarjalnost lahko sploh razvija (Duh, 2004) in omogoči razvoj likovnoustvarjalnega izdelka, ki je v pomoč za spremljanje razvoja likovnih sposobnosti učencev (Duh, 2004; Herzog, 2009; Karlavaris, 1981). S kriteriji likovnoustvarjalnega razvoja, optičnotematskega razvoja in likovnooblikovnega razvoja lahko spremljamo likovni razvoj in napredek učenca (prav tam).

V prispevku se bomo posebej omejili na likovnooblikovni razvoj. Gre za kompleksen proces, ki je v veliki meri odvisen od kakovostne likovnopedagoške prakse. Pri razvijanju likovnooblikovnih sposobnosti je pomembno, da je pedagog strokovno usposobljen in občutljiv ter da zna demonstrirati likovne tehnike in postopke (Herzog, 2017). To je pomembno predvsem zato, ker omenjeni razvoj temelji na razumevanju in poznavanju likovnih elementov, kot so točka, linija, barva, prostor in tekstura ter njihovih medsebojnih odnosov, kar predstavlja ključne komponente tega procesa (Butina, 2003) in omogoča analizo otrokovega likovnooblikovnega napredka (Karlavaris, 1991b). Otroci imajo prirojen občutek za likovno kompozicijo, ki se razvija skozi stopnje likovnega izražanja. Sprva uporabljajo likovne prvine elementarno, kasneje pa kompleksneje in v iskanju novih prostorskih rešitev (Butina, 1997). Pri tem raziskujejo materiale in tehnike ter sproščajo domišljijo (Duh in Korošec, 2009). Oblikovni vidik ima v likovnih delih učencev ključno vlogo, saj z drugimi dejavniki likovne ustvarjalnosti oblikuje otrokov likovni izraz in osebno likovno govorico. Zatolikovnooblikovni razvoj predstavlja pomemben del pouka likovne umetnosti in ga je treba smiselno vključiti v vse faze načrtovanja likovnovzgojnega procesa (Duh, 2004).

V raziskovalnem pristopu merjenja dejavnikov likovnega razvoja spremljamo: nivo oblikovnega razvoja, nivo optičnotematskega razvoja, nivo likovnega okusa, nivo oblikovnih izkušenj in likovne tehnike, nivo individualnosti in splošni likovni nivo. Omenjeni sklop dejavnikov je Duh (2004) združil v skupen nivo likovnooblikovnega razvoja. Z navedenimi dejavniki spremljamo otrokov razvoj v smislu uporabe različnih likovnih izraznih sredstev, bogastva likovnega jezika in skladnost uporabljenih likovnih elementov ter načinov prikazovanja odnosov med njimi (Karlavaris in Berce Golob 1991; Herzog 2017). *Optičnotematski razvoj* odraža intelektualno zrelost učencev in je v pomoč pri preverjanju razvojnih faz otroškega likovnega izražanja. Pri omenjenem dejavniku spremljamo optično točnost, tehnično korektnost ter splošno intelektualno zrelost ob upoštevanju morebitnih odstopanj (Duh, 2004; Duh in Korošec, 2009). Po Karlavarisu (1991a) so značilnosti otroške risbe neproporcionalnost figur in objektov, ekspresivnost barv in oblik, transparentnost, dinamičnost, gibanje figure in prikaz prostora. *Oblikovni razvoj* odraža uporabo likovnih elementov in obvladovanje likovnega jezika. Spremljamo in opazujemo odnose med likovnimi elementi, kompozicijo ter skladnost izražanja,

kar kaže učenčevo razumevanje in poznavanje likovnih sredstev, odnosov med likovnimi elementi in obvladovanje določenih postopkov (Duh, 2004; Duh in Korošec, 2009; Karlavaris, 1991a).

Nivo likovnega okusa odraža učenčevo likovno senzibilnost, individualni prispevek k likovnim vrednostim in sposobnost presoje kakovosti umetniških del (Duh in Korošec, 2009); temelji na estetiki in občutku za lepo, pri čemer učiteljev vpliv ni odločilen, saj ga oblikujejo vplivi mnogih drugih dejavnikov iz okolja. (Duh, 2004). *Oblikovne izkušnje in likovna tehnika* odražajo otrokovo obvladovanje likovnih postopkov (tehnika) in izraznih zmožnosti (Duh, 2004). Duh in Korošec (2009) pravita, da se nivo likovne izkušnje kaže v razumevanju in poznavanju različnih načinov likovnega izražanja, kar sooblikuje otrokov likovni izraz in zahteva nadgradnjo v okvirulikovnopedagoške prakse. *Individualnost* odraža značilno individualno likovno govorico, ki razlikuje učence med seboj (Duh, 2004); kaže se v odstopanjih od standarda, afiniteti do likovnih sredstev in osebnostnih potezah posameznika (Duh in Vrlič, 2003; Karlavaris in Berce Golob, 1991). *Splošni likovni nivo* je zadnji dejavnik, s katerim spremljamo skladnost ideje z likovno tehniko, likovno strukturo in sporočilom likovnega dela (Duh, 2004); poudarja celostno obvladovanje likovnega jezika, kjer so ideja, tema in motiv osrednji elementi prepoznavni na prvi pogled (Duh in Korošec, 2009).

V pričujočem prispevku se osredotočamo na vlogo sodobne umetnosti v funkciji razvijanja likovnooblikovnega razvoja. Saj ima sodobna umetnost velik pomen pri razvijanju oblikovnega nivoja pri pouku likovne umetnosti, saj učence spodbuja k raziskovanju inovativnih izraznih sredstev in razumevanju kompleksnih vizualnih sporočil. Efland (2002) je mnenja, da vključevanje sodobnih umetniških praks v izobraževanje širi vizualni besednjak učencev ter krepi njihovo kritično mišljenje o estetiki in družbenih kontekstih. Ta vidik pa je še posebej v ospredju v zadnjem času saj se družba precej spreminja in izobraževalni sistem, ki se mora na te spremembe ustrezno odzivati. Na vlogo sodobne umetnosti pri razvijanju likovnooblikovnega razvoja pa poudarja tudi Gude (2007) saj je mnjenja, takšna integracija pri učencih razvija senzibilnost za kompozicijo, barvno harmonijo in prostorsko organizacijo, kar je bistveno za oblikovni razvoj. Poleg tega Wilson (2004) ugotavlja, da sodobna umetnost omogoča učencem gradnjo individualne vizualne identitete in razvijanje metakognitivnih sposobnosti pri interpretaciji umetniških del. Tako prispeva k celostnemu oblikovanju vizualne pismenosti in kreativnega mišljenja učencev.

Metodologija

Cilj in namen raziskave

Namen raziskave je bilo eksperimentalno merjenje likovnooblikovnega razvoja osmošolcev ob implementaciji programa *Program implementacije sodobnih umetniških praks v osnovni šoli* (v nadaljevanju PISUPOŠ), ki v pouk likovne umetnosti vključuje sodobne umetniške prakse. Zanimala nas je razlika v likovnooblikovnem nivoju med učenci eksperimentalne skupine (v nadaljevanju ES) in kontrolne skupine (v nadaljevanju KS). Napredek učencev na nivoju likovnooblikovnega razvoja smo preverjali z inicialnim in finalnim testiranjem s *Testom LV2*.

Raziskovalne hipoteze

Predvidevali smo, da bo program PISUPOŠ pozitivno vplival na razvoj likovnooblikovnih sposobnosti učencev. Pričakovali smo, da bodo učenci, ki so likovne naloge izvajali po tem programu (ES), dosegli višje rezultate v primerjavi s tistimi, ki so ustvarjali po ustaljenem načinu dela (KS).

Ob splošni hipotezi H_{SP1}: *Ob preverjanju uspešnosti načrtovanih in izvedenih likovnih nalog & učenci osmega razreda pričakujemo, da bodo učenci eksperimentalne skupine dosegli višji nivo likovnooblikovnega razvoja* smo oblikovali tudi specifične hipoteze, ki so vezane na vsakega izmed šestih dejavnikov likovnooblikovnega razvoja.

Specifične hipoteze:

H_{SP1.1}: Učenci eksperimentalne skupine bodo v primerjavi z učenci kontrolne skupine izkazali višji nivo pri dejavniku *optičnotematski razvoj*.

H_{SP1.2}: Učenci eksperimentalne skupine bodo v primerjavi z učenci kontrolne skupine izkazali višji nivo pri dejavniku *oblikovni razvoj*.

H_{SP1.3}: Učenci eksperimentalne skupine bodo v primerjavi z učenci kontrolne skupine izkazali višji nivo pri dejavniku *nivo likovnega okusa*.

H_{SP1.4}: Učenci eksperimentalne skupine bodo v primerjavi z učenci kontrolne skupine izkazali višji nivo pri dejavniku *oblikovne izkušnje in likovne tehnike*.

H_{SP1.5}: Učenci eksperimentalne skupine bodo v primerjavi z učenci kontrolne skupine izkazali višji nivo pri dejavniku *individualnost*.







H_{SP}1.6: Učenci eksperimentalne skupine bodo v primerjavi z učenci kontrolne skupine izkazali višji nivo pri dejavniku *splošni likovni nivo*.

Predstavitev pedagoškega eksperimenta

Na podlagi teoretičnih izhodišč, nekaterih znanstvenih spoznanj in smernic sodobne didaktike smo oblikovali program dela PISUPOŠ, ki vključuje sodobne umetniške prakse v pouk likovne umetnosti v skladu s cilji, vsebinami in pojmi iz učnega načrta za osmi razred osnovnošolskega izobraževanja (Učni načrt za likovno vzgojo, 2011). Smernice zajemajo didaktično-organizacijske in vsebinske značilnosti, načine didaktične komunikacije s poudarkom na aktivnostih ter odnosih med učenci in učitelji. Program ponuja predloge za izbiro sodobnih likovnih del, načine za povezovanje sodobnih umetnikov z metodami in oblikami dela, načine spoznavanja sodobnih pristopov v likovni umetnosti in predloge za razvijanje ustreznih didaktičnih pristopov. Pripravljeni program PISUPOŠ vključuje likovne naloge, podprte s primeri sodobne likovne umetnosti, ki nazorno podpirajo obravnavane vsebine, in v katerih smo prepoznali povezavo s cilji in pojmi, zapisanimi v učnem načrtu. Enakovredno so zastopana vsa likovna področja (risanje, slikanje, grafika, kiparstvo, arhitektura), upoštevali pa smo tudi načelo postopnosti pri uvajanju sodobnih likovnih praks in pojmov v pouk likovne umetnosti. Ker učenci pred pedagoškim eksperimentom niso poznali sodobne umetnosti, smo postopno uvajanje ocenili kot ključno za preprečevanje morebitnega odpora učencev do drugačnega pristopa. Podrobnejše vsebine, primere in izhodišča predstavljamo v tabeli 1 in tabeli 2.





V tabeli 1 prikazujemo načrtovanje likovnih nalog, vezanih na oblikovanje na ploskvi, in sicer za področje *risanja*, *slikanja* in *grafike*. Pri vsaki likovni nalogi izpostavljammo likovne pojme iz učnega načrta (Učni načrt, 2011) in primere del sodobnih likovnih umetnikov ter vključenost pojmov, vezanih na sodobno likovno umetnost, pri čemer smo pri vsaki likovni nalogi poudarili zapis koncepta oziroma idejno zasnovo izdelka. Na likovnem področju *risanje* smo načrtovali tri naloge: iluzijo prostora, prostorske ključne in risanje po opazovanju, za vsako nalogo smo predvideli dve učni uri. Na likovnem področju *slikanje* smo načrtovali dve likovni nalogi: količinsko barvno nasprotje in tonsko slikanje. Za izvedbo vsake naloge s področja slikanja smo načrtovali štiri šolske ure. Na likovnem področju *grafika* smo načrtovali eno nalogo: globoki tisk.

Tabela 1*Vsebine, primeri in izhodišča programa PISOPUS (oblikovanje na ploskvi)*

Likovno področje	Likovni pojmi (Učni načrt, 2011):	Pojmi, vezani na sodobno likovno umetnost:	Avtor implementiranega sodobnega dela	Implementacija sodobnega dela
Risanje	iluzija prostora, optične prevare	skica, koncept/ideja, instalacija	Peter Kogler, Monika Gryzmal	
	prostorski ključ (nizanje figur, delno prekrivanje, plani, velikost, intenzivnost, linije, svetloba in senca, prekrivanje oblik, stopnjevanja, zvrčanja)	koncept/ideja	Damien Gilley	
	risanje po opazovanju konstrukcijsko risanje, proporc, viziranje, prostorski plani	predmet kot umetniški objekt, koncept/ideja, zapis ideje	Marcel Duchamp, Claes Oldenburg, Martin Roller	
Slikanje	količinsko barvno nasprotje	koncept/ideja, računalniška slika, prostorska postavitev/instalacija	Yayoi Kusama	
	tonsko slikanje	konceptualna zasnova slikarske podlage, koncept/kaj sporočamo, instalacija	Ignac Meden, Wallen Mapondere	
Grafika	globoki tisk (suha igla, kolagrafija) človeška figura/portret/ disproporc	instalacija	Paula Schuette Kraemer, Angie Hoffmeister, Črtomir Frelih	

V tabeli 2 prikazujemo načrtovanje likovnih nalog, vezanih na oblikovanje v tridimenzionalnem prostoru, in sicer za področje kiparstva in arhitekture. Pri vsaki likovni nalogi smo načrtovali obravnavo likovnih pojmov iz učnega načrta (Učni načrt, 2011), izbrali smo ustrezne primere likovnih del sodobnih umetnikov ter vključili pojme, vezane na sodobno likovno umetnost, pri čemer smo tudi pri teh nalogah izpostavili zapis koncepta. Na likovnem področju *kiparstvo* smo načrtovali dve nalogi: kompozicija v kiparstvu in mala plastika, pri čemer smo za prvo nalogo načrtovali štiri ure, za drugo nalogo pa dve šolski uri. Na likovnem področju *arhitektura* smo načrtovali eno likovno nalogo: kompozicija v kiparstvu in zanjo načrtovali štiri šolske ure. Pri kiparski nalogi *Mala plastika* in pri arhitekturni nalogi smo vključili tudi pojma *ekologija* in *globalizacija*, s čimer smo se tudi z vsebino približali idejam sodobne likovne umetnosti in omogočili možnosti medpredmetnega povezovanja.

Tabela 2*Vsebine, primeri in izhodišča programa PISOPUŠ (oblikovanje v tridimenzionalnem prostoru)*

Likovno področje	Likovni pojmi (Učni načrt, 2011):	Pojmi, vezani na sodobno likovno umetnost:	Avtor implementiranega sodobnega dela	Implementacija sodobnega dela
Kiparstvo	kompozicija v kiparstvu	skica, zapis koncepta, minimalizem, velika plastika	Richard Serra	
	simetrija, asimetrija			
	pozitiven in negativen prostor			
	mala plastika	instalacija, zapis koncepta, ekologija	Nela Azevedo, Jose Damascen, Dona Conlon	 
	položaj, velikost, smer, teža, število, gostota			
	površina kipa			
Arhitektura	kompozicija v arhitekturi: komponiranje z dodajanjem in z odvzemanjem	zapis koncepta, instalacija, globalizacija	Marjetica Potrč	

Izvedba pedagoškega eksperimenta

Eksperimentalni program (PISUPOŠ) se od kontrolnega razlikuje v izboru in načinu predstavitve likovnih primerov, s poudarkom na sodobnih likovnih praksah.

V kontrolni skupini so učiteljice izvajale pouk po ustaljenem programu, brez posebnih priprav v okviru raziskave, pri čemer smo le uskladili termine testiranj in preverjali izvedbo ur. Nasprotno pa smo učiteljice v eksperimentalni skupini predhodno usposobili za delo s programom PISUPOŠ, saj je uvajanje novosti zahtevalo poglobljeno pripravo. Že v fazi načrtovanja smo jih vključili v oblikovanje programa, kar je prispevalo k njihovi motivaciji, izboljšalo komunikacijo in povečalo zanesljivost pri izvajanju eksperimentalnega pouka.

Raziskovalni vzorec

V raziskavo so bili vključeni učenci 8. razreda iz šestih osnovnih šol na območju Zavoda za šolstvo, območne enote Maribor. Med 21 osnovnimi šolami smo izbirali tako mestne kot primestne šole. Ker pouk likovne umetnosti v tretjem vzgojno-izobraževalnem obdobju poteka le eno uro tedensko, smo vključili šole s fleksibilnim urnikom (dve uri tedensko), kar je omogočilo neprekinjeno 15-tedensko izvajanje programa in optimizacijo raziskave. Pri obdelavi podatkov smo upoštevali le učence, katerih starši so podali soglasje za sodelovanje in ki so bili prisotni na obeh testiranjih, inicialnem in finalnem ($N = 121$). Končni raziskovalni vzorec je sestavljalo 54,54 % deklic in 45,45 % dečkov, pri čemer je bilo 55,37 % učencev iz mestnih in 44,62 % iz primestnih šol. Eksperimentalna skupina je zajemala 49,58 % učencev, kontrolna skupina pa 50,41 %.

Raziskovalne metode

Pri raziskovanju smo uporabili metodo pedagoškega eksperimenta. Razlike med skupinami smo ugotavljali z uporabo neparametričnih testov.

Potek pedagoškega eksperimenta smo dokumentirali s primeri likovnih del učencev. V vseh skupinah učencev (ES in KS) smo izvedli *kvantitativno* raziskavo z uporabo testa LV 2 (Duh, 2004), ki smo ga izvedli pred pedagoškim eksperimentom in po njem, z namenom preveriti napredek učencev na nivoju likovnooblikovnega razvoja.

Pri analizi testa smo uporabili frekvenčne razporeditve, aritmetične sredine, standardni odklon, koeficient asimetrije in sploščenosti, Kruskal-Wallisov preizkus, Levenov preizkus homogenosti varianc in T-test.

Merski instrumentarij

V skladu z namenom raziskave smo za zbiranje podatkov uporabili preverjen likovni test LV2, ki je bil v praksi že večkrat preizkušen in je pokazal visoko zanesljivost ter objektivne rezultate (Duh, 2004; Herzog, Duh in Zupančič, 2023). Z likovnim testom LV2 smo spremljali in merili nivo likovnooblikovnega razvoja učencev pred izvedbo pedagoškega eksperimenta (inicialno stanje) in po njegovem zaključku (finalno stanje). Rezultate smo med seboj primerjali in ugotavljali napredek in razlike likovnooblikovnega razvoja pri učencih obeh skupin (ES in KS).

Likovni test LV2 sestavljajo štiri različne likovne naloge, ki podajo informacijo o celovitem otrokovem likovnooblikovnem razvoju (Duh, 2004). Pri izvedbi likovnih nalog so učenci imeli zagotovljene enake testne pogoje: risalni listi, določen material, predstavitev namena testa, na tabli napisan naslov naloge, odmerjen čas (20 minut), pri čemer vsaka likovna naloga omogoča tudi spremljanje posameznih dejavnikov likovnooblikovnega razvoja hkrati, kot je prikazano v tabeli 3.

Tabela 3

Spremljanje posameznih dejavnikov likovnooblikovnega razvoja glede na naloge v likovnem testu LV2 (povzeto po Duh, 2004)

	Naloga 1	Naloga 2	Naloga 3	Naloga 4
Likovnooblikovni razvoj	Optičnotematski razvoj	Oblikovni razvoj	Optičnotematski razvoj	Oblikovni razvoj
	Likovni okus	Likovni okus	Oblikovne izkušnje in likovna tehnika	Individualnost
	Splošni likovni nivo	Splošni likovni nivo	Individualnost	Individualnost
	Likovni material	Likovni material	Likovni material	Likovni material
	Voščenke	Voščenke	Črni flomaster	Voščenke
Naslov likovne naloge	Ponovi svoje najljubše likovno delo	Kompozicija skladnih oblik in barv	Drobno bitje opazuje notranjost starega stebela	Dišeča svetloba višine je očarana nad razpetim šumom radostne vode

Obdelava podatkov

Podatke, ki smo jih pridobili z likovnim testom LV2, smo statistično obdelali v skladu z namenom in ciljem raziskave na nivoju deskriptivne in inferenčne statistike. Uporabili smo naslednje statistične metode: frekvenčne porazdelitve (f , $f\%$), aritmetične sredine (MIN., MAKS.), standardni odklon, Kruskal-Wallisov preizkus, Levenov preizkus homogenosti varianc, T-test.

Rezultati in razprava

Rezultate inicialnega in finalnega merjenja pri posameznem dejavniku likovnooblikovnega razvoja celotnega vzorca učencev v nadaljevanju predstavljamo skupaj v tabeli 4.

Tabela 4

Deskriptivna analiza vrednosti posameznih dejavnikov likovnooblikovnega razvoja v inicialnem in finalnem stanju na celotnem vzorcu učencev

Dejavniki	N	MIN. in MAKS. št. točk			Aritmetična sredina		Standardni odklon	
			IN	FIN	IN	FIN	IN	FIN
Optičnotematski razvoj	121	MIN MAX	0,25 9,25	0,00 7,75	2,98	2,76	1,96	1,98
Oblikovni razvoj	121	MIN MAX	0,50 9,25	0,75 9,00	3,99	4,45	1,70	1,76
Nivo likovnega okusa	121	MIN MAX	0,50 7,75	0,25 7,75	3,13	3,18	1,67	1,79
Oblikovne izkušnje in likovna tehnika	121	MIN MAX	0,75 8,25	0,75 8,25	3,68	3,76	1,68	1,76
Individualnost	121	MIN MAX	0,25 8,75	0,50 8,00	3,28	3,40	1,76	1,74
Splošni likovni nivo	120	MIN MAX	0,50 8,75	0,25 9,75	4,08	4,45	1,71	2,11

*V statistično obdelavo smo zajeli zgolj popolno izpolnjene odgovore. (*IN.=inicialno; FIN= finalno)

Iz tabele (tabela 4) je moč razbrati, da so učenci v finalnem merjenju pri večini dejavnikov dosegali boljše rezultate. Razen pri dejavniku optičnotematski razvoj, kjer rezultati kažejo na to, da so učenci v finalnem merjenju dosegli nekoliko slabše rezultate. Glede na to, da ima »učitelj precej manjši vpliv na optičnotematski razvoj (Herzog, 2018, str. 979) kot na razvijanje ustvarjalnih sposobnosti«, lahko dani rezultat razumemo kot pomanjkanje motivacije učencev pri reševanju testne naloge. Pri analizi splošnega likovnega nivoja pa so učenci v finalnem merjenju dosegli boljše

rezultate za 10 % of inicialnega merjenja. Torej so učenci v finalnem merjenju na likovnih izdelkih izkazali dobro znanje rabe likovne tehnike skladne z likovno idejo. Hkrati pa je moč zaznati na likovnih izdelkih zadovoljiv nivo sugestivnosti likovnega izraza.

Tabela 5

Deskriptivna analiza skupne vrednosti dejavnikov likovnooblikovnega razvoja v inicialnem in finalnem stanju

Dejavniki	N	MIN. in MAKS. št. točk			Aritmetična sredina		Standardni odklon	
			IN	FIN	IN	FIN	IN	FIN
Skupni likovnooblikovni razvoj	121	MIN	3,50	3,75	21,14	22,09	9,59	10,39
		MAX	51,00	50,00				

*V statistično obdelavo smo zajeli zgolj popolno izpolnjene odgovore. (*IN.=inicialno; FIN= finalno)

Pri skupni vrednosti dejavnikov likovnooblikovnega razvoja (tabela 5) so učenci v inicialnem merjenju dosegli v povprečju 21 točk ($M = 21,14$), pri čemer je bilo največje število doseženih točk 51 in najmanjše 3,50 točke od možnih 65 točk. 65 je seštevek točk, upoštevajoč dejavnike, ki so vplivali na vrednotenje vseh štirih likovnih nalog pri skupni vrednosti dejavnikov likovnooblikovnega razvoja, pri čemer so nekateri dejavniki vrednoteni s 5 in nekateri s 6 točkami. V finalnem merjenju so učenci dosegli v povprečju nekaj več kot 22 točk ($M = 22,09$), pri čemer je bilo največje število doseženih točk 50 in najmanjše 3,75 točk od možnih 65 točk. Podatki kažejo rahlo izboljšanje v povprečni vrednosti likovnooblikovnega razvoja med inicialnim in finalnim stanjem. Čeprav se je minimalna vrednost nekoliko zvišala, je najvišja vrednost rahlo padla. Povečanje standardnega odklona pomeni, da se razlike med učenci povečujejo, kar bi lahko nakazovalo, da so nekateri učenci hitreje napredovali kot drugi učenci.

Preverjanje specifičnih učinkov eksperimenta

V nadaljevanju predstavljamo rezultate, ki smo jih pridobili z analizo kovariance, s katero smo preverjali učinkovitost pedagoškega eksperimenta glede na eksperimentalno in kontrolno skupino. Predstavljamo tako rezultate in analizo rezultatov kovariance posameznih dejavnikov likovnooblikovnega razvoja kot skupnega likovnooblikovnega razvoja (tabela 6).

Izid F-preizkusa homogenosti varianc kaže, da je predpostavka (skupina) pri

dejavniku optičnotematski razvoj upravičena ($P = 0,661$), s čimer je izpolnjen pogoj za izračun kovariance. Analiza kovariance je pokazala statistično značilno razliko ($P = 0,001$) v prid učencem eksperimentalne skupine. Ugotavljamo, da je uvedba programa PISUPOŠ ugodno vplivala na dvig nivoja dejavnika *optičnotematski* razvoj pri učencih eksperimentalne skupine, ki so glede na učence kontrolne skupine pri omenjenem dejavniku dosegli boljše rezultate.

Tabela 6

Parametri deskriptivne statistike (skupina) in analiza kovariance rezultatov posameznih dejavnikov likovnooblikovnega razvoja

		N	MIN	MAKS	Aritmetična sredina	Standardni odklon	Analiza kovariance F P	
Optičnotematski razvoj	ES	60	0,50	7,75	3,56	1,78	41,19	0,001
	KS	61	0,00	7,50	1,96	1,85		
Oblikovni razvoj	ES	60	2,25	9,00	5,52	1,29	121,29	0,001
	KS	60	0,75	6,50	3,39	1,52		
Nivo likovnega okusa	ES	60	1,50	7,75	3,96	1,52	41,12	0,001
	KS	61	0,25	6,75	2,42	1,72		
Oblikovne izkušnje in likovna tehnika	ES	60	1,75	8,25	4,78	1,42	84,10	0,001
	KS	60	0,75	6,25	2,74	1,45		
Individualnost	ES	60	1,75	8,00	4,25	1,41	49,17	0,001
	KS	60	0,50	7,25	2,55	1,63		
Splošni likovni nivo	ES	60	2,50	9,75	5,67	1,56	102,95	0,001
	KS	61	0,25	7,50	3,25	1,89		
Skupni likovnooblikovni razvoj	ES	60	12,25	50,00	27,74	7,97	122,59	0,001
	KS	60	3,75	39,00	16,4417	9,46		

*V statistično obdelavo smo zajeli zgolj popolno izpolnjene odgovore.

S tem potrdimo hipotezo $H_{sp1.1}$.

Izid F-preizkusa homogenosti varianc kaže, da je predpostavka (skupina) pri dejavniku oblikovni razvoj upravičena ($P = 0,292$), s čimer je izpolnjen pogoj za izračun kovariance. Analiza kovariance je pokazala statistično značilno razliko ($P = 0,001$) v prid učencem eksperimentalne skupine, ki so tudi pri dejavniku oblikovni razvoj dosegli boljše rezultate. Ugotavljamo, da je uvedba eksperimentalnega programa PISUPOŠ ugodno vplivala tudi na dvig nivoja dejavnika *oblikovni razvoj* pri učencih eksperimentalne skupine glede na učence kontrolne skupine.

S tem potrdimo hipotezo $H_{Sp1.2}$. Izid F-preizkusa homogenosti varianc kaže, da je predpostavka (skupina) pri dejavniku nivo likovnega okusa upravičena ($P = 0,987$), s čimer je izpolnjen pogoj za izračun kovariance. Analiza kovariance je pokazala statistično značilno razliko ($P = 0,001$) v prid učencem eksperimentalne skupine, ki so tudi pri tem dejavniku dosegli boljše rezultate. Ugotavljamo, da je uvedba eksperimentalnega programa PISUPOŠ ugodno vplivala tudi na izboljšanje dejavnika nivo likovnega okusa pri učencih eksperimentalne skupine glede na učence kontrolne skupine. S tem potrdimo hipotezo $H_{Sp1.3}$.

Izid F-preizkusa homogenosti varianc kaže, da je predpostavka (skupina) tudi pri dejavniku oblikovne izkušnje in likovna tehnika upravičena ($P = 0,475$), s čimer je izpolnjen pogoj za izračun kovariance. Analiza kovariance je tudi pri tem dejavniku pokazala statistično značilno razliko ($P = 0,001$), znova v prid učencem eksperimentalne skupine, ki so dosegli boljše rezultate. Ugotavljamo, da je uvedba eksperimentalnega programa PISUPOŠ ugodno vplivala tudi na dvig nivoja dejavnika *oblikovne izkušnje* in *likovna tehnika* pri učencih eksperimentalne skupine glede na učence kontrolne skupine. S tem potrdimo hipotezo $H_{Sp2.4}$.

Izid F-preizkusa homogenosti varianc kaže, da je predpostavka (skupina) tudi pri dejavniku individualnost upravičena ($P = 0,834$), s čimer je izpolnjen pogoj za izračun kovariance. Analiza kovariance je pokazala statistično značilno razliko tudi pri tem dejavniku ($P = 0,001$) v prid učencem eksperimentalne skupine. To pomeni, da so učenci eksperimentalne skupine tudi pri tem dejavniku dosegli boljše rezultate. Ugotavljamo, da je uvedba eksperimentalnega programa PISUPOŠ ugodno vplivala tudi na dvig nivoja dejavnika *individualnost* pri učencih eksperimentalne skupine glede na učence kontrolne skupine. S tem potrdimo hipotezo $H_{Sp1.5}$.

Izid F-preizkusa homogenosti varianc kaže, da je predpostavka (skupina) pri dejavniku splošni likovni nivo upravičena ($P = 0,974$), s čimer je izpolnjen pogoj za izračun kovariance. Analiza kovariance je pokazala statistično značilno razliko ($P = 0,001$), znova v prid učencem eksperimentalne skupine. Torej so tudi v zadnjem segmentu učenci eksperimentalne skupine dosegli boljše rezultate. Ugotavljamo, da je uvedba eksperimentalnega programa PISUPOŠ ugodno vplivala tudi na dvig nivoja zadnjega dejavnika *splošni likovni nivo* pri učencih eksperimentalne skupine glede na učence kontrolne skupine. S tem potrdimo tudi hipotezo $H_{Sp1.6}$.

Tudi pri skupni vrednosti dejavnikov likovnooblikovnega razvoja izid F-preizkusa homogenosti varianc kaže, da je predpostavka (skupina) upravičena ($P = 0,914$), s čimer je izpolnjen pogoj za izračun kovariance. V prid učencem eksperimentalne

skupine je analiza kovariance pokazala statistično značilno razliko ($P = 0,001$), kar pomeni, da so učenci eksperimentalne skupine dosegli boljše rezultate. Ugotavljamo torej, da je uvedba eksperimentalnega programa PISUPOŠ ugodno vplivala na dvig skupne vrednosti dejavnikov na nivoju likovnooblikovnega razvoja pri učencih eksperimentalne skupine glede na učence kontrolne skupine. Na tem mestu lahko v celoti potrdimo hipotezo H_{SPL1} (*Ob preverjanju uspešnosti načrtovanih in izvedenih likovnih nalog z učenci osmega razreda pričakujemo, da bodo učenci eksperimentalne skupine dosegli višji nivo likovnooblikovnega razvoja.*).

Sklenemo lahko torej, da se največji napredek kaže pri skupnem likovnooblikovnem razvoju, s čimer potrjujemo, da je pedagoški pristop z uveljavljanjem PISOPUŠ programa zelo učinkovit v eksperimentalni skupini. Hkrati pa rezultati kažejo na to, da omenjeni pristop pozitivno vpliva na vse vidike likovne ustvarjalnosti, tako likovnotehničnih spretnosti kot tudi individualnega izraza in likovnega okusa.

Sklep

Izvedena analiza rezultatov inicialnega in finalnega merjenja likovnooblikovnega razvoja učencev je pokazala statistično značilne razlike med eksperimentalno in kontrolno skupino. Rezultati deskriptivne analize (tabela 4 in tabela 5) kažejo, da so učenci v finalnem merjenju dosegli izboljšanje pri večini dejavnikov likovnooblikovnega razvoja, kar potrjuje učinkovitost eksperimentalnega programa PISUPOŠ. Največji napredek je bil zabeležen pri skupnem likovnooblikovnem razvoju, kjer so učenci eksperimentalne skupine dosegli znatno višje vrednosti v primerjavi s kontrolno skupino. Analiza kovariance (tabela 6) je pokazala, da so razlike med eksperimentalno in kontrolno skupino statistično značilne ($P = 0,001$) pri vseh dejavnikih likovnooblikovnega razvoja. Eksperimentalna skupina je pri vseh dejavnikih dosegla višje rezultate, kar kaže na pozitiven vpliv programa PISUPOŠ na razvoj likovnooblikovnega razvoja učencev. Statistična analiza homogenosti varianc je potrdila, da so izpolnjeni pogoji za izračun kovariance, pri čemer je bila pri vseh dejavnikih potrjena statistično značilna razlika v korist eksperimentalne skupine. To potrjuje, da je eksperimentalni program PISUPOŠ imel pozitiven vpliv na vse segmente likovnega izražanja, vključno z razvijanjem likovnotehničnih spretnosti, individualnega izraza ter estetskega dožemanja.

Na podlagi rezultatov lahko sklenemo, da je eksperimentalni pristop, ki temelji na programu PISUPOŠ, prispeval k izboljšanju likovnooblikovnega razvoja učencev. Učenci eksperimentalne skupine so dosegli višji nivo ustvarjalnega izraza, tehnične

izvedbe in likovnega razumevanja v primerjavi s kontrolno skupino, s čimer lahko potrdimo splošno hipotezo (H_{SPL1}). Izsledki naše raziskave lahko pomembno vplivajo na nadaljnji razvoj pedagoških pristopov pri pouku likovne umetnosti in poudarjajo pomen sistematičnega pristopa k razvijanju likovnih kompetenc učencev.

Summary

In developing students' artistic skills, quality pedagogical practice is essential, where teachers encourage creativity with appropriately selected art tasks. It is important that teachers master artistic techniques and procedures and encourage students to develop their own artistic language. As part of the research approach to measuring the factors in artistic development, we observe the following: the level of design development, the level of visual-thematic development, the level of artistic taste, the level of design experience and art technique, the level of individuality and the general artistic level.

In the study, we focused on the development of students' artistic design based on the understanding and knowledge of artistic elements such as point, line, colour and texture, and their mutual relationships. As students develop their artistic creativity, they explore materials and techniques that allow them to let their imagination run wild and express their own ideas. Teachers have a key role to play in this, as they must formulate tasks that encourage exploration and personal artistic expression.

The study aimed to investigate the impact of the PISUPOŠ program (Program for the Introduction of Contemporary Art Practices in Primary School), which incorporates contemporary art practices into the visual arts teaching process. The aim of the study was to determine whether the inclusion of contemporary artworks can have a positive impact on the development of eighth graders' artwork. To this end, we compared students in the experimental group (ES), who participated in the experimental program, with students in the control group (KS), who followed the standard curriculum.

The experimental program incorporated contemporary art practices and allowed teachers to use current artistic approaches in their art lessons, which helped students to better understand contemporary art concepts. Before the experiment began, teachers were trained in the use of the new PISUPOŠ program, which increased their motivation for and reliability in delivering the lessons.

To analyse the pedagogical experiment, the LV2 art test was used, which measured the students' level of development in the field of art design. After the initial and final tests, the results showed that students in the experimental group performed better in most factors of art design development: the level of design development, the level of visual-thematic development, the level of artistic taste, the level of design experience and art technique, the level of individuality, and the general art level. Specific analyses also showed that the introduction of the PISUPOŠ program had a positive impact on student progress, especially in factors such as visual-thematic development, design development and individuality. Analysis of the results showed that the difference between students in the experimental and control groups was statistically significant. The PISUPOŠ program had a decisive influence on the artistic development of the students, which is also confirmed by the significant progress compared to students who did not participate in the program. Thus, the research results confirmed our hypothesis of the positive influence of contemporary art practices on the development of students' artistic skills. These results suggest that the planning and implementation of art tasks involving contemporary artistic practices play a vital role in fostering students' creativity and artistic skills. A pedagogical approach that includes active research and artistic expression in the way of contemporary art practices has a positive impact on students' progress and artistic development, which is key to preparing students for the challenges of the modern world.

Literatura

- Butina, M. (2003). *Mala likovna teorija*. Ljubljana: Debora.
- Butina, M. (1997). *Prvine likovne prakse*. Ljubljana: Debora.
- Craft, A. (2005). *Creativity in schools: Tensions and dilemmas*. Abingdon: Routledge.
- Dinkelmann, K. (2008). *Kreativitätsförderung im Kunstunterricht*. Herbert Utz Verlag.
- Duh, M. (2004). *Vrednotenje kot didaktični problem pri likovni vzgoji*. Maribor: Univerza v Mariboru Pedagoška fakulteta.
- Duh, M., in Korošec, R. (2009). Likovnooblikovni razvoj učencev v osnovni šoli. *Journal of Elementary Education*, 2(2/3), 33–41.
- Duh, M., in Vrlič, T. (2003). *Likovna vzgoja v prvi triadi devetletne osnovne šole: Priročnik za učitelje razrednega pouka*. Ljubljana: Rokus.
- Efland, A. D. (2002). *Art and Cognition: Integrating the Visual Arts in the Curriculum*. Teachers College Press.
- Gude, O. (2007). The New Art Pedagogy. *Art Education*, 60(1), 6–14.
- Herzog, J. (2009). Dejavniki likovne ustvarjalnosti in likovnopedagoško delo. *Journal of Elementary Education*, 2(2/3), 19–31.

- Herzog, J. (2017). Spremljavo likovnega razvoja učencev v tretjem vzgojno-izobraževalnem obdobju osnovne šole. *Journal of Elementary Education*, 10(4), 349–364.
- Herzog, J. (2018). Monitoring the Artistic Development of Fourth-Year Students-An Analysis of the Situation in Croatian Primary Schools. *Croatian Journal Educational/Hrvatski časopis za odgoj i obrazovanje*, 20(3), 973–1000.
- Herzog, J., in Duh, M. (2011). Artistic and creative achievements of primary school students with regard to gender and stratum. *Metodiški obzori: časopis za odgojno-obrazovnu teoriju i praksu*, 6(11), 37–48.
- Herzog, J., Duh, M. in Zupančič, T. (2023). *Conditions and Research in Contemporary Art Education*. Hamburg: Verlag Dr. Kovač.
- Huzjak, M., in Županič Benić, M. (2017). Measuring creativity in visual arts teaching methodology in elementary school. *Croatian Journal of Education: Hrvatski časopis za odgoj i obrazovanje*, 19(3), 43–59.
- Karlavaris, B. (1991a). *Metodika likovnog odgoja 1*. Rijeka: Hofbauer.
- Karlavaris, B. (1991b). *Metodika likovnog odgoja 2*. Rijeka: Hofbauer.
- Karlavaris, B., in Berce-Golob, H. (1991). *Likovna vzgoja: priručnik za učitelje razrednega pouka*. Ljubljana: Državna založba Slovenije.
- McLennan, D. M. P. (2010). Process or product? The argument for aesthetic exploration in the early years. *Early Childhood Education Journal*, 38(2), 81–85.
- Učni načrt. Program osnovna šola. Likovna vzgoja. (2011). Ljubljana: Ministrstvo za šolstvo in šport, Zavod šolstvo. Pridobljeno s: https://www.gov.si/assets/ministrstva/MVI/Dokumenti/Osnovna-sola/Ucni-nacrti/obvezni/UN_likovna_vzgoja.pdf
- Vahter, E. (2016). Looking for a possible framework to teach contemporary art in primary school. *International Journal of Art & Design Education*, 35(1), 51–67.
- Wilson, B. (2004). Child Art After Modernism. *Visual Arts Research*, 30(1), 41–49.

Avtorici:

Dr. Katja Kozjek Varl, PhD

Asistentka, Univerza v Mariboru, Pedagoška fakulteta, Koroška cesta 160, 2000 Maribor, Slovenija, e-pošta: katja.kozjek-varl@um.si
Assistant, University of Maribor, Faculty of Education, Koroška cesta 160, 2000 Maribor, Slovenia, e-mail: katja.kozjek-varl@um.si

Dr. Jerneja Herzog, PhD

Izredna profesorica, Univerza v Mariboru, Pedagoška fakulteta, Koroška cesta 160, 2000 Maribor, Slovenija, e-pošta: jerneja.herzog@um.si
Associate Professor, University of Maribor, Faculty of Education, Koroška cesta 160, 2000 Maribor, Slovenia, e-mail: jerneja.herzog@um.si



SPIRITUALTY OF CHILDREN IN FAMILIES AND THOSE IN RESIDENTIAL CARE

GORAN KARDUM, ANTE GRČIĆ & MARINA SABLIĆ

Faculty of Humanities and Social Sciences, University of Split, Split, Croatia

Potrjeno/Accepted
6. 9. 2024

Objavljeno/Published
31. 3. 2025

KORESPONDENČNI AVTOR/CORRESPONDING AUTHOR
gkardum@ffst.hr

Abstract/Izvleček

The aim of the study was to investigate the differences in the spirituality of children in residential care and children in families. Applying the method of pairs, children with behavioural problems who are users of residential care and children from families who are equal in terms of sociodemographic variables were selected for the sample. After applying a mixed methodology (Spiritual Sensitivity Scale and Santa Clara questionnaires, and Interpretive phenomenological analysis and thematic analysis of interviews), we obtained results indicating differences in the understanding of spirituality between these two groups. Children from residential care achieved higher results on spirituality questionnaires, and qualitative methodology determined a greater degree of compassion towards close people as well as a deeper relationship with the transcendent.

Keywords:

spirituality, method of
pairs, residential care,
children, mixed
methodology.

Duhovnost otrok v družinah in tistih v institucionalni oskrbi

Namen raziskave je bil preučiti razlike v duhovnosti otrok, ki živijo v institucionalnem varstvu, in otrok, ki odraščajo v družinah. Z metodo parov so bili v vzorec vključeni otroci z vedenjskimi težavami, ki so uporabniki institucionalnega varstva, ter otroci iz družin, ki so jim po sociodemografskih spremenljivkah enakovredni. Z uporabo mešane metodologije (lestvica duhovne občutljivosti in vprašalniki Santa Clara ter interpretativna fenomenološka analiza in tematska analiza intervjujev) so rezultati pokazali razlike v razumevanju duhovnosti med tema dvema skupinama. Otroci iz institucionalnega varstva so dosegli višje rezultate na vprašalnikih o duhovnosti, kvalitativna metodologija pa je pokazala večjo stopnjo sočutja do bližnjih oseb ter globlji odnos s transcendentnim.

Ključne besede:

duhovnost, metoda
parov, institucionalno
varstvo, otroci, mešana
metodologija.

UDK/UDC:

159.922-053.2:2-584

DOI <https://doi.org/10.18690/rei.5046>

Besedilo / Text © 2025 Avtor(ji) / The Author(s)

To delo je objavljeno pod licenco Creative Commons CC BY Priznanje avtorstva 4.0

Mednarodna. Uporabnikom je dovoljeno tako nekomercialno kot tudi komercialno reproduciranje, distribuiranje, dajanje v najem, javna priobčitev in predelava avtorskega dela, pod pogojem, da navedejo avtorja izvirnega dela. (<https://creativecommons.org/licenses/by/4.0/>).



Introduction

Religion and spirituality are complex constructs in research on children and adolescents. How do children and adolescents experience religion and spirituality? How are other dimensions of children's and adolescents' lives outlined through spirituality and religiosity? In what way does the local community, the community in which children or adolescents live, shape, or fail to shape the relationship towards religion and spirituality? Can we even measure these dimensions in children and adolescents?

These are just some of the questions that arise in recent research and textbooks in this field. This gives us justification for research and publication of works in the field of the psychology, pedagogy, and theology of understanding the religiosity and spirituality of children and adolescents. Systematic reviews of databases, such as PsychINFO, show that most dissertations and articles that have passed the modern review process (peer-reviewed) were published in the last 20 years or so. More precisely, analysis shows that 9 out of 10 publications appeared in the 21st century, i.e. in approximately the last 20 years (Boyatzis, 2024).

Spirituality and religiosity at distinct stages of life and events that mark the life of an individual, differ in their significance and influence and in some moments even become exceptional, unique and unrepeatable. How sensitive are we in various situations and stages of development to questions that touch spirituality? How and in what way do we recognize the importance of spirituality, and how can it help us in these moments?

Do we know what spirituality is? How can we measure it? In the literature, there are a number of questionnaires and scales that investigate individual dimensions of spirituality. Not a single scale measures spirituality as a unique whole, but rather as an individual part. Moreover, we even lack a single definition of spirituality. We have multiple approaches to and attempts to define within the framework of certain theories, paradigms, schools, or trends. The psychology of religiosity is a field that is presented through a methodologically dominant empirical hypothetical approach, while the history of the discipline often shows contrasting approaches (Nelson and Slife, 2024). In addition, psychology should move away from the WEIRD (Western, Education, Industrial, Rich, Democratic) approach and consider, especially for spirituality, the complexity of society, individual subcultures, ethnographic diversity and finally, the uniqueness of the individual.

Most of the published research is directed by placing the variable in the centre (variable-centred approach), which puts statistical parameters such as correlations, performance effects, differences between groups, etc. in the foreground. Such research is focused on narrower areas, constructs, and potential relationships between variables and analyses these relations in the given framework. It is a kind of quantitative paradigm that has certain values but at the same time is insufficient to yield an understanding of complex constructs at the level of the individual (Pearce et al., 2019). Therefore, the context in which a certain child or adolescent grows up is important, so that they can see the researched phenomenon. Such an approach is called the person-centred approach in the literature.

Quantitative methodology based on large samples and cross-sectional studies should be improved and overcome with qualitative methodology and longitudinal research (Boyatzis, 2024). Research into spirituality in children and adolescents should be directed towards a paradigm focused on the individual and not on the sample. So that, for example, they could investigate in an exclusively quantitative manner what the youngest canonized girl, Antonietta Meo, went through during her short life and suffering from illness. Nevertheless, a qualitative approach would also doubtlessly be needed.

A qualitative approach is especially necessary for children in difficult life circumstances, living with chronic illness, or loss of parents, or living in institutions. Research on children in palliative care in Barcelona showed the necessity of a qualitative approach. In the study, they used interpretive phenomenological analysis (IPA - Interpretive Phenomenological Analysis) interviews with 14 parents; from these interviews, three domains were extracted: life philosophy, relationships, and transcendence (Miquel et al., 2024). IPA has proven to be a suitable methodology in clinical, health and social psychology, and research contexts.

Qualitative research methodology can use visual representation and stories. Pictures and stories about supernatural life proved particularly useful in a sample of forty-nine children, which provided incredible qualitative insights into complex concepts such as death, dying, guilt, and forgiveness (Malcom, 2010).

Spirituality is an unavoidable topic for children when dealing with chronic conditions. Studies of spirituality among children facing life problems indicate several important dimensions that should be considered: the relationship to oneself, and to others, the relationship to the environment, and the relationship to transcendence (Fisher, 2004).

These should be included in pastoral care and therapeutic approaches. The significance of the qualitative approach in analysing the history and definitions of spirituality over time and in the development of a suitable methodological analysis (Singleton et al., 2004) is indisputable. Qualitative research has shown that children seek a unique identity and relationship with God, and research pointed to three domains of spiritual care: relationship dimension, context, and spiritual confrontation (Damsma Bakker et al., 2018). Longitudinal qualitative research highlights the importance of the relationship between parents and children and highlights that spirituality influences parents' decisions and the changes that are visible over time (Superdock et al., 2018).

Research into child and adolescent spirituality is mostly based on relationships--in the family and wider community--and research into how relationships affect different psychological dimensions (Adams et al., 2008). Spirituality among children is often coloured by the situation. Research shows that, for example, spending time in nature can be a trigger for considering and reflecting on spirituality and religiosity (Schein, 2014).

Spirituality is extremely important because it has a considerable influence on a child's development; as we have shown, this influence and relationship is more complex and important in life's difficulties. How much meaning and significance children attach to spirituality in altered life circumstances and difficulties is the precise focus of this work.

We will approach our study of the meaning of spirituality using a mixed methodology, employing short, simple questionnaires in combination with qualitative methodology, while analysing the context and content of interviews. There are a range of quantitative indicators, i.e. questionnaires that measure certain dimensions of religiosity in children (Fisher, 2004). However, age-appropriate measurement of a child's spiritual sensitivity, or the significance of spirituality in life is limited in the literature. The spiritual sensitivity questionnaire, i.e. The Spiritual Sensitivity Scale (Stoyles et al., 2012; Tirri et al., 2006, 2011) proved to be suitable, because this questionnaire is not long and can be applied to adolescents. The Spiritual Sensitivity Questionnaire for Children (SSSC) can describe spiritual sensitivity or meaning in children using either two dimensions (outwardness, and social relationships) or four dimensions (mindfulness, mysticism, value, and community). Significant relationships were also found between spiritual sensitivity, self-esteem, and hope.

Research suggests that the SSSC provides a robust indicator of the strength of a child's spirituality, as well as a useful companion measure to other measures of mental and emotional well-being (Stoyles et al., 2012). In addition to this questionnaire, we will use a well-tested short questionnaire on the intensity of faith (Plante, 2010).

Based on the above, the aim of this paper is to investigate differences in the meaning of spirituality among children in residential care (RC) and in families, using a mixed methodology. We expect that children in RC will attach different importance to spirituality, in terms of both intensity and qualitative description, compared to their peers who live in complete families.

Methodology

The protocol for the application of the research Quality of Living Spirituality and Religiosity among Children in RC and Children in Families is used to ascertain how children at the Center for Providing Services in the Community (Official name of the residential care institution), unlike children in families, experience spirituality and religiosity in everyday life. The two groups of children are equal in terms of age, gender, and education. The procedure consists of three steps: sociodemographic questions, qualitative protocol, and application of the questionnaire. The total duration of the procedure is estimated at thirty minutes.

Sample

The sample of respondents consists of children from families and children from residential care (Center for Providing Services in the Community).

From the sociodemographic questions, the following data were collected: age, gender, class and school, place of birth and residence, number of members in the family, number of members in the community, number of brothers and sisters, and time spent in the centre/community.

Qualitative analysis

In the qualitative part of the research, we used the content framework of the interview Spiritual Quality of Life (Kamper et al., 2010). This model rests on three areas and dimensions of spirituality: relationship to the supernatural, relationship to oneself and relationship to others.

During the interview, the following questions were asked:

1. What makes you happy? What are these activities, events, or meetings?
2. What makes you unhappy--when you feel bad?
3. What helps you feel better and less depressed and unhappy?
4. Are some children closer to God, or do they seek, do they feel his closeness? Are you looking for such an experience? If so, in what way?
5. Some children and adolescents pray and meditate when they are not feeling well or when they are depressed. Do you pray too? What are you looking for in prayer? Does prayer help?
6. Do you do something for the family/community, or do you help to make the family/community better, or to make the members of the family/community feel happier? If so, what is it, what do you do for the family/community?
7. What do you like to do in your free time? How do you feel in these activities?
8. What did you do for fun this week?

The qualitative part of the research lasted approximately 20 minutes per respondent. Questions 1 to 3 were intended to establish a relationship between the child and the researcher, as well as to provide the children with an opportunity to discuss the themes and/or relationships arising from the questions. Questions 4 and 5 were the heart of the spiritual interview, more directly asking respondents about their personal beliefs about God, a higher being, and prayer. Question 6 explored how the child's relationship with the family affected his/her spirituality. The last two questions, 7 and 8, ended the interview in a lighthearted manner.

Quantitative analysis

In the quantitative part of the research, we used the sensitivity questionnaire for spirituality (Tirri et al., 2006) and the Saint Clare faith strength questionnaire (Plante, 2010).

The analysis of the results was done using the R language and associated packages (rempsych, ggpubr). Differences between the two groups of children were analysed using the t-test for independent samples, and a preliminary check of the normality condition for the use of the t-test was made using the Shapiro-Wilk test, which was not significant ($p > 0.05$).

Results and discussion

The research was conducted using a mixed methodology, i.e. a combination of the application of a questionnaire as a quantitative measure and a qualitative part. In the following tabular representation, we see a description of the sample, where there is an equal representation of men (N=12) and women (N=12) in both groups. The age of the respondents is from 16 to 18 years old, where most of them are 16 or 17 years old, and only one is 18 years old. Children from families mostly come from families with three or four members, while children from foster homes come from families with four to seven members.

Table 1

Sociodemographic features of children from residential care and from families

	Residential care, N = 12 ¹	Family, N = 12 ¹	p-value ²
Sex			>0.9
Male	6 (50%)	6 (50%)	
Female	6 (50%)	6 (50%)	
Year			>0.9
16	5 (42%)	5 (42%)	
17	6 (50%)	6 (50%)	
18	1 (8.3%)	1 (8.3%)	
No. of family members			0.14
2	1 (9.1%)	0 (0%)	
3	1 (9.1%)	4 (36%)	
4	2 (18%)	5 (45%)	
5	2 (18%)	0 (0%)	
6	2 (18%)	2 (18%)	
7	2 (18%)	0 (0%)	
8	1 (9.1%)	0 (0%)	
Unknown	1	1	

¹n (%)

²Pearson's Chi-squared test; Fisher's exact test

The results show that there are differences between children in home placement and placement in a family. Namely, children in foster care have a significantly higher score on the SSS scale ($t=2.46$, $p=0.022$) than children in families. Although children from foster care have higher average values, there are no statistically significant differences on the Santa Clara strength of faith questionnaire ($t=1.67$, $p=0.68$). The above results should be interpreted in the context of the sample size, which in this case is small, only 12 children in each group. Thus, from the point of view of quantitative methodology, this research should be considered as a kind of trial, pilot study.

Therefore, pictorial representations in which we see individual values have greater interpretive value. In the following picture, we see the differences between the two groups of adolescents in the total number of points on the SSS questionnaire and on the Santa Clara questionnaire about the strength of faith.

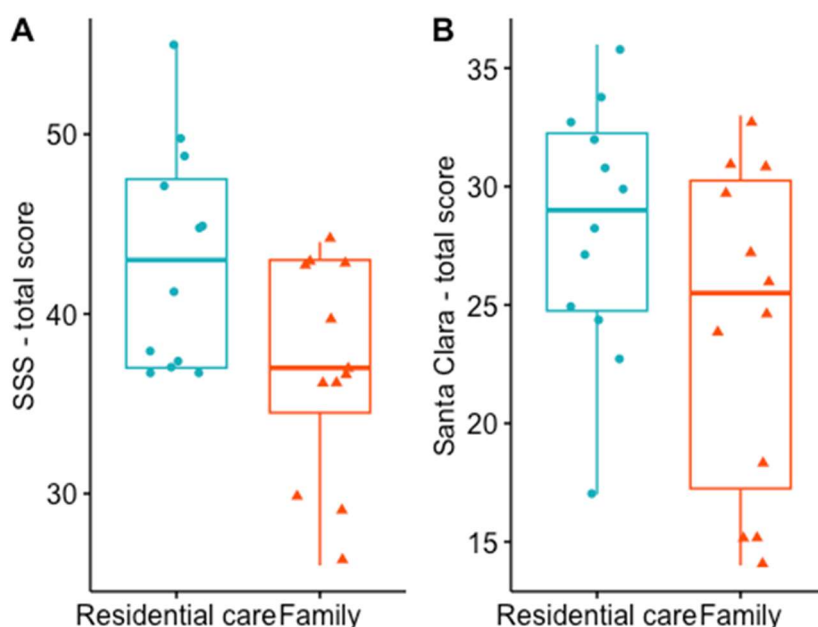


Figure 1: Spirituality sensitivity scale and Santa Clara total scores

In the qualitative part of the research, the respondents' answers to the questions asked in the interview were analysed. It was decided to approach thematic analysis

as a fundamental method of qualitative processing that enables us to show the experiences, meaning and reality of the respondents (Braun and Clarke, 2006). An important choice during thematic analysis is the demarcation of the topic, which can be achieved by inductive and deductive means. With the inductive approach, topics are derived from the data themselves (data driven), while in the deductive approach, topics are derived from theoretical ideas that the researcher explicitly and implicitly brings into the research (Joffe, 2011). Twenty interviews were analysed using an inductive approach and thus data-driven analysis.

The goal of the first cycle of coding was to identify meaningful, relevant passages of text, which were then assigned a code, which is a word or a short phrase symbolically marking the essence of the text that was analysed (Saldaña, 2016); the first iteration of data sublimation was completed, so the process of deriving themes was started. The overall goal of the thematic analysis in the following steps was to determine the patterns of topics for which it was desirable to condense and not reduce the data and ensure that these topics contained crucial information from the data that would serve to answer the research questions (Braun and Clarke, 2006). Following six steps in conducting the thematic analysis (Braun and Clarke, 2006), results were obtained, but when listening to the data, we realized that many transcripts were ideographically very rich and that thematic analysis was not the method for deep observation and analysis of the lived experience, reality and spiritual perception of our respondents. Following the above, we decided to approach the interpretive phenomenological analysis, which offers the possibility of primary focus on individual persons and their understanding of reality, with greater emphasis being placed on in-depth analysis and understanding of experiences (Pietkiewicz, 2014). By using both approaches, patterns or themes were obtained that represent converging phenomena common to all respondents (Thematic analysis), while on the other hand, a rich description of individual lived experience was preserved and presented, both of which were interpreted contextually. Although these two analyses were done separately, the results and presentation of the results were integrated because the goal of using these two methods was to provide the richest, truest, and highest quality presentation of the observed phenomena with analytical pluralism (Spiers and Riley, 2019).

The next section will present the questions codes, themes, representative quotations, and interpretation:

1. What makes you happy? What are these activities, events, or meetings?
“What did I hear from my uncle, I didn’t even know he existed, I was visiting homes

and stuff like that, I thought I was alone and that I had no one, and now my uncle is contacting me via social networks.” “When I don’t have many obligations, I can listen to music.” “When everything is good, at home, at school, when I’m with friends.” It is clear that these participants associate the feeling of happiness with close people, i.e. family members. Almost half of respondents from RC state that they are family members (uncle, grandmother, mother). It is interesting that two respondents state that a good relationship with the headmistress and teachers makes them happy. Common to the given answers is a close relationship with an older figure. The above answers are logical because these participants are children who come from an environment where relationships with family members are broken and discordant, so these answers can be viewed from the perspective of the compensatory model. On the other hand, their peers (paired matches) give answers related to quality spending of free time (various hobbies), everyday life without major problems, and a satisfying balance between family and student obligations and their social life.

2. What makes you unhappy when you feel bad? Users of the RC state that they feel bad when their relationships with loved ones are damaged. The above answers are logical, bearing in mind that their source of happiness relates to close people. Disruption of relationships is a topic that encompasses different situations such as loneliness, helplessness in the face of the problems of loved ones, and lack of acceptance by peers.

“Uhh, sooo....when...what the hell, you’re always happy and crazy, and I don’t know...and when maybe a person who is dear to me has something bad and she does something, let’s say a little serious, and I can’t do anything about it, maybe that’s why And when it’s not a good day, it’s not sunny.” “When, when, honestly, when I wasn’t accepted in a strange society and such a strange environment, when it comes I don’t know, mostly...I don’t know, (try to remember the specific situation), and mostly I’m always under something when I’m like this at home And that , but the dream is really unhappy, honestly, when I find out that I can’t call someone I can confide in, when I can’t get in touch with my brothers and someone close to me.” Differences with regard to gender when answering this question proved to be indicative. Thus, boys reported situations in which they felt unhappy with a higher level of abstraction, while girls had a harder time naming these situations, so they focused on specific situations that happened recently because of their inability to find adequate words.

Their peers (paired matches) also report damaged relationships, which can occur within the family, among peers or among friends. It is interesting that the answers to the first and second questions of the children from the Center are complementary. That is, the existence of something creates happiness for them, and the absence or impairment of the same creates unhappiness, while the aforementioned complementarity is not shown among their peers. Since spending quality free time makes them happy, it would be expected that the absence of such activities would make them unhappy. Nevertheless, analysis of the answers leads to the conclusion that it is damaged relationships that make them unhappy. Therefore, the issue arises of what really makes this group happy. One possible conclusion is that close relationships make them happy, but these young people “take them for granted.” “When something is not right at home.” “When we argue at home.” “When they gossip or lie about me at school.”

1. What helps you feel better and less depressed and unhappy? The answers to this question fall into two categories. The first category related to conversation: conversation with educators, a sister, or a friend helps RC users to feel better. The second category was designated a meditative activity, because the answers from this category included actions that imply reflection, such as walking and thinking about a problem, standing in a room and thinking in solitude, or filling in a colouring book that has a calming effect on that person: “Or I would colour in some colouring books that would calm me down.” “I like to go for a walk with my friends, hang out with my sister and so on.”

On the other hand, their peers state that conversation is another action that helps them in moments of depression and amid feelings of unhappiness. In this case, it is about conversations with friends (peers). Also, as with children from the RC, there are meditative activities (e.g., listening to music): “I’ll go with a friend and talk about it.” “I’ll be in the room listening to music.”

4. Are some children closer to God, or do they seek, do they feel his closeness? Are you looking for such an experience? If so, in what way?

The answers to this question are undoubtedly polarized among children from the RC. It turned out that users of the RC do not seek the experience of God’s closeness at all and are instantly ready to declare this; on the other hand, a few respondents state that they do talk to God and pray, that they approach God. It is interesting that each user seeking the experience of God’s closeness approaches that meeting personally, so this category can be called Personal Relationship with God.

It is clear from individual responses that this relationship is not imposed; it is not “trained” by tradition, but it is just as deep as, if not deeper, than relationships with neighbours.

“I want to approach God because I think God is the only one who can understand me. Well, I pray regularly.” “It would be easier, it would be great... I’m seeking. I mean, it’s probably the same prayer, but I say that I don’t pray; I just talk to Him, then I come and stop and say, why does He have to do this to me, mostly lately? And I blame Him for things that are happening.”

Their peers also report that they seek God’s proximity. It is interesting that there is less polarization of yes/no answers; they gave fewer ‘no’ answers no, while on the other hand, they did not show such a deep relationship towards God’s closeness. The above is logical, considering the development of individuals in the Center and their peers who are in functional families. Trauma, family problems, difficult childhoods and extreme situations create deep binary choices through which the individual radicalizes his beliefs and either is seriously inclined to something or gives it up completely. “Well, I pray, and I want to calm down and be happy.” “Well I did, I stop and pray and think.” “Yeah, I have to be alone and then I think.”

The difference in the use of the lexeme “to pray” between these two groups turned out to be interesting. In Croatian (as in other Slavic languages), the word “moliti” marks an action that is translated as “pray;” it is an imperfective verb, which means that it is an action of long duration. On the other hand, “pomoliti” is translated the same but has a slightly different meaning, which in this context is interesting. This is perfective verb and marks an action that is short and casual. Children from the RC used the word pray in its imperfective format, while their peers used the word pray in its perfective format. This prefixation diminishes the verb to pray (“pomoliti”): the action was performed only to a minor extent. The verb thus acquires the meaning of something short-lived and incidental, as opposed to the other word for pray (“moliti”--children in RC), which indicates a larger span of time, and the incompleteness of the action.

1. Some children and adolescents pray and meditate when they are not feeling well, or when they are depressed. Do you pray too? What are you looking for in prayer? Does prayer help? Through thematic analysis of the transcripts, the answers to this question by the children from the RC were classified into two categories and one subcategory. The first category referred to the object of the prayer and included everything that the individual wanted or requested with that prayer.

Examples of statements that support this category are as follows: “And I’m looking for what I need at that moment and I guess some advice and to be led on the right path.” “I ask that He give me only health and I ask for what I ask for the most, that my grandmother may still live.” “Just help, nothing else, if only a friend were there with me.”

The second category was created by answering the question “Does prayer help?” The answers can be divided into two subcategories. The first subcategory includes the intentional effect of prayer, while the second subcategory includes answers and codes related to the unintentional benefits of prayer. Moreover, the pattern of answers to this part of the question was observed through interpretive phenomenological analysis. Often respondents whose answers were classified in this subcategory did not have a ready answer to the question of how prayer helped them. Instead, they pondered on the spot and gave statements about the benefits, most often personal, in the realm of pleasant feelings such as “peace,” “security,” and a “warm heart.” Although this type of respondent is open to discuss the topic, the conclusion is based on the fact that a person who prays often answers readily and quickly that prayer helps him, and to the question “How?” he finds the answer more slowly and refers to “peace,” “security,” and “a warm heart.” The slow response, phrased in appropriate words, speaks of the individual’s deficit when expressing inner, intimate feelings.

These obviously do exist (because the person readily gives an affirmative answer), but taking into account personal, cultural, verbal and social competences, they are difficult to declare. Examples of statements that support this category are as follows: “It helps (how), but I don’t know, I pray, and I feel safer.” “Your heart warms... there is something... positive, you are calm after that and you know that everything will be fine.” “And I see some sense in this exactly.”

On the other hand, their peer-matches, when responding to the first part of the question (“What are you looking for in prayer?”) gave answers that could be reduced to one category, the object of prayer, which consists of three subcategories: pleasant emotions, problem solving, and maintaining existing relationships. Examples of statements for the problem-solving subcategory are as follows: “And when I have a lot of work at school.” “And when something is wrong, then I ask Him to give me peace.” “That my children are healthy and that everything is fine.”

The second part of the question yielded insight into the subjective perception of helping prayer. The answers were reduced to the category of pleasant feelings and two subcategories: the feeling of peace and that of security.

Examples of representative claims for this category are as follows: “I feel some peace and I know that everything will be fine.” “Yes, I’ll be calm and not bother anymore.”

Discussion

An important aspect of this research relates to giving a voice to a vulnerable social group: children in foster care. A person is defined by two stories: the one they tell about themselves, and the one others tell about them (Blatt, 1981). Users of residential care services in the social welfare system are stigmatised (Majdak, 2019). By placing this fact in the context of Blatt’s idea, it can be concluded that these minors have an unfavourable status as measured by the stories that are told about them. Bogdan and Biklen (1998) describe giving voice as empowering people who would otherwise remain silent or have been silenced by others to be heard. Respecting the above, one of the goals of this research was to give a voice to such people, that is, to enable them to tell their story about themselves.

In accordance with the goal of the study, which was to investigate differences in the meaning of spirituality among children in residential care and in families, using a mixed methodology, results were obtained that show this difference. Furthermore, the initial assumption was confirmed that children in residential care will attach different importance to spirituality, both in intensity and in qualitative description, compared to their peers who live in complete families.

According to previous research, which showed that a higher score on questionnaires about different dimensions of spirituality is accompanied by a higher degree of verbal and non-verbal compassion (Kardum, 2012), it is clear that a higher score on the SSS and Santa Clara questionnaires among children from foster care is accompanied by a higher degree of verbal and non-verbal compassion. Thus, from the answers to the questions “What makes you happy?” and “What makes you unhappy?” it was shown that children from residential care (whose score on the spirituality questionnaire was higher) show a higher level of compassion towards important people and are able to name and describe feelings towards them precisely and intensively. There is also a significant difference in understanding the other in the context of life relationships: me-you, you-me, me-other, other-me (Kardum, 2012). In this study, the SSS and Santa Clara questionnaires showed a difference in spirituality, and the qualitative methods of TA and IPA yielded deeper insight into the differences between the two groups. This confirmed the fact about the quantitative paradigm that has certain values but is at the same time insufficient in

understanding complex constructs at the level of the individual (Pearce et al., 2019). On the other hand, the importance of qualitative methodology (specifically IPA) in the study of spirituality (Singleton et al. (2004)) was confirmed.

Referring to an earlier study showing that children associate immediate peace and searching in silence with the knowledge of God (Kovačević et al., 2019), a connection becomes evident with findings from the qualitative part of this study, specifically with the fact that children resort to meditative activity in moments of depression. The relationship to the transcendent and the difference between these two populations should be considered in the context of theoretical and empirical research according to which relationships to God and Mary are characterised by experiences from parental relationships (Cvetek et al., 2008). In the attempt to explain the relationship to God with the parental relationship, two hypotheses are present: conformity and compensation. According to the first, the relationship to God is identical to the relationship to parents, according to the second, the relationship to God is a compensation for the parental relationship. The results of this research support the compensation hypothesis. In the context of this explanation, as well as many others, we believe that the contribution of this research lies in the careful selection of respondents. Using the method of pairs, respondents who live in residential care were selected, along with peers living in their primary families, with both being equal in terms of variables (gender, age, school, and school performance). This approach allowed us to gain insight into differences in the relationship with the transcendent between the two groups, the fundamental difference between which concerns the safe/unsafe experience from the relationship with their parents.

The SSS and Santa Clara questionnaires proved to be suitable for this study, although the differences in the results are not statistically significant (potentially because of the sample size (group n=12)); one of the recommendations, therefore, is to increase the sample in future research. The content framework of the interview Spiritual Quality of Life (Kamper et al., 2010), which contains the dimensions present in most research on the spirituality of children facing life problems, the relationship to themselves, to others, the relationship to the environment and the relationship to transcendence (Fisher, 2004) proved to be suitable because these provided in-depth insight into the three areas and dimensions of spirituality, while also enabling differentiation between the two groups of respondents, by whom unique and interesting statements were offered. Since the aim of this work was to use a mixed methodology to investigate differences in the meaning of spirituality among children

in foster care and those in families, and such differences were found and consistent in methodological pluralism, we believe that the SSS and Santa Clara questionnaires, the interview framework as well as the Interpretive Phenomenological Analysis constitute suitable instruments and methods of data collection and processing for the study of spirituality in children in residential care and children in families.

References

- Adams, K., Woolley, R., and Hyde, B. (2008). *The Spiritual Dimension of Childhood*. Jessica Kingsley Publishers.
- Blatt, B. (1981). How to destroy lives by telling stories. *Journal of Psychiatric Treatment and Evaluation*, 3, 183–191.
- Bogdan, R., and Biklen, S. K. (1998). *Qualitative research for education: An introduction to theory and methods* (3rd ed). Allyn & Bacon.
- Boyatzis, C. J. (2024). Spiritual Development During Childhood and Adolescence. In L. J. Miller (Ed.), *The Oxford Handbook of Psychology and Spirituality* (2nd ed.). Oxford University Press.
- Braun, V., and Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. <https://doi.org/10.1191/1478088706qp063oa>
- Cvetek, M., Simonić, B., and Cvetek, R. (2008). Stvaranje odnosa prema Bogu i Mariji iz perspektive teorije privrženosti. *Bogoslovska Smotra*, 78(3), 621–649. <https://hrcak.srce.hr/30910>
- Damsma Bakker, A., van Leeuwen, R. R. (René), and Roodbol, P. F. (2018). The Spirituality of Children with Chronic Conditions: A Qualitative Meta-synthesis. *Journal of Pediatric Nursing*, 43, e106–e113. <https://doi.org/10.1016/j.pedn.2018.08.003>
- Fisher, J. (2004). Feeling good, living life: A spiritual health measure for young children. *Journal of Beliefs & Values*, 25(3), 307–315. <https://doi.org/10.1080/1361767042000306121>
- Joffe, H. (2011). Thematic Analysis. In D. Harper, and A. R. Thompson (Eds.), *Qualitative Research Methods in Mental Health and Psychotherapy* (1st ed., pp. 209–223). Wiley. <https://doi.org/10.1002/9781119973249.ch15>
- Kamper, R., Van Cleve, L., and Savedra, M. (2010). Children With Advanced Cancer: Responses to a Spiritual Quality of Life Interview. *Journal for Specialists in Pediatric Nursing*, 15(4), 301–306. <https://doi.org/10.1111/j.1744-6155.2010.00253.x>
- Kardum, G. (2012). Poimanje žrtve u suvremenoj psihologiji. *Zbornik Radova Međunarodnog Teološkog Skupa KBF-a u Splitu*, 18, 209–238. <https://ojs.kbf.unist.hr/index.php/simpozij=/article/view/391>
- Kovačević, V., Kardum, G., and Malenica, K. (2019). Kvalitativno narativno istraživanje dječje religioznosti i u kontekstu pet dimenzija religioznosti. *Bogoslovska Smotra*, 89(4), 885–898. <https://hrcak.srce.hr/en/234290>
- Majdak, M. (2019). Stigmatizacija djece i mladih čije ponašanje odstupa od uobičajenog društveno prihvatljivog ponašanja. *Mostovi Podrške: Izazovi Suvremenog Odgoja i Odrastanja*. <https://www.croris.hr/crosbi/publikacija/prilog-skup/731532>
- Malcom, N. L. (2010). Images of heaven and the spiritual afterlife: Qualitative analysis of children's storybooks about death, dying, grief, and bereavement. *Omega*, 62(1), 51–76. <https://doi.org/10.2190/om.62.1.c>
- Miquel, P., Clemente, I., and Ciccorossi, M. (2024). Exploring spirituality, religion and life philosophy among parents of children receiving palliative care: A qualitative study. *BMC Palliative Care*, 23(1), 43. <https://doi.org/10.1186/s12904-024-01345-2>
- Nelson, J. M., and Slife, B. D. (2024). Theoretical and Epistemological Foundations. In L. J. Miller (Ed.), *The Oxford Handbook of Psychology and Spirituality* (2nd ed.). Oxford University Press.

- Pearce, L. D., Uecker, J. E., and Denton, M. L. (2019). Religion and adolescent outcomes: How and under what conditions religion matters. *Annual Review of Sociology*, 45, 201–222. <https://doi.org/10.1146/annurev-soc-073117-041317>
- Pietkiewicz, I., and Smith, J. A. (2014). A practical guide to using Interpretative Phenomenological Analysis in qualitative research psychology. *Czasopismo Psychologiczne Psychological Journal*, 20(1). <https://doi.org/10.14691/CPJ.20.1.7>
- Plante, T. G. (2010). The Santa Clara Strength of Religious Faith Questionnaire: Assessing Faith Engagement in a Brief and Nondenominational Manner. *Religions*, 1(1), 3–8. <https://doi.org/10.3390/rel1010003>
- Saldaña, J. (2016). *The coding manual for qualitative researchers* (3. edition). SAGE.
- Schein, D. (2014). Nature's role in children's spiritual development. *Children, Youth and Environments*, 24(2), 78–101. <http://www.jstor.org/stable/10.7721/chilyoutenvi.24.2.0078>
- Singleton, A., Mason, M., and Webber, R. (2004). Spirituality in adolescence and young adulthood: A method for a qualitative study. *International Journal of Children's Spirituality*, 9(3), 247–262. <https://doi.org/10.1080/1364436042000292176>
- Spiers, J., and Riley, R. (2019). Analysing one dataset with two qualitative methods: The distress of general practitioners, a thematic and interpretative phenomenological analysis. *Qualitative Research in Psychology*, 16(2), 276–290. <https://doi.org/10.1080/14780887.2018.1543099>
- Stoyles, G. J., Stanford, B., Caputi, P., Keating, A.-L., and Hyde, B. (2012). A Measure of Spiritual Sensitivity for Children. *International Journal of Children's Spirituality*, 17(3), 203–215. <https://doi.org/10.1080/1364436X.2012.733683>
- Superdock, A. K., Barfield, R. C., Brandon, D. H., and Docherty, S. L. (2018). Exploring the vagueness of Religion & Spirituality in complex pediatric decision-making: A qualitative study. *BMC Palliative Care*, 17(1), 107. <https://doi.org/10.1186/s12904-018-0360-y>
- Tirri, K., Nokelainen, P. (2011). *Measuring Multiple Intelligences and Moral Sensitivities in Education*. Sense Publishers.
- Tirri, K., Nokelainen, P., and Ubani, M. (2006). Conceptual definition and empirical validation of the spiritual sensitivity scale. *JET: Journal of Empirical Theology*, 19(1), 37–62.

Authors:

Goran Kardum, PhD

Full Professor, Department of Psychology, Faculty of Humanities and Social Sciences, University of Split, Poljička cesta 35, 21000 Split, Croatia, e-mail: gkardum@ffst.hr
Redni profesor, Oddelek za psihologiju, Filozofska fakulteta, Univerza v Splitu, Poljička cesta 35, 21000 Split, Hrvatska, e-pošta: gkardum@ffst.hr

Ante Grčić

Assistant, Department of Early and Preschool Education, Faculty of Humanities and Social Sciences, University of Split, Poljička cesta 35, 21000 Split, Croatia, e-mail: agrcic2@ffst.hr
Asistent, Oddelek za zgodnjo in predšolsko vzgojo, Filozofska fakulteta, Univerza v Splitu, Poljička cesta 35, 21000 Split, Croatia, e-pošta: agrcic2@ffst.hr

Marina Sablić

Student, Department of Early and Preschool Education, Faculty of Humanities and Social Sciences, University of Split, Poljička cesta 35, 21000 Split, Croatia
Študentka, Oddelek za zgodnjo in predšolsko vzgojo, Filozofska fakulteta, Univerza v Splitu, Poljička cesta 35, 21000 Split, Croatia

NEW POLYSTOCHASTIC STATISTICAL INFERENCE IN SOCIAL SCIENCES - DEFINING NEW RULES AND THRESHOLDS

SINIŠA OPIĆ

Faculty of Teacher Education, University of Zagreb, Zagreb, Croatia

Potrjeno/Accepted
25. 2. 2025

Objavljeno/Published
31. 3. 2025

KORESPONDENČNI AVTOR/CORRESPONDING AUTHOR
sinisa.opic@ufzg.hr

Abstract/Izvleček

The Null Hypothesis Significance Testing (NHST) framework has sparked considerable debate within the scientific community, leading to numerous studies advocating for a re-evaluation of the current system. New polystochastic statistical inference defines methods of statistical inference that integrate rules and thresholds for both rejecting the null hypothesis and confirming the alternative hypothesis. This approach unifies the control of respondents' influence on statistical significance and introduces criteria such as effect size and Bayesian inference for confirming the alternative hypothesis. Unlike NHST, polystochastic statistical inference controls Type I error (p-value) and aims to optimize the confirmation of evidence without increasing the risk of Type II errors.

Keywords:

Bayesian, effect size,
NHST, p-value,
polystochastic, social
science, statistical
inference.

Ključne besede:

Bayesov sklep, velikost
učinka, NHST, p-
vrednost,
polistohastično,
družboslovje, statistično
sklepanje.

UDK/UDC:
303:311.21

Novo polistohastično statistično sklepanje v družboslovju – Določitev novih pravil in mejnih vrednosti

Okvir testiranja pomembnosti ničelne hipoteze (angl. Null Hypothesis Significance Testing – NHST) je sprožil precejšnje razpravo v znanstveni skupnosti. To je vodilo do številnih študij, ki zagovarjajo ponovno oceno sedanjega sistema. Novo polistohastično statistično sklepanje definira metode statističnega sklepanja, ki združujejo pravila in pragove tako za zavračanje ničelne hipoteze kot za potrditev alternativne hipoteze. Ta pristop poenoti nadzor nad vplivom anketirancev na statistično pomembnost in uvede merila, kot sta velikost učinka in Bayesov sklep za potrditev alternativne hipoteze. Za razliko od NHST polistohastično statistično sklepanje nadzoruje napako tipa I (p-vrednost) in želi optimizirati potrditev dokazov brez povečanja tveganja napak tipa II.

DOI <https://doi.org/10.18690/rei.4907>

Besedilo / Text © 2025 Avtor(ji) / The Author(s)

To delo je objavljeno pod licenco Creative Commons CC BY Priznanje avtorstva 4.0 Mednarodna. Uporabnikom je dovoljeno tako nekomercialno kot tudi komercialno reproduciranje, distribuiranje, dajanje v najem, javna priobčitev in predelava avtorskega dela, pod pogojem, da navedejo avtorja izvirnega dela. (<https://creativecommons.org/licenses/by/4.0/>).



Introduction: A 100-Year-Old Problem (Fisher 1925 - today)

Statistical significance has been a topic of intense debate in many scientific disciplines for a long time, particularly regarding its proper use and potential misuse. According to Rovetta (2024), it is one of the most controversial issues in contemporary science. The binary choice between statistically significant and insignificant results not only reflects a mathematical error but also fails to capture the complexity of statistical methods needed to communicate findings to the public, especially in fields like healthcare. This issue is not limited to medical research; it also affects most other scientific fields. Social sciences face significant challenges in statistical inference, which are compounded by the complexity of the phenomena being studied. Factors such as latent variables, issues of causality, inappropriate scales

for statistical analysis (parametric tests), implausibility, incoherence, hard-to-control extraneous factors, lack of objectivity, and reliability problems all contribute to these challenges. As one author notes, any scientific discipline that grapples with such challenges will achieve long-lasting relevance. To put this issue in historical context, the concept of statistical significance was first introduced by Ronald Fisher in 1925.

In fact, the concept began earlier with the work of Francis Edgeworth (1845–1926), who created a procedure for testing two arithmetic means (subsamples) that was later extended by Pearson to the Chi-square test (Pearson, 1900). Edgeworth's pioneering contribution lies at the beginnings of the development of statistical inference in testing arithmetic means and specificities such as skewness and kurtosis. Ronald Fisher further advanced these ideas in 1925, laying the groundwork for hypothesis testing in inferential statistics. His influential work, *Statistical Methods for Research Workers*, helped define the concept of statistical significance (p-value) as we understand it today.

The value for which $P=0.05$, or 1 in 20, is 1.96 or nearly 2; it is convenient to take this point as a limit in judging whether a deviation ought to be considered significant or not. Deviations exceeding twice the standard deviation are thus formally regarded as significant. Using this criterion, we should be led to follow up a false indication only once in 22 trials, even if the statistics were the only guide available. Small effects will still escape notice if the data are insufficiently numerous to bring them out, but no lowering of the standard of significance would meet this difficulty. (Fisher, 1925, 45)

Fisher's work laid the foundation for inferential statistics and initiated the field of hypothesis testing. Later, Newman and Pearson built upon Fisher's methods, introducing the concepts of Type I error (rejecting the null hypothesis, H_0 , when it is true) and Type II error (failing to reject H_0 when it is false) (Perezgonzalez, 2015).

The contributions of Newman and Pearson are significant, particularly in the context of enhancing statistical power for repeated sampling while considering Type I and II errors, as well as effect size (Holmberg, 2024). However, a notable drawback of the Newman and Pearson approach is its rigidity; it relies on a series of predetermined steps and lacks the flexibility found in Fisher's method. McShane et al. (2019) emphasize the need to abandon the NHST approach (null hypothesis significance testing) in all areas of scientific activity in the biomedical and social sciences, i.e. they offer a broader concept (but one that is unclear): "Results need not first have a p-value or some other purely statistical measure that attains some threshold before consideration is given to the currently subordinate factors. Instead, treated continuously, statistical measures should be considered along with the currently subordinate factors as just one among many pieces of evidence and should not take priority thereby yielding a more holistic view of the evidence" (p. 25).

Although the p-value is considered the "scientific default" in inferential statistics, it is frequently misused and misinterpreted. Many papers in the literature emphasize the need to redefine p-values, supplement them with new methods, or even abolish them completely, leading to confusion across various scientific disciplines. Additionally, some scientific journals discourage the use of p-values. Considering the ongoing concerns surrounding statistical significance and p-values, the American Statistical Association (ASA) published the Statement on Statistical Significance and P-Values. This document includes several important statements, as noted by Wasserstein and Lazar (2016):

1. P-values can indicate how incompatible the data are with a specified statistical model.
2. P-values do not measure the probability that the studied hypothesis is true, or the probability that the data were produced by random chance alone.
3. Scientific conclusions and business or policy decisions should not be based only on whether a p-value passes a specific threshold.
4. Proper inference requires full reporting and transparency p-value; debate.
5. A p-value, or statistical significance, does not measure the size of an effect or the importance of a result.
6. By itself, a p-value does not provide a good measure of evidence regarding a model or hypothesis.

Consequently, the ASA presents a significant challenge in the realm of inferential statistics and clearly defines the meaning of the p-value, offering a more comprehensive approach to statistical inference.

The conclusion suggests the incorporation of new methods “but they may more directly address the size of an effect (and its associated uncertainty) or whether the hypothesis is correct” (Ibid. p. 132).

The limit of statistical significance, or the null hypothesis, has been a topic of considerable debate in the literature for many years. Opinions range from calls for its complete abolition to suggestions like those from Benjamin et al. (2017), who propose reducing the threshold from 0.05 to 0.005. According to the authors, this change would be a significant step forward that could enhance reproducibility in research. They emphasize that this redefinition of the p-value, with its new standard, pertains specifically to research records and not to scientific publications. The aim is to observe how scientists behave under stricter criteria. I believe such a dual approach is unnecessary since we often select levels of statistical significance (0.05 and 0.01) for hypothesis testing in the social sciences (inferential statistics). Of course, the 0.005 level is quite stringent, and the authors highlight this viewpoint in their paper. They justify their approach in relation to Bayesian analysis, as it corresponds to Bayes factors ranging from approximately 14 to 26 in favour of the alternative hypothesis (H1).

Lakens et al. (2018) suggest that instead of lowering the significance threshold from 0.05 to 0.0005, researchers should abandon the term “statistical significance” altogether. They recommend that scientists focus on controlling error rates with an alpha level that is determined by the researcher. Similarly, de Ruiter (2019), while critiquing the proposal to lower the significance level to 0.005, argues that setting an alpha level of $p \leq 0.005$ does not enhance replicability. He believes that the rationale for adopting a new alpha level of 0.005 is weak and that such a change could potentially harm scientific practice. I agree with the recommendations made by the ASA, emphasizing that it is the responsibility of educators to ensure that scientists understand the term “statistically significant.” However, without clear criteria, we risk entering a realm of scientific “sfumato”, a form of voluntarism lacking defined standards. The p-value criterion ($p < 0.05$) is inadequate because it is influenced by sample size and fails to accurately reflect the true magnitude of differences or relationships (e. g. in subsamples). Moreover, rejecting the null hypothesis does not provide evidence for confirming the alternative hypothesis. Null Hypothesis Significance Testing (NHST) is a statistical procedure that involves establishing a null hypothesis, generating data related to it, and assessing how much the outcome disagrees with the null hypothesis, using statistical estimates.

While it may be a questionable criterion, having some standard is certainly better than having none at all, or focusing solely on the individual scientist and their choice of methods and procedures.

It is important to define when something exists or does not exist, and the criteria used to reject the null hypothesis when confirming an alternative hypothesis. When Fisher established the $p < 0.05$ threshold, he acknowledged that it was not necessarily the best option available. The absence of any criteria is indeed worse than having an arbitrary yet compromise-based standard. Now, 100 years after Fisher introduced this threshold, we still struggle to reach a scientific consensus on how to conduct statistical inference. Authors tend to concentrate too much on identifying what is wrong, what requires change, and proving the “pollution” of our current model instead of seeking an effective solution. This solution will not be perfect; after all, determinism is increasingly less relevant as a scientific postulate, making way for a focus on probabilism.

Polystochastic Statistical Inference in the Social Sciences

Polystochastic Statistical Inference in the Social Sciences is a concept that combines a revised form of the Null Hypothesis Significance Testing (NHST) system, dependent on the sample size (n), with Bayesian inference and effect size, within certain limits. The framework of polystochastic statistical inference consists of two main components:

1. Rejection of the null hypothesis (H_0).
2. The confirmation or rejection of the alternative hypothesis (H_n).

When the sample size is >120 ($n > 120$):

- Use a significance level of $p \leq 0.01$ (or smaller). For large samples ($n > 100$, i.e., 120), the sample mean reliably approximates a normal distribution, particularly in populations with pronounced skewness. A stricter criterion is necessary because sample size has a significant effect on statistical significance, as noted by Opić and Rijavec (2022). This leads to an increased risk of Type I error. With larger samples, even minor differences can appear statistically significant. Additionally, as the sample size increases, the standard error decreases. This is particularly important when dealing with pronounced asymmetry (skewness) or variability (variance), since sample size greatly influences the normalisation of the distribution. One valuable and effective method is bootstrapping (resampling), where the sample is treated as a population.

In Bayesian inference, sample size is less critical than in the Frequentist approach; consequently, a smaller sample size is sufficient to achieve the same level of efficiency, as discussed by Ali, Waheed, Shah, and Raza (2023).

Although it is generally considered that the Central Limit Theorem (CLT) begins to apply when the sample size (n) is greater than 30, this is conditional. The assumption is that the population does not exhibit significant skewness or kurtosis. For populations with pronounced skewness or heavy tails (platykurtic distributions, such as the t -distribution with low degrees of freedom), a much larger sample size is required to meet the prerequisite of normal distribution. However, this does not apply to distributions like the Pareto distribution, which is not influenced by the CLT since it has unlimited variance. For sample sizes greater than 120, the t -distribution closely resembles a normal distribution. This is why a sample size limit of 120 is defined.

So, if we have a category of large samples ($n > 120$), CLT also works in the case when asymmetries (skewness) and kurtosis (heavy-tailed) are expressed, which indicates that we meet the main prerequisite for normal distribution, which is required for parametric statistics. However, we then need to reduce the level of statistical significance to $p \leq 0.01$ because the size of the sample affects the statistical significance; i.e., we will reject the null hypothesis sooner on large samples than on small samples. The 0.01 criterion is not too strict, and it is already used in medical research (often a much stricter criterion), and in research with high stakes; accordingly, it should become the default for social sciences as well. Therefore, stronger evidence is needed to reject the null hypothesis, but the type 2 error does not increase significantly (as in the case of proposals, it is reduced to a very strict criterion, e. g., 0.0005; (Benjamin et al. 2017).

Rationale for application of the criteria - there are no restrictions on the application of the change of criteria. The advantage is the fact that stronger evidence against the null hypothesis will be needed, thus reducing the type one error. Reducing the p -value criterion to $p \leq 0.01$ controls the influence of the sample size (n) on statistical significance when it comes to rejecting the null hypothesis, but it still does not solve the confirmation of the alternative hypothesis.

When the sample is < 120 ($n < 120$)

- Use the significance level $p \leq 0.05$ (or smaller). In smaller samples, the influence on statistical significance is not so pronounced.

Both basic conditions refer only to confirming/rejecting the null hypothesis.

To confirm the alternative hypothesis, at least 2 out of 3 criteria must be met:

1. ****Statistical Significance****: Confirmed level of statistical significance ($n > 120$; $p \leq 0.01$ (or smaller), i.e. $n < 120$, $p \leq 0.05$ or smaller) to reject the null hypothesis. The null hypothesis must be rejected (Mandatory).
2. ****Effect Size****: The effect size should be at least moderate. The effect size (d) provides insight into the actual magnitude of differences in differential designs (Sullivan and Feinn, 2012; Balow, 2017). While statistical significance indicates that the result is unlikely to occur by chance, effect size quantifies how substantial the differences are. The most commonly used effect size in differential designs is Cohen's d (Cohen, 1968), where 0.2 is considered small, 0.5 medium, and 0.8 large. Therefore, to provide evidence in favour of the alternative hypothesis (H_n), it is necessary to meet the criterion of a medium (moderate) effect size for a given test.

Table 1

Shows the most commonly used effect sizes with reference values.

Effect size	small	Medium	large
Cohen's d (t test)	0.2	0.5	0.8
Eta squared η^2 (ANOVA)	0.01	0.06	0.14
Cohen's f (one way ANOVA/ANCOVA)	0.1	0.25	0.4
Omega squared ω^2 (ANOVA)	0.01	0.06	0.14
Multivariate Omega squared ω^2 (one way ANOVA, MANOVA)	0.01	0.06	0.14
F-Squared f^2 (multiple nad partial corr)	0.02	0.15	0.35
r Pearson	0.1	0.3	0.5
Odds Ratio (OR)	close to 1	Around 2	3or more
Odds ratio (2*2)	1.5	3.5	9.0
η^2 (multiple regression)	0.02	0.13	0.26
Cohen's ω (chi square)	0.1	0.3	0.5
Spearman rho (Friedman)	0.1	0.3	0.5
Cramer V (r x c frequency tables)	0.1 (Min(r-1,c-1)=1), 0.07 (Min(r-1,c-1)=2), 0.06 (Min(r-1,c-1)=3)	0.3 (Min(r-1,c-1)=1), 0.21 (Min(r-1,c-1)=2), 0.17 (Min(r-1,c-1)=3)	0.5 (Min(r-1,c-1)=1), 0.35 (Min(r-1,c-1)=2), 0.29 (Min(r-1,c-1)=3)

(Source; Vacha-Haase and Thomson, 2004; Cohen, 1992; Cohen, 2008); <https://imaging.mrc-cbu.cam.ac.uk/statswiki/FAQ/effectSize>)

Of course, as with any other statistical indicator, there are limitations. For example, McGrath and Meyer, 2006) show that r_{pb} (point-biserial correlation) is sensitive to sample size, but when it comes to unequal variances, this is also the case with Cohen's d . (compare Ruscio, 2008), and a correction was proposed; they suggested larger values to represent effects (small-medium-large) as the group sizes become more unequal. Calculating effect size is an arbitrary procedure, similar to what Fisher noted about $p < 0.05$. Therefore, it is recommended for use only when no better basis for estimating the index is available (Cohen, 1988, p. 25). However, there is no ideal statistical procedure, and there are no certain limitations, but the Effect size is very little influenced by the sample size and shows the real relationship between the variables (shown in the empirical part of the paper) and a very useful indicator in favour of the alternative hypothesis (H_n).

Rationale for the application of the criteria – the list of effect sizes is large, and the author selects a specific one that corresponds to the test used to test the hypotheses. Table 1 shows the most used ones, but this does not mean that the list is not expanding. However, the author chooses a certain and calculated value that should have at least a medium effect to fulfil this criterion - in favor of the alternative hypothesis (H_n).

3. ****Bayes factor****

It should be $BF(10) > 3$, that is, indicating Moderate evidence for H_1 .

Bayes factor and Bayesian inference are highly useful statistical approaches, and many papers indicate the advantages of using them over p -values (Stern, 2016., Hoijtink, van Kooten, Hulsker, 2016., Jarosz and Wiley, 2014., Assaf and Tsionas, 2018, Goodman, 2008, 2005., Lavine and Schervish, 1999., Morey, Romeijn and Rouder, 2016, Andraszewicz et al, 2015).

Bayes factor defined; $\frac{Pr(Data | H_1)}{Pr(Data | H_0)}$, where is the posterior probability.

$$Pr(H_0|Data) = \frac{Pr(Data | H_0) \cdot Pr(H_0)}{Pr(Data)}, \text{ analogously}$$

$$Pr(H_1|Data) = \frac{Pr(Data | H_1) \cdot Pr(H_1)}{Pr(Data)} \text{ (Bayes theorem)}$$

The Bayes factor is a significant step forward in statistical inference, especially because it allows insight into the probability of an alternative hypothesis (which is not the case with NHST), but like all approaches in statistics, it has limitations.

One of these is the Jeffreys-Lindley paradox (Bartlett, 1957; Lindley, 1957). This concerns the influence of sample size on the BF value. In the frequentist approach, large samples affect lower p values, i. e., in favour of the Alternative hypothesis (H_1 - or rejecting an H_0), while in the Bayesian approach, large samples affect higher values of $BF(01)$, i.e., in favour of H_0 . So, we have a paradox because the sample size in the frequentist approach significantly affects the probability of rejecting H_0 , but at the same time in the Bayesian approach, it can affect a higher probability in favour of H_0 (Huisman, 2023).

In the literature and machine learning, the interpretation of BF is confusing: the interpretation of BF can be B_{10} , i. e., alternative vs null hypothesis, or BF_{01} , null vs alternative. Most often, when the label is not used, it means BF_{01} .

$BF_{10} > 1$: Evidence favours H_1 . $BF_{10} < 1$: Evidence Favors H_0 .

$BF_{01} > 1$: Evidence favours H_0 . $BF_{01} < 1$: Evidence Favors H_1 .

Bayes interpretation table (Adjusted to BF_{10} ; From Jeffreys, 1961)

Table 2

Bayes factor (BF_{10})

>	100	Extreme evidence for H_1
30	100	Very strong evidence for H_1
10	30	Strong evidence for H_1
3	10	Moderate evidence for H_1
1	3	Anecdotal evidence for H_1
	1	No evidence
1/3	1	Anecdotal evidence for H_0
1/10	1/3	Moderate evidence for H_0
1/30	1/10	Strong evidence for H_0
1/100	1/30	Very strong evidence for H_0
<	1/100	Extreme evidence for H_0

This condition stipulates that the Bayes Factor (BF_{10}) must be at least 3 - indicating moderate evidence for the alternative hypothesis (H_1). While a stricter criterion could have been applied, it would likely have caused more issues than benefits, particularly when considering certain limitations of Bayesian inference, such as the Jeffreys-Lindley paradox. This is especially relevant in cases of specific definition prior probability ($P(\theta)$), particularly when using a non-informative prior (uniform).

Rationale for the application of the criterion - the application of this criterion may be limited because e.g. in multivariate tests, the application of Bayesian inference (BF) is limited and under development. Moreover, in complex models, there are a number of limitations (challenges) in the application of BF (Bollen, Harden, Ray, and Zavisca, 2014), including the problem of using an ordinal scale, and the problem of using BF in non-parametric tests (Yuan, and Johnson, 2008). Of course, there are always challenges, but at the same time, most of the works in the univariate approach have BF calculations in statistical programs for data processing, and further development and application are expected.

We can therefore show Polystochastic Statistical Inference in the Social Sciences graphically (Table 3):

Table 3

Polystochastic Statistical Inference in the Social Sciences

Rejecting null hypothesis (H0)	In case $n < 120$ In case $n > 120$	$p \leq 0,05$ (or smaller) $p \leq 0,01$ (or smaller)
Proving the alternative hypothesis (Hn)	Rejected H0 when $n < 120$; $p \leq 0,05$ or smaller when $n > 120$; $p \leq 0,01$ or smaller	Condition 1 (mandatory)
	Bayes factor $BF_{10} > 3$	Condition 2
	Effect size - medium	Condition 3
		A total of 2 out of 3 conditions must be met

An empirical example

For the simulations (scenarios X1, X2, and X3), a matrix was utilized with the independent variable being study type (undergraduate, graduate, integrated study; $\sum n = 75$) and the dependent variable measured on an ordinal scale using a Likert scale with 5 points.

Differences between sub-groups were tested using ANOVA;

Scenario X1, n=75

$$\begin{array}{l} n1 = 25 \\ X1 \quad n2 = 21 \xrightarrow{\text{yields}} F(2.72) = 1.451, p=0.241; \\ n3 = 29 \end{array} \quad \begin{array}{l} \bar{x}1 = 3.40; \sigma1 = 1.258; \text{stdErrorr} = 0.252 \\ \bar{x}2 = 3.71; \sigma2 = 1.056; \text{stdErrorr} = 0.230 \\ \bar{x}3 = 3.90; \sigma3 = 0.900; \text{stdErrorr} = 0.167 \end{array}$$

MSB=1.672; MSW=1.152

Effect size; $\eta^2 = 0.039$; CI (95%) = 0.000_{lower} to 0.138_{upper}
 $\epsilon^2 = 0.012$; CI (95%) = -0.028_{lower} to 0.114_{upper}

BF(10) = 0.052 (JZS)

In a sample of n=75, the null hypothesis, which posits that there are no differences between the subsamples concerning the dependent variable, is confirmed. The effect size, measured by eta squared, indicates a very weak real difference. Moreover, Bayesian inference shows a Bayes Factor of BF(10) = 0.052, which does not lend support to the alternative hypothesis (Hn).

When the results are multiplied in a larger matrix sample of n=150, the findings are as follows (scenario X2):

Scenario X2; n=150

$$\begin{array}{l} n1 = 50 \\ X2 \quad n2 = 42 \xrightarrow{\text{yields}} F(2.147) = 2.963, p=0.055 \\ n3 = 58 \end{array} \quad \begin{array}{l} \bar{x}1 = 3.40; \sigma1 = 1.245; \text{stdErrorr} = 0.176 \\ \bar{x}2 = 3.71; \sigma2 = 1.043; \text{stdErrorr} = 0.161 \\ \bar{x}3 = 3.90; \sigma3 = 0.892; \text{stdErrorr} = 0.117 \end{array}$$

MSB=3.345; MSW=1.129

Effect size; $\eta^2 = 0.039$; CI(95%)=0.000_{lower} – 0.108_{upper}
 $\epsilon^2 = 0.026$; CI(95%)=-0.014_{lower} – 0.096_{upper}

BF(10) = 0.117 (JZS)

By duplicating the results in the matrix, the arithmetic mean remained unchanged (n1, n2, n3). However, the standard errors decreased because the denominator includes \sqrt{n} . The results of the F ratio suggest that we are nearing the threshold for rejecting the null hypothesis at a statistical significance level of $p < 0.05$. Nonetheless, the effect size values remained the same ($\eta^2 = 0.039$). Additionally, the Bayesian inference results (BF10 = 0.117) do not support the alternative hypothesis.

Then, multiplying the results in the matrix (N=300), the results are as follows (scenario X3):

Scenario X3; n=300

$$\begin{array}{lcl}
 n1 = 100 & & \bar{x}1 = 3.40; \sigma1 = 1.239; \text{stdErrorr} = 0.124 \\
 X3 \quad n2 = 84 & \xrightarrow{\text{yields}} & F(2,297)=5.896; p=0.003; \bar{x}2 = 3.71; \sigma2 = 1.036; \text{stdErrorr} = 0.113 \\
 n3 = 116 & & \bar{x}3 = 3.90; \sigma3 = 0.888; \text{stdErrorr} = 0.082 \\
 & & \text{MSB}=6.689; \text{MSW}=1.118
 \end{array}$$

Effect size; $\eta^2 = 0.039$; CI (95%) = 0.005_{lower} to 0.086_{upper}
 $\epsilon^2 = 0.032$; CI (95%) = -0.002_{lower} to 0.080_{upper}

BF(10) = 1.146 (JZS)

For a sample of 300 respondents, the results indicate a rejection of the null hypothesis, with a p-value of 0.003. In scenario X3 (n=300), the arithmetic means remained unchanged since the data set was identical. However, the null hypothesis significance testing (NHST) still led to a rejection of the null hypothesis (p=0.003). The effect size, measured by η^2 , was consistent at 0.039 across the x1, x2, and x3 models, indicating a very weak real difference. Additionally, the Bayesian inference showed a Bayes Factor (BF10) of 1.146, which does not support the alternative hypothesis (Hn).

The Jeffreys-Lindley paradox is not evident in this case, despite using a non-informative prior (a uniform prior over the mean). This is because increasing the sample size (n) did not result in a decrease in the Bayes factor in support of the null hypothesis. Clearly, the sample size has a stronger impact on the p-value than on the Bayes factor. In this case, the null hypothesis is rejected in the X3 model. However, there is not enough evidence to confirm the differences between the subsamples, as neither Bayesian analysis nor effect size support such a conclusion. According to the polystochastic inference approach, to validate the alternative (affirmative) hypothesis, at least two out of three conditions must be met. In this instance, only one condition has been satisfied. Therefore, even though the null hypothesis was rejected in scenario 3, the alternative hypothesis (Hn) regarding the existence of differences between the subsamples is not confirmed.

In the subsequent section, a new simulation is introduced (y1; y2; y3; y4). The differences between male students (n=32) and female students (n=40) regarding the dependent variable (*The online classes were well organized*) using a sample size of n=72 were tested. A T-test for independent samples was conducted. The results are as follows:

Scenario Y1; n = 72

Y1 $\begin{matrix} n1 = 32 \\ n2 = 40 \end{matrix}$ $\xrightarrow{\text{yields}}$ $t(70) = -0.956, p=0.342$ $\begin{matrix} \bar{x}1 = 3.41 & \sigma1 = 1.012; \text{stdError} = 0.179 \\ \bar{x}2 = 3.65 & \sigma2 = 1.122; \text{stdError} = 0.177 \end{matrix}$

Although the disproportion of the subsample is partially expressed, the group is homogeneous; $F(70;68.957) = 0.126, p=0.724$. Also, when sampling the distribution, there is no significant asymmetry, $\text{skew}=-0.813$, nor is it a pronounced significant leptokurtic distribution ($\text{Kurtosis}=0.272$). Analogously, in the case of subsamples, the sampling distribution is not markedly asymmetric, nor is significant kurtosis pronounced.

Effect size; Cohen's d = - 0.227; CI (95%) = -0.692_{lower} to 0.240_{upper}

Hedges' correction = - 0.224; CI (95%) = - 0.685_{lower} to 0.238_{upper}

Glass delta = - 0.217; CI (95%) = - 0.683_{lower} to 0.251_{upper}

BF(01) = 3.650, posterior distribution in intervals is shown in Figure 1

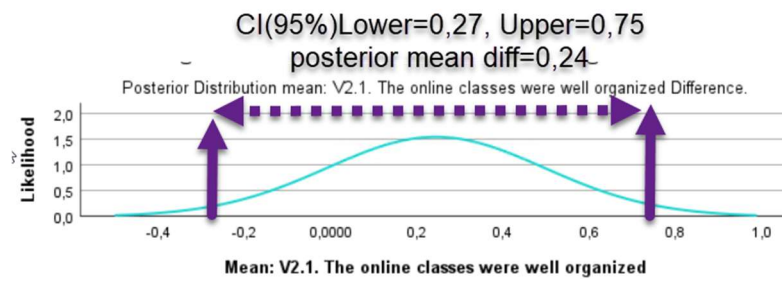


Figure 1 - posterior distribution (Credible Intervals)

Thus, on a sample of 72 subjects, the NHTS approach is confirmed by the null hypothesis of no difference between subsamples, Cohen's d indicates a very low difference between subsamples, nor does and BF(01) favour the alternative (affirmative) hypothesis.

In the further simulation (Y2), the results in the matrix were multiplied; (n=144), the results are as follows:

Scenario Y2; $n = 144$

$$Y2 \quad \begin{matrix} n1 = 64 \\ n2 = 80 \end{matrix} \xrightarrow{\text{yields}} t(142) = -1,362; p = 0,175; \quad \begin{matrix} \bar{x}1 = 3.41 \\ \bar{x}2 = 3.65 \end{matrix} \quad \begin{matrix} \sigma1 = 1.003; \text{stdError} = 0.125 \\ \sigma2 = 1.115; \text{stdError} = 0.125 \end{matrix}$$

The set is homogeneous; $F(142;139,994) = 0.256$, $p = 0.614$

Effect size; Cohen's $d = -0.228$; $CI(95\%) = -0.558_{\text{lower}} \text{ to } 0.102_{\text{upper}}$

Hedges' correction = -0.227 ; $CI(95\%) = -0.555_{\text{lower}} \text{ to } 0.101_{\text{upper}}$

Glass delta = -0.219 ; $CI(95\%) = -0.548_{\text{lower}} \text{ to } 0.113_{\text{upper}}$

$BF(01) = 3.173$

There was a decrease in the p-value (0.342 to 0.175), which still does not indicate the rejection of the null hypothesis, and at the same time, the BF and the effect size are not in favor of H1. In the further simulation (Y3), the results in the matrix are multiplied; ($n=288$), the results are as follows:

Scenario Y3, $n = 288$

$$Y3 \quad \begin{matrix} n1 = 128 \\ n2 = 160 \end{matrix} \xrightarrow{\text{yields}} t(286) = -1,933; p = \mathbf{0,054} \quad \begin{matrix} \bar{x}1 = 3.41 \\ \bar{x}2 = 3.65 \end{matrix} \quad \begin{matrix} \sigma1 = 1.000; \text{stdError} = 0.088 \\ \sigma2 = 1.111; \text{stdError} = 0.088 \end{matrix}$$

The set is homogeneous; $F(286;282,067) = 0.515$, $p = 0.474$ and t value is used: equal variance assumed.

Effect size; Cohen's $d = -0.229$; $CI(95\%) = -0.462_{\text{lower}} \text{ to } 0.004_{\text{upper}}$

Hedges' correction = -0.229 ; $CI(95\%) = -0.461_{\text{lower}} \text{ to } 0.004_{\text{upper}}$

Glass delta = -0.219 ; $CI(95\%) = -0.453_{\text{lower}} \text{ to } 0.015_{\text{upper}}$

$BF(01) = 1.745$

In the Y3 simulation, the impact of sample size on statistical significance is evident. At the $p < 0.05$ level, the null hypothesis (H_0) can be rejected since it is at the threshold value. However, it is not rejected at the $p \leq 0.01$ level. The arithmetic means, Cohen's d (effect size), Hedges' g correction, and Glass delta all remain unchanged (very small differences) and indicate a small effect. Additionally, the Bayes Factor $BF(01)$ does not support the alternative hypothesis.

And finally, we have the Y4 simulation ($n=576$)

Scenario Y4, n=576

Y4 $n_1 = 256$ yields $t(574) = -2.739$; $p = 0.006$ $\bar{x}_1 = 3.41$ $\sigma_1 = 0.998$; $\text{stdError} = 0.062$
 $n_2 = 320$ $\bar{x}_2 = 3.65$ $\sigma_2 = 1.110$; $\text{stdError} = 0.062$

Effect size; Cohen's $d = -0.230$; $CI(95\%) = -0.394_{\text{lower}}$ to -0.065_{upper}
 Hedges' correction = -0.229 ; $CI(95\%) = -0.394_{\text{lower}}$ to -0.065_{upper}
 Glass delta = -0.220 ; $CI(95\%) = -0.385_{\text{lower}}$ to -0.054_{upper}

$BF(01) = 0.378$, or $BF(10) = 1/BF(01) = 2.64$. The posterior distribution in the intervals is shown in Figure 2 (prior is flat; noninformative)

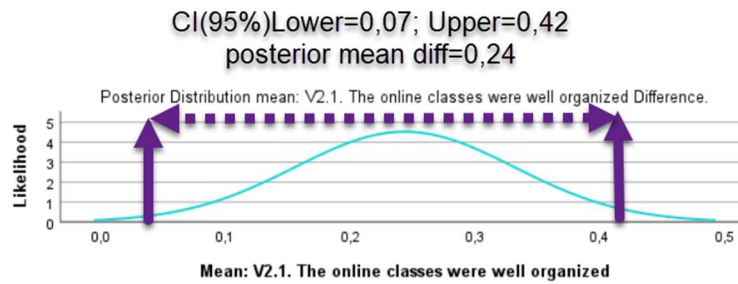


Figure 2- posterior mean difference (Mean_{diff} Posterior)

In this case, the null hypothesis is rejected at a significance level of $p < 0.01$ since $p = 0.006$. However, there is still no evidence to support the alternative hypothesis. Cohen's d is -0.230 , indicating a low effect size, and the Bayes Factor (BF_{01}) is 0.378 , which means that BF_{10} is $1/BF_{01}$, resulting in $BF_{10} = 2.64$. Although the value of BF_{10} (favouring the alternative hypothesis) increased with the sample size, moderate evidence for the alternative hypothesis (H_n) was still not achieved.

In the simulations involving scenarios X1, X2, X3, X4, and Y1, Y2, Y3, Y4, Y5, the influence of the sample size of the respondents is evident. Additionally, the effectiveness of the Polystochastic Statistical Inference in the Social Sciences approach is highlighted, as it controls for type 1 errors ($n > 120$, $p < 0.01$) and the probabilities of confirming the alternative (affirmative) hypothesis (H_n).

Conclusion

Even after 100 years since the significant contributions of Sir Ronald Aylmer Fisher to the field of statistical inference, many papers published today continue to demonstrate that this approach has major flaws. It often leads to misconceptions, incorrect interpretations, wrong conclusions, and generalizations.

Furthermore, it is estimated that a substantial percentage of papers—approximately 80%—in the social sciences arrive at erroneous conclusions based on the null hypothesis significance testing (NHST) approach. This increasingly resembles *Gödel's Incompleteness Theorem*, which, when interpreted, relates to the idea of proving something that cannot be proven. However, as early as 1925, Fisher acknowledged that this approach was not the best solution. Today, numerous papers highlight the shortcomings of the existing NHST system and the limitations of other methodologies. Polystochastic statistical inference in the social sciences introduces a new approach that clearly defines the boundaries of statistical inference. By lowering the p-value threshold from 0.05 to 0.01 (or smaller) for large samples ($n > 120$), we can better control the influence of sample size on statistical significance, effectively reducing the risk of a Type I error. While some research suggests that an even stricter criterion may be necessary, this can lead to an increased risk of a Type II error. There is no universally ideal threshold. However, the significant advantage of the polystochastic statistical inference approach in the social sciences lies in its ability to support an alternative (affirmative) hypothesis when the null hypothesis is rejected.

To confirm the alternative hypothesis, 2 of 3 conditions must be met; the compulsory condition is that the null hypothesis is rejected, then the Effect size is at least medium, and $BF(10) > 3$. We could see this as the need to introduce a stricter criterion (e.g., $BF(10) > 10$ or more, indicate the limitations of Bayesian inference for complex models (which is correct), or indicate the operation of the Jeffreys-Lindley paradox, the problematic nature of the non-informative prior. However, Polystochastic Statistical Inference in the Social Sciences offers a framework that provides clear rules (thresholds) for statistical inference in the social sciences. The approach is set to allow the author to control the influence of sample size on the probability of rejection of the null hypothesis, but what is more important is that it has a framework for confirming the alternative hypothesis. The author has the option of choosing conditions (2/3) because it is assumed that for certain multivariate tests, statistical programs still do not offer Bayesian, or, for example, with certain non-parametric tests, Bayesian is not yet often being used (or is controversial).

The new approach, Polystochastic Statistical Inference in the Social Sciences, represents a significant advance in statistical inference within this field, providing clear rules and thresholds. It maintains flexibility in its application, avoiding a substantial increase in Type II error, even if we were to pursue a further reduction in p-values. Additionally, it offers a balanced method for confirming alternative hypotheses.

Authors are encouraged to specify which approach they have chosen in their work, whether it be NHST or Polystochastic Statistical Inference (PSSI). Beyond this, the approach provides valuable statistical insights, such as confidence intervals and credible intervals, aimed at enhancing our understanding of the data. Ultimately, PSSI establishes a clear framework and threshold for statistical inference in the social sciences.

Acknowledgment - I would like to thank my colleague Irena Tadic for the matrix used for the empirical part and the reviewers for their valuable suggestions. I am grateful to the Centre for Educational Measurement and Assessment (CEMA) for its support and to Fisher Library the University of Sydney for the space to work (100 years after Fisher).

References

- Ali, S., Waheed, M., Shah, I., and Raza, S. M. M. (2023). Bayesian sample size determination for coefficient of variation of normal distribution. *Journal of Applied Statistics*, 51(7), 1271–1286. <https://doi.org/10.1080/02664763.2023.2197571>
- Andraszewicz, S., Scheibehenne, B., Rieskamp, J., Grasman, R., Verhagen, J., and Wagenmakers, E. J. (2015). An Introduction to Bayesian Hypothesis Testing for Management Research. *Journal of Management*, 41(2), 521–54. <https://doi.org/10.1177/0149206314560412>
- Assaf, G. A., and Tsionas, M. (2018). Bayes factors vs. P-values. *Tourism Management*, 67, 17–31.
- Balow, C. (2017). The “effect size” in educational research: What is it and how to use it? [sic] *Illuminate Education*. Retrieved from www.illuminateed.com/blog/2017/06/effect-size-educational-research-use/ on July 14, 2019.
- Bartlett, M. S. (1957). A comment on D. V. Lindley’s statistical paradox. *Biometrika*, 44, 533–553.
- Benjamin, D. J., Berger, J. O., Johannesson, M. et al. (2017). Redefine statistical significance. *Nature Human Behaviour*, 2(1), 6–10. doi: 10.1038/s41562-017-0189-z.
- Bollen, K. A., Harden, J. J., Ray, S., and Zavisca, J. (2014). BIC and Alternative Bayesian Information Criteria in the Selection of Structural Equation Models. *Structural Equation Modeling: A Multidisciplinary Journal*, 21, 1–19.
- Cohen, J. (1969). *Statistical Power Analysis for the Behavioral Sciences* (1st ed.). New York, NY: Academic Press.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Erlbaum.
- Cohen, J. (1992). Power Primer. *Psychological Bulletin* [PsycARTICLES]; 112, 1; PsycARTICLES, pp. 155–159.
- De Ruiter, J. (2019). Redefine or justify? Comments on the alpha debate. *Psychonomic Bulletin & Review*, 26, 430–433, <https://doi.org/10.3758/s13423-018-1523-9>.
- Fisher, R. A. (1925). *Statistical Methods for Research Workers*. Edinburgh, UK: Oliver and Boyd.
- Goodman, S. (2005). Introduction to Bayesian methods I: Measuring the strength of evidence. *Clinical Trials*, 2 (4), 282–290.
- Goodman, S. (2008). A Dirty Dozen: Twelve P-Value Misconceptions. *Seminars in Hematology*, 45 (3), 135–140.
- Hooijtink, H., van Kooten, P., and Hulsker, K. (2016). Why Bayesian psychologists should change the way they use the Bayes Factor. *Multivariate Behavioral Research*, 51, 2–10. doi: 10.1080/0027317-1.2014.969364
- Holmberg, A. (2024). Toward a Better Understanding of Statistical Significance and p Values in Nursing. *Nursing Forum*, Article ID 7263781, 1–11 pages <https://doi.org/10.1155/2024/7263781>
- Huisman, L. (2023). Are P-values and Bayes factors valid measures of evidential strength? *Psychonomic Bulletin & Review*, 30, 932–941. <https://doi.org/10.3758/s13423-022-02205-x>

- Jarosz, A., and Wiley, J. (2014). What are the odds? A practical guide to computing and reporting Bayes factors. *Journal of Problem Solving*, 7, 2-9. doi: 10.7771/1932-6246.1167
- Jeffreys H. (1961). *Theory of Probability* (3rd ed.). New York: Oxford University Press.
- Lakens, D., Adolfs, F., Albers, C., Anvari, F., Apps, M., Argamon, S., ... Bradford, D. (2018). Justify your alpha. *Nature Human Behavior*, 2, 168-171.
- Lavine, M., and Schervish, M. J. (1999). Bayes factors: What they are and what they are not. *The American Statistician*, 53 (2), 119-122.
- Lindley, D. V. (1957). A statistical paradox. *Biometrika*, 44, 187-192.
- McGrath, R. E., and Meyer, G. J. (2006). When effect sizes disagree: the case of r and d . *Psychological Methods*, 11(4), 386-401. doi: 10.1037/1082-989X.11.4.386.
- McShane, B. B., Gal, D., Gelman, A., Robert, C., and Tackett, J. L. (2019). Abandon Statistical Significance. *The American Statistician*, 73 (1), 235-245.
- Morey, R. D., Romeijn, J.W., and Rouder, J. N. (2016). The philosophy of Bayes factors and the quantification of statistical evidence. *Journal of Mathematical Psychology*, 72, 6-18.
- Opić, S, and Rijavec, M. (2022). Misconceptions of the p-value - let us use new approaches and procedures // 2. Međunarodna znanstvena i umjetnička konferencija Suvremene teme u odgoju i obrazovanju - STOO 2 In memoriam Prof. Emer. Dr sc. Milan Matijević u suradnji sa Zavodom za znanstvenoistraživački i umjetnički rad Hrvatske akademije znanosti i umjetnost / D. Velički and M. Dumančić, (eds.). Zagreb: Sveučilište u Zagrebu Učiteljski fakultet, 2022. pp. 1-21.
- Pearson, K. X. (1900). On the Criterion that a Given System of Deviations from the Probable in the Case of a Correlated System of Variables Is Such That It Can Be Reasonably Supposed to Have Arisen from Random Sampling. London, Edinburgh and Dublin *Philosophical Magazine and Journal of Science*, 50 (302), 157-175, <https://doi.org/10.1080/14786440009463897>
- Perezgonzalez, J. D. (2015). Fisher, Neyman-Pearson or NHST? A Tutorial for Teaching Data Testing, *Frontiers in Psychology* 6. <https://doi.org/10.3389/fpsyg.2015.00223>
- Rovetta, A. (2024). Abandon Statistical Significance: A Gentle Introduction to S-values and S-intervals. <https://doi.org/10.31219/osf.io/ywhu9> (<https://osf.io/preprints/osf/ywhu9>)
- Ruscio, J. (2008). A Probability-Based Measure of Effect Size: Robustness to Base Rates and Other Factors. *Psychological Methods*, 13(1), 19-30.
- Sullivan, G. M., and Feinn, R. (2012). Using effect size—Or why the p-value is not enough. *Journal of Graduate Medical Education*, 4(3), 279-282. <https://doi.org/10.4300/JGME-D-12-00156.1>
- Stern, H. S. (2016). A test by any other name: P-values, Bayes Factors, and statistical inference. *Multivariate Behaviour Research*, 51(1), 23-39. doi:10.1080/00273171.2015.1099032
- Vacha-Haase, T., and Thomson, B. (2004). How to Estimate and Interpret Various Effect Sizes. *Journal of Counseling Psychology*, 51(4), 473-481. <https://doi.org/10.1037/0022-0167.51.4.473>
- Wasserstein, R. L., and Lazar, N. A. (2016). ASA Statement on Statistical Significance and P-Values - Context, Process, and Purpose. *The American Statistician*, 70 (2), 129-133.
- Yuan, Y., Johnson, V. E. (2008). Bayesian Hypothesis Tests using Nonparametric Statistics. *Statistica Sinica*, 18 (3), 1185-1200.

Original quote: an erratum (page 110);

Similarly, de Ruiter (2019), while critiquing the proposal to lower the significance level to 0.005, argues that setting an alpha level of $p \leq 0.005$ does not enhance replicability. He believes that the rationale for adopting a new alpha level of 0.005 is weak and that such a change could potentially harm scientific practice

Author

Siniša Opić, PhD

Full Professor, University of Zagreb, Faculty of Teacher Education, Savska 77, 10000 Zagreb, Croatia, e-mail: sinisa.opic@ufzg.hr

Redni profesor, Univerza u Zagrebu, Pedagoška fakulteta, Savska 77, 1000 Zagreb, Hrvatska, e-pošta: sinisa.opic@ufzg.hr

NAVODILA AVTORJEM

Osnovni namen revije je povezati širok spekter teoretičnih izhodišč in praktičnih rešitev v izobraževanju ter tako spodbujati različne metodološke in vsebinske razprave. Uredniški odbor združuje strokovnjake in raziskovalce iz več evropskih držav in s tem želi ustvariti možnosti za živahen dialog med raznovrstnimi disciplinami in različnimi evropskimi praksami, povezanimi z izobraževanjem.

Revija za elementarno izobraževanje torej objavlja prispevke, ki obravnavajo pomembna, sodobna vprašanja na področju vzgoje in izobraževanja, uporabljajo primerno znanstveno metodologijo ter so slogovno in jezikovno ustrezni. Odražati morajo pomemben prispevek k znanosti oziroma spodbudo za raziskovanje na področju vzgoje in izobraževanja z vidika drugih povezanih ved, kot so kognitivna psihologija, razvoj otroka, uporabno jezikoslovje in druge discipline. Revija sprejema še neobjavljene članke, ki niso bili istočasno poslani v objavo drugim revijam. Prispevki so lahko v slovenskem, angleškem ali nemškem jeziku.

Sprejemanje člankov v objavo

Prejete prispevke najprej pregleda urednik/založniški odbor in ugotovi, ali vsebinsko ustrezajo konceptu in kriterijem revije.

1. Če prispevek ustreza konceptu in kriterijem revije, ga uredniški odbor pošlje dvema anonimnima recenzentoma. Članek, ki je vsebinsko skladen s konceptom revije, vendar ne ustreza drugim kriterijem, lahko uredništvo vrne avtorju, da ga popravi.
2. Avtor dobi recenzirani prispevek vključno z morebitnimi priporočili za izboljšave/popravke, v primeru zavrnitve pa z navedenimi razlogi zanjo.
3. Končno odločitev o objavi članka sprejme urednik na temelju priporočil recenzentov. Pri tem utemeljitve za svojo odločitev ni dolžan navesti.
4. Besedilo prispevka mora biti pripravljeno v skladu z Navodili avtorjem.
5. Avtor jamči, da so v prispevku predstavljeni podatki natančni, verodostojni in izvirni. Ko je članek sprejet v objavo, avtor podpiše Izjavo o etičnosti raziskovanja in Izjavo avtorja o izvirnosti prispevka. Vsi prispevki gredo skozi postopek za ugotavljanje plagiatorstva.

Navodila za oblikovanje besedila

Pri pripravi besedila prispevka upoštevajte naslednja navodila:

1. Tipkopis oddajte kot dokument v programu Microsoft Windows. Nabor pisave je Times New Roman, velikost črk 12 za osnovno besedilo in 10 za povzetka v slovenskem in angleškem jeziku, literaturo in citate, če so daljši od treh vrstic, razmik med vrsticami pa je 1,5. Velikost pisave v tabelah in naslovih tabel ter grafov je 10; razmik med vrsticami pa enojni. Širina tabele naj ne presega 12,5 cm. Besedilo naj bo obojestransko poravnano. Vodilni naslovi naj bodo zapisani krepko, prvi podnaslovi ležeče, drugi podnaslovi pa navadno. Naslovov in strani ne številčite in ne uporabljajte velikih tiskanih črk.
2. Besedilo prispevka naj ne presega 38.000 znakov s presledki, vključno s povzetki, literaturo in ključnimi besedami.
3. Naslov prispevka naj ne presega 15 besed in naj bo v slovenskem in angleškem jeziku.

4. Prispevek naj ima na začetku povzetek v slovenskem jeziku ter njegov prevod v angleškem jeziku (oziroma obratno) in naj ne presega 100 besed. Za povzetkom naj bo 5 ključnih besed. Poleg povzetkov naj prispevek na koncu prispevka, pred literaturo, vsebuje daljši povzetek (500-700 besed) v angleščini, če je članek napisan v slovenščini.
5. V prispevku ne uporabljajte ne sprotnih ne končnih opomb.
6. Vire navajajte v skladu s standardom APA (American Psychological Association). V seznam literature vključite samo v tekočem besedilu navedene vire, ki jih uredite po abecednem vrstnem redu.
7. V posebnem dokumentu pošljite naslednje podatke: ime in priimek avtorja, akademski naziv, organizacijo, kjer je avtor zaposlen, elektronski naslov, naslov bivališča in naslov prispevka.

Primeri:

Knjige: priimek, začetnica imena avtorja, leto izida, naslov, kraj, založba.

Duh, M. (2004). *Vrednotenje kot didaktični problem pri likovni vzgoji*. Maribor: Pedagoška fakulteta.

Članki v revijah: priimek, začetnica imena avtorja, leto izida, naslov prispevka, ime revije, letnik, številka, strani.

Planinšec, J. (2002). Športna vzgoja in medpredmetne povezave v osnovni šoli. *Šport*, 50(1), 11–15.

Prispevki v zbornikih: priimek, začetnica imena avtorja, leto izida, naslov prispevka, podatki o knjigi ali zborniku, strani, kraj, založba.

Fošnarič, S. (2002). Obremenitve šolskega delovnega okolja in otrokova uspešnost. V M. Juričič (ur.), *Šolska higiena: zbornik prispevkov* (str. 27–34). Ljubljana: Sekcija za šolsko in visokošolsko medicino SZD.

Vključevanje reference v tekst: če gre za dobesečno navedbo, napišemo v oklepaju priimek avtorja, leto izdaje in stran (Lipovec, 2005, str. 9), če pa gre za splošno navedbo, stran izpustimo (Lipovec, 2005).

Prispevke avtorji oddajo na spletni aplikaciji:

<https://journals.um.si/index.php/education/about/submissions>.

MANUSCRIPT SUBMISSION GUIDELINES

The basic purpose of the journal *JEE* is to cover a broad spectrum of education theory and its implications for teaching practice, seeking to bridge and integrate diverse methodological and substantive research. The Editorial Board brings together academics and researchers from different European countries, who seek to promote a vigorous dialogue between scholars in various fields both central and related to scientific enquiry in education.

Articles accepted for publication in *JEE* should address an important, up to date issue in education, apply appropriate research methodology, and be written in a clear and coherent style. Accepted articles should make significant contributions to the field. In addition, *JEE* accepts articles which promote advances in education from closely related fields, such as cognitive psychology, child development, applied linguistics and others. *JEE* does not publish articles that have appeared elsewhere or have been concurrently submitted to or are already under consideration for publication in other journals. The languages accepted for the papers eligible for publication in *JEE* are Slovene and English.

Paper Acceptance Procedure

After a paper is submitted to *JEE*, the editor/publishing board first establishes if it is within the journal's domain of interests and meets the journal's requirements for style and quality.

1. If the paper meets the standard and the concept of the journal, it is sent to reviewers. *JEE* uses a double-blind review. Papers which are within the journal's domain but do not meet its requirements for style or quality, may be returned to the author for revision.
2. The reviewed papers are returned to the authors with reviewers' feedback and suggestions for improvement or an indication of the reasons for a rejection.
3. The decision regarding publication is made by the editor after considering the reviewers' recommendations. The editorial board is under no obligation to provide justification for its decision.
4. The text of the paper should be edited in accordance with the Submission Guidelines.
5. Authors must certify that the data cited in the article are, to the best of their knowledge, accurate, reliable and authentic. When the article is accepted for publication, the author has to sign the Publishing Ethics Statement and the Statement of Authenticity. Manuscripts will also be submitted to plagiarism detection software.

Preparation of Copy

Follow these instructions for the preparation of the manuscript:

1. Submit your manuscript as a Word file. Use Times New Roman: 12 pt, for main text and 10 pt, for abstract in Slovene and English, and for references and quotations of three lines or more. All text must be 1.5 spaced and justified. The font size in table and diagram titles is 10; the line spacing is single. Maximum table width is 12,5 cm. The text should be aligned on both sides. Use boldface type for first level headings, italics for second level headings and regular type for all other headings. Do not number headings. Do not number headings or use uppercase.

2. The length of your paper should not exceed 38,000 characters with spaces including the abstracts, bibliography, and key words.
3. The title of your article should not exceed 15 words. The title should be written in English and in Slovene.
4. At the beginning of the manuscript include an abstract (up to 100 words) in the language of the article, and its translation into the other language, followed by 5 key words. In addition to the abstracts also include a longer summary (about 500-700 words) at the end manuscript, before reference - in English if the article is in Slovene and in Slovene if the article is in English. Do not use either footnotes or endnotes.
5. Do not use either footnotes or endnotes.
6. Quote references in accordance with the American Psychological Association (APA) style. Include only the sources cited in current text, arranged in alphabetical order.
7. Send a separate document with the following information: author's name and family name, address, full title of the article, academic title, affiliation and e-mail address.

Example:

Books: last name and name of the author, year of publication, title, location, press.

Duh, M. (2004). *Vrednotenje kot didaktični problem pri likovni vzgoji*. Maribor: Pedagoška fakulteta.

Articles from Magazines: last name and name of the author, year published, title of the article, name of the magazine, year, issue number, page(s).

Planinšec, J. (2002). Športna vzgoja in medpredmetne povezave v osnovni šoli. *Šport*, 50 (1), 11–15.

Academic Journals: last name and name of the author, year published, title of the article, information about the journal, page(s).

Fošnarič, S. (2002). Obremenitve šolskega delovnega okolja in otrokova uspešnost. V M. Juričič (ur.), *Šolska higiena: zbornik prispevkov* (str. 27–34). Ljubljana: Sekcija za šolsko in visokošolsko medicino SZD.

Citing sources in the body of the text: If a direct quotation is cited, write the last name of the author, year it was published and page number. Put this information in parenthesis (Lipovec, 2005, pg. 9). If the information is paraphrased, leave out the page number (Lipovec, 2005).

Manuscripts should be uploaded at <https://journals.um.si/index.php-education/about/submissions>.